CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 88-115
NPDES No. CA 0104248

WASTE DISCHARGE REQUIREMENTS
FOR
IMPERIAL IRRIGATION DISTRICT
EL CENTRO STEAM POWER PLANT
El Centro - Imperial County

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

1. Imperial Irrigation District (hereinafter also referred to as the discharger) at 333 East Barioni Boulevard, P.O. Box 937, Imperial, California 92251 submitted an NPDES Application dated May 13, 1988 for renewal of permit to discharge cooling tower blowdown. Said application is assigned Application No. CA 0104248.

2. The discharger operates a gas and oil fired steam power plant in El Centro, having a gross output of 180 Megawatts. The plant contains four generating units with individual outputs of 25 MW, 33 MW, 42 MW, and 80 MW. Each generating unit has a separate cooling tower.

3. The discharger proposes to discharge nonhazardous industrial wastewater from the steam plant to Central Drain No. 5. The discharge point is located in the NE¼ of Section 32, T15S, R14E, SBB&M. The wastewater flows about 1 mile in Central Drain No. 5, 6½ miles in the main Central Drain and then enters the Alamo River at a point approximately 39 miles from the Salton Sea.

4. The wastewater is composed of cooling tower blowdown with the following characteristics:

a. Total Dissolved Solids:	4,000 mg/l High, 2,000 mg/l Average
b. Total Suspended Solids:	68 mg/l High, 21 mg/l Average
c. Biochemical Oxygen Demand: (20° C, 5 days)	10 mg/l High, 6 mg/l Average
d. Total Chlorine Residuals:	0.75 mg/l High, 0.28 mg/l Average
e. pH:	8.9 High, 7.2 Low
f. Ammonia (as N):	0.06 mg/l Average
g. Total Phosphorus (as P):	4.9 mg/l High, 3.5 mg/l Average

Superseded by: Bd. Ord. No. 93-015 11/17/93

5. The discharger reports the following discharge rates of cooling tower blowdown to Central Drain No. 5:

a. Maximum daily discharge: 721,000 gallons-per-day (gpd)

b. Maximum 30-day discharge: 471,000 gpd

c. Long term average discharge: 300,300 gpd

6. The discharger utilizes Colorado River water supplied via the Dogwood Canal for cooling tower and other plant operations. Raw water is treated with the clarifying agent Betz No. CDP-090037 prior to storage in basins. According to Betz Laboratories Inc. the product CDP-090037 (a low molecular weight organic polymer) has been approved by United States EPA for use in treatment of potable water systems. For the cooling tower operation. The following chemicals are added to the water:

Name of Chemical	Dosage	Purpose of Treatment
1. Concentrated Sulfuric Acid	106 ppm	To maintain pH of water in the range 7.9 to 8.0
2. Betz No. IID-01 (Contains ingredients Sodium Hydroxide, 1-H-Benzotriazole, Methyl)	*	Used as a corrosion inhibitor and deposit control agent
3. Betz No. 30K-30369 (Contains no hazardous ingredients)	*	Used as a corrosion inhibitor
4. Betz No. 562-C (Contains ingredients Sodium Hydroxide, 1-H-Benzotriazole, Methyl)	*	Used as a corrosion inhibitor for copper and copper alloys
(*Items 2, 3, 4, are used at a combined dosage of 10 to 27 ppm.)		
5. Betz No. C-30 (Contains ingredients Bis Sulfone, Methylenebis)	*	To control bacterial, fungal and algal growth.
6. Betz No. C-31 (Contains ingredients Dodecylguanidine, Methylene Bis (Thiocyanate), Isopnopyl Alcohol)	*	To control bacterial fungal and algae growth
7. Betz No. 3612 (Contains ingredients Bis (tri-n-butyltin) Oxide, Alkyl Dimethyl Ammonuim Chloride)	*	To control bacterial, fungal and algae growth
(*Items 5, 6, and 7 are used at a combined dosage of 0.45 ppm.)		
8. Chlorine	0.5 mg/l for 30 min. every 6 hrs.	to control algae growth

7. The discharger reports that none of the above treatment additives contain any of the 126 compounds identified in the EPA Priority Pollutant List (see attachment A).

8. The discharger reports that there is no discharge to surface waters of the following

   a. Metal cleaning wastes (see Attachment B)
   b. Low volume waste sources (see Attachment B)
   c. Filters, softeners, and demineralizer blowdowns
   d. Once through condenser water
   e. Turbine gland and after condenser drips

9. The Water Quality Control Plan for the Colorado River Basin Region was adopted by the Regional Board on November 4, 1984. The Basin Plan contains water quality objectives for the Imperial Hydrologic Unit.

10. Beneficial uses of Imperial Valley irrigation drains that discharge to the Alamo River and which are to be protected by this Order are as follows:

    a. Freshwater replenishment for Salton Sea
    b. Warm water habitat for fish and wildlife
    c. Recreation - non water contact.

11. In accordance with Water Code Section 13389, the issuance of waste discharge requirements for this discharge is exempt from the provisions of the California Environmental Quality Act contained in Chapter 3 (commencing with Section 21000 et. seq.) Division 13 of the Public Resources Code.

12. The discharge has been subject to waste discharge requirements adopted in Board Order No. 83-88 (NPDES NO. CA 0104248) which permits discharge to Central Drain No. 5.

13. The purpose of this Order is to renew waste discharge requirements contained in Board Order No. 83-88 (due to expire on November 16, 1988).

14. The Board has notified the discharger, interested agencies and persons of its intent to renew waste discharge requirements for said discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Imperial Irrigation District 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. Effluent Characteristic	Maximum Concentration	Average Concentration
Free available Chlorine	0.5 mg/l	0.2 mg/l

2. Effluent Characteristic	Maximum for Any One Day
Zinc (Zn)	1.0 mg/l
Total Chromium (Cr)	0.2 mg/l

3. Effluent Characteristic	Unit	Maximum for Any One Day	Average of Daily Values for Thirty Consecutive Days Shall Not Exceed
Total Dissolved Solids	mg/l	4,500	4,000
Settleable Matter	mg/l	1.0	0.3

4. The pH of the discharge to Central Drain No. 5 shall be within the range of 6.0 to 9.0.

5. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

6. Neither free available chlorine nor total residual chlorine may be discharged from any generating unit for more than two hours in any one day; and not more than one unit may discharge free available or total residual chlorine at any one time.

7. There shall be no discharge in detectable amounts of any of the 126 priority pollutants which may be contained in chemicals added for cooling tower maintenance except for Chromium and Zinc as set forth in A.2. above. Compliance with the limitations for said priority pollutants shall be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical method in 40 CFR Part 136.

B. Receiving Water Limitation

1. Wastewater discharged to Central Drain No. 5 shall not:

   a. Cause presence of oil and grease or scum in the receiving waters,

b. Contain heavy metals and/or chemicals in concentrations toxic to fish and other aquatic life in the receiving waters

c. Shall not cause a violation of any applicable water quality standard for the receiving waters adopted by the Regional Board as required by the Federal Clean Water Act and regulations adopted thereunder.

C. Provisions

1. Neither the treatment nor the discharge of wastewater shall cause pollution or nuisance

2. 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.

3. This Order includes the attached Monitoring and Reporting Program No. 88-115 and future revisions thereto, and attached Standard Provisions dated December 23, 1985.

4. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections.

5. Biossays shall be performed quarterly to evaluate the toxicity of the discharged wastewater in accordance with the following procedures:

   a. Within 4 months of the effective date of the Order, the discharger shall begin conducting bioassays on the fish species Primephales promelas (fathead minow) and Ceriodaphnia. 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 Effluent and Receiving Waters to Freshwater Organisms.

   b. The bioassay test specified above in 5.a. shall be performed quarterly for a period of at least one year (minimum of four tests per organism).

   c. When the program described above in 5.a. and 5.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 then 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.

6. This Order expires five (5) years from September 22, 1988; and the discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as an application for issuance of new waste discharge requirements.

7. The discharger shall obtain the written approval of the Executive Officer prior to using any new corrosive control or biological control treatment additives (not included in this Order) for cooling tower maintenance.

IT IS FURTHER ORDERED that Board Order No. 83-88 be superceded by this Order.

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 SEP 2 2 1988.

Arthur Swajian
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 88-115
FOR
IMPERIAL IRRIGATION DISTRICT
EL CENTRO STEAM POWER PLANT
El Centro - Imperial County

Location of Discharge: NE¼, Section 32, T15S, R14E, SBB&M

MONITORING

Imperial Irrigation District, El Centro Steam Power Plant shall report to the Regional Board concerning the following:

EFFLUENT MONITORING

Wastewater discharged to Central Drain No. 5, shall be monitored as follows:

Constituent	Unit	Type of Sample	Sampling Frequency
Total Suspended Solids	mg/l	6-Hr Composite	Monthly
Total Residual Chlorine	mg/l	Grab	Daily
Free Available Chlorine	mg/l	Grab	Daily
Zinc (Zn)[1]	mg/l	Grab	Daily
Chromium (Cr)[2]	mg/l	Grab	Daily
Total Dissolved Solids	mg/l	6-Hr. Composite	Monthly
Settleable Matter	ml/l	Grab	Monthly
Oil and Grease	mg/l	Grab	Monthly
Bioassay			Quarterly
Discharge to Central Drain No. 5	gpd		Daily[3]

1. A statement in each report that no additives containing chromium or zinc are being used may be submitted in lieu of an analysis for these constituents.
2. Same as above
3. For each day with average monthly flow calculated.

Prior to commencement of use of any new cooling tower maintenance chemical, the discharger shall report thereon in accordance with Provision C.7. of Order No. 88-115.

REPORTING

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

Monthly and daily reports shall be submitted to the Regional Board by the 15th day of the following month.

The discharger shall implement the above monitoring program within 7 days of the effective date of the Order.

Forward monitoring reports to:

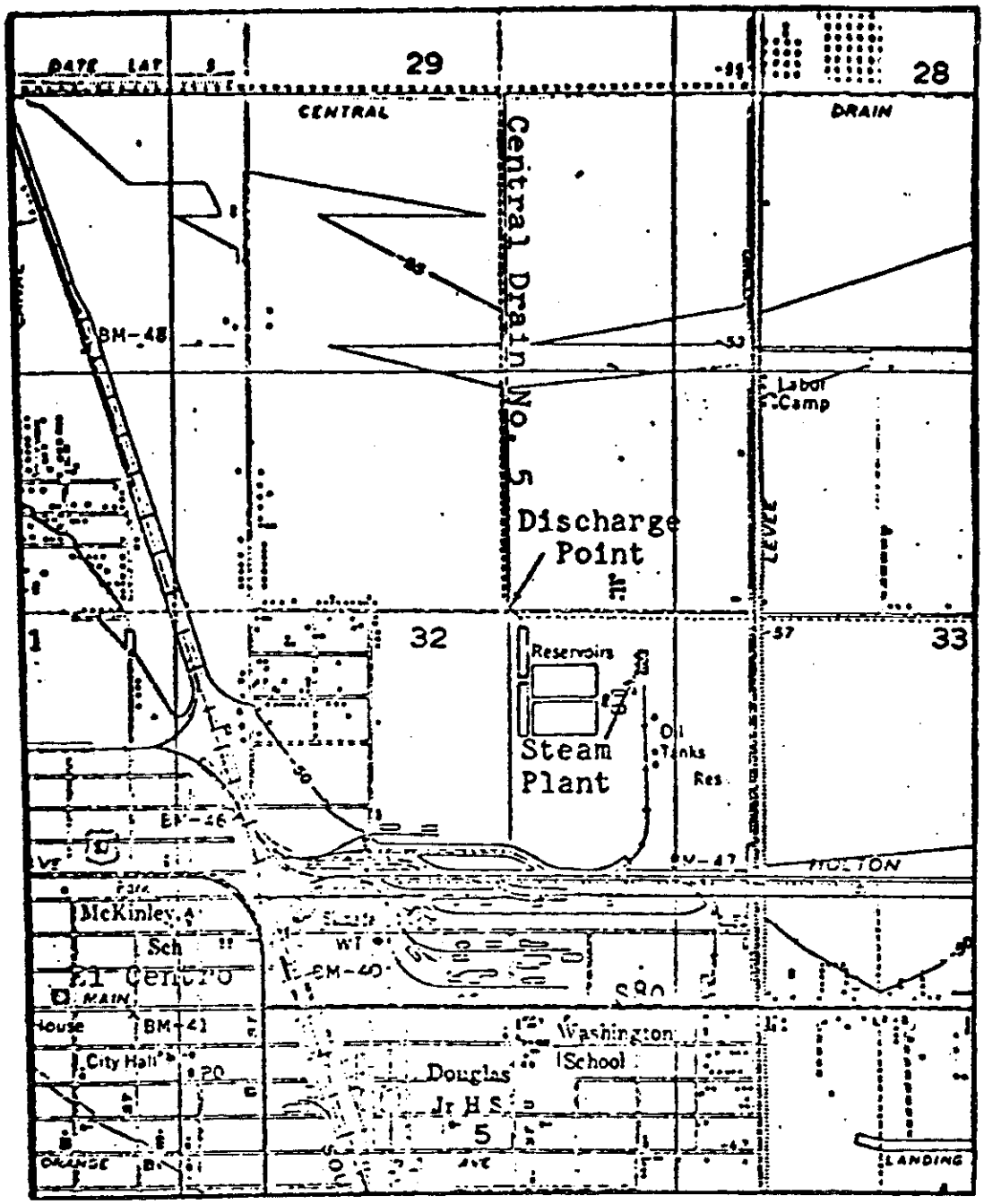
California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

A copy of the Discharge Monitoring Report shall also be sent to:

Regional Administrator
Environmental Protection Agency
Region 9, Attn: 65/MR, W-3
215 Fremont Street
San Francisco, CA 94105

ORDERED BY: Arthur Swajian
Executive Officer
SEP 22 1988
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SITE MAP
IMPERIAL IRRIGATION DISTRICT - EL CENTRO STEAM POWER PLANT

El Centro - Imperial County
Discharge Point: NE¼ of Section 32, T15S, R14E, SBB&M
USGS El Centro 7.5 Min. Topographic Map

Order No. 88-115

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 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 112.41 (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 that $2,500 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 expiraton date of this permit, the permittee must apply for and obtain a new permit. (40 CFR 122.41 (b))

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

Retyped 9/88

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))

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 resonable 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 the 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))

12. Monitoring and records

    a. Samples and measurments 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 by 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) (l))

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 noncomplaince 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 15(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 maintainence 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 15 (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 15 (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 occurence 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 microgram 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-methl-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 of byproduct any toxic pollutant that was not reported in the permit application. (40 CFR 122.42 (a))

19. All POTW's 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

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION
73-271 Highway 111, Suite 21, Palm Desert, California
Phone: (619) 346-7491 Zip Code: 92260

FACT SHEET
FOR
IMPERIAL IRRIGATION DISTRICT
EL CENTRO STEAM POWER PLANT

APPLICATION FOR WASTE DISCHARGE REQUIREMENTS TO DISCHARGE TO STATE WATERS

PUBLIC NOTICE NO. 7-88-8
APPLICATION NPDES NO. CA 0104248
BOARD ORDER NO. 88-115

Imperial Irrigation District, 333 East Barioni Boulevard, P.O. Box 937, Imperial, California 92251, submitted an NPDES Application dated May 13, 1988 for renewal of Waste Discharge Requirements (NPDES Permit) for a discharge of pollutants into state waters.

On the basis of preliminary staff review and application of lawful standards and regulations, the Regional Board proposes to adopt waste discharge requirements for the discharge. The tentative proposed determinations are described below:

I. Description of Proposed Discharge

Imperial Irrigation District operates a gas and oil fired steam plant at 485 East Villa Avenue, El Centro, Imperial County. The steam plant generates a gross power output of 180 Megawatts. The plant consists of four generating units with individual power outputs of 25 MW, 33 MW, 42 MW and 80 MW. Each generator has a separate cooling tower. The discharger proposes to discharge cooling tower blowdown from the plant to Central Drain No. 5 in the NE¼ of Section 32, T15S, R14E, SBB&M. The discharge rates of the cooling tower blowdown is as follows:

a. Maximum daily discharge: 721,500 gallons-per-day (gpd)

b. Maximum 30-day discharge: 471,000 gpd

c. Long term average discharge: 300,300 gpd

The discharge wastewater has the following characteristics:

a. Total Dissolved Solids: 4000 mg/l High
2000 mg/l Average

b. Total Suspended Solids: 68 mg/l High
21 mg/l Average

c. Biochemcial Oxygen Demand:	10 mg/l High 6 mg/l Average
d. Total Chlorine Residuals:	0.75 mg/l High 0.28 mg/l Average
e. pH:	8.9 High 7.2 Average
f. Ammonia (as N):	0.6 Average
g. Total Phosphorus (as P):	4.9 mg/l High 3.5 mg/l Average

The discharger reports that there is no discharge to surface waters of the following:

a. Metal cleaning wastes (as defined in 40 CFR Part 423)

b. Low volume waste sources (40 CFR Part 423)

c. Filters, softeners and demineralizer blowdowns

d. Once through condenser water (40 CFR Part 423)

e. Turbine gland and after condenser drips

II. Source for Water Supply:

The steam plant utilizes Colorado River water, supplied via the Dogwood Canal for cooling tower and other plant operations. The canal water is treated with the clarifying agent Betz No. CDP-090037 prior to storage in basins. Betz Laboratories Inc. reports that this product has been approved for use in treatment of potable water by the United States EPA.

III. Water Treatment for Boilers

Water from storage basins is passed through filters, reverse osmosis and demineralizer units for treatment and subsequent use in the boilers. All filter, reverse osmosis and demineralizer blowdowns are returned to the water storage basins as make-up water.

IV. Cooling Tower Water Treatment

Water from the storage basins (Colorado River Water) is used in the cooling tower operation. In addition, 5700 gpd of boiler blowdowns and 700 gpd of sample water from the boiler units are used as cooling tower make-up water. Water from the last two sources have much lower TDS values than the Colorado River water (TDS about 990 ppm)

The discharger reports that the following chemicals are added to the cooling tower water:

Name of Chemical	Dosage	Purpose of Treatment
1. Concentrated Sulfuric Acid	106 ppm	To maintain pH of water in the range 7.9 to 8.0
2. Betz No. IID-01 (Contains ingredients Sodium Hydroxide, 1-H-Benzotriozole, Methyl)	*	Used as a corrosion inhibitor and deposit control agent
3. Betz No. 30K-30369 (Contains no hazardous ingredients)	*	Used as a corrosion inhibitor
4. Betz No. 562-C (Contains ingredients Sodium Hydroxide, 1-H-Benzotriazole, Methyl)	*	Used as a corrosion inhibitor for copper and copper alloys
(*Items 2, 3, and 4 are used as a combined dosage of 10 tp 27 ppm.)		
5. Betz C-30 (Contains ingredients Bis Sulfone, Methylenebis)	*	To control bacterial fungal and algal growth
6. Betz No. C-31 (Contains ingredients Dodecylguanidine Hydrochloride, Methylene Bis (Thiocyanate), Isopropyl alchohol)	*	To control bacterial, fungal and algal growth
7. Betz No. 3612 (Contains ingredients Bis (tri-n-butyltin) Oxide, Alkyl Dimethyl Ammonium Chloride	*	To control bacterial, fungal and algal growth
(*Items 5, 6, and 7 are used as a combined dosage of 0.45 ppm.)		
8. Chlorine	0.5 mg/l for 30 min. every 6 hrs.	To control algae growth

The discharger reports that the above treatment additives do not contain any of the 126 compounds identified in the EPA Priority Pollutant List.

V. Description of Receiving Waters

The discharged cooling tower blowdown flows about one mile down Central Drain No. 5 (a tributary to the Central Drain) to Central Drain and then 6½ miles down Central Drain to the Alamo River. The Central Drain joins the Alamo River at approximately 39 miles from the Salton Sea.

The flow in Central Drain No. 5 is composed of periodic irrigation drainage waters and has an average flow of about 5 cubic feet per second (cfs).

The flow in the Central Drain is also composed mainly of agricultural drainage waters. The average flow in the Central drain at the outlet to the Alamo River is about 50 cfs with the following average characteristics:

pH:	7.7
TDS:	2400 mg/l
Total Suspended Solids:	350 mg/l
Total Settleable Solids (1 Hr.):	0.8 mg/l
20°C BOD_5:	10 mg/l

The flow in the Alamo River is composed mostly of farm drainage waters, and derives its physical and chemical characteristics from this source. Community and industrial wastewaters comprise only a small fraction of the Alamo River flow - about 1.1 percent of the total. Drainage from Mexico comprises 0.4 percent, and the remaining 98.5 percent is farm drainage from Imperial Valley. The Alamo River at the International Boundary (with Mexico) has a total dissolved solids concentration averaging 4000 milligrams per liter (mg/l) and a flow of 2 cfs. The 20°C BOD_5 averages 5 mg/l, and suspended solids is about 100 mg/l. As the Alamo River flows northward to Salton Sea, the BOD declines to about 4 mg/l. The velocity of the water is sufficient to erode the banks, and silt and clay carried in the water produces a suspended solids level of about 300 mg/l and a flow of about 700 cfs near the Salton Sea.

VI. Beneficial Uses of Receiving Waters

The beneficial uses of water in the Alamo River and drains discharging thereto are:

a. Freshwater replenishment for Salton Sea
b. Warmwater habitat for fish and wildlife
c. Nonwater contact recreation

VII. Proposed Effluent Limitations

1. Effluent Characteristic	Maximum Concentration	Average Concentration
Free available Chlorine	0.5 mg/l	0.2 mg/l

2. Effluent Characteristic	Maximum for Any One Day
Zinc (Zn)	1.0 mg/l
Total Chromium (Cr)	0.2 mg/l

3. Effluent Characteristic	Unit	Maximum for Any One Day		Average of Daily Values for 30 Consecutive Days Shall Not Exceed
Total Dissolved Solids	mg/l	4500		4000
Settleable Matter	mg/l	1.0	0.3	

4. The pH of the discharge to Central Drain No. 5 shall be within the range of 6.0 to 9.0.

5. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

6. Neither free available chlorine nor total residual chlorine may be discharged from any generating unit for more than two hours in any one day; and not more than one unit may discharge free available or total residual chlorine at any one time.

7. There shall be no discharge in detectable amounts of any of the 126 priority pollutants contained in chemicals added for cooling tower maintenance except for Chromium and Zinc as set forth in A.2. above. Compliance with the limitations for said priority pollutants shall be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR Part 136.

VIII. Proposed Receiving Water Limitations

Wastewater discharged to Central Drain No. 5 shall not:

a. Cause presence of oil and grease
b. Contain heavy metals and/or chemicals in concentrations toxic to fish and other aquatic life in the receiving waters.

IX. Toxicity Limitation

The Regional Board will evaluate the bioassay test results submitted by the discharger over a period of one year. At the end of the year, the permit will be reopened, and numerical limits for toxicity will be established and incorporated into the permit.

X. Basis of Effluent Limitations

a. Free Available Chlorine, Zinc, Chromium (and other priority pollutants), polychlorinated biphenyl compounds: Limitations for these substances are based on EPA Standards given in 40 CFR Part 423.13 (BAT).

b. Total Dissolved Solids (TDS): The Basin Plan (Page 4-11) limits the discharge of TDS to the Alamo River to 4000 mg/l as the maximum.

c. Settleable Matter: The Regional Board's usual requirements for discharge of settleable matter is 0.3 ml/l as 30-day average and 1.0 ml/l as a daily maximum.

d. pH: The Basin Plan (Page 4-3) limits the pH range from 6.0 to 9.0.

XI. Basis of Receiving Water Limitations Oil, Grease, Scum and Toxic Substances:

Limitations on these substances are in accordance with the Basin Plan's General Surface Water Objectives (Pages 4-2 and 4-3).

XII. Monitoring Requirements

Imperial Irrigation District is required to monitor the discharged cooling tower blowdown as follows:

Daily for total residual chlorine, free available chlorine and flow; monthly for total dissolved solids, total suspended solids, settleable matter, and oil and grease; and quarterly for bioassays.

XIII. Written Comments

All interested persons and agencies are invited to submit written comments on the proposed discharge and the Executive Officer's proposed determinations. Comments should be submitted not later than by August 25, 1988 either in person or by mail to:

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

The application number shall appear next to the above address on the envelope and on the first page of any submitted comments. All comments received by the above date will be considered in the formulation of final determination.

XIV. Information and Copying

Persons wishing further information may write to the above address or call the Regional Board at (619) 346-7491. Copies of the application, proposed waste discharge requirements and other documents (other than those which the Executive Officer maintains as confidential), are available at the Regional Board office for inspection and copying.

END

APPENDIX A—126 PRIORITY POLLUTANTS

001 Acenaphthene
002 Acrolein
003 Acrylonitrile
004 Benzene
005 Benzidine
006 Carbon tetrachloride (tetrachloromethane)
007 Chlorobenzene
008 1,2,4-trichlorobenzene
009 Hexachlorobenzene
010 1,2-dichloroethane
011 1,1,1-trichloreothane
012 Hexachloroethane
013 1,1-dichloroethane
014 1,1,2-trichloroethane
015 1,1,2,2-tetrachloroethane
016 Chloroethane
018 Bis(2-chloroethyl) ether
019 2-chloroethyl vinyl ether (mixed)
020 2-chloronaphthalene
021 2,4, 6-trichlorophenol
022 Parachlorometa cresol
023 Chloroform (trichloromethane)
024 2-chlorophenol
025 1,2-dichlorobenzene
026 1,3-dichlorobenzene
027 1,4-dichlorobenzene
028 3,3-dichlorobenzidine
029 1,1-dichloroethylene
030 1,2-trans-dichloroethylene
031 2,4-dichlorophenol
032 1,2-dichloropropane
033 1,2-dichloropropylene (1,3-dichloropropene)
034 2,4-dimethylphenol
035 2,4-dinitrotoluene
036 2,6-dinitrotoluene
037 1,2-diphenylhydrazine
038 Ethylbenzene
039 Fluoranthene
040 4-chlorophenyl phenyl ether
041 4-bromophenyl phenyl ether
042 Bis(2-chloroisopropyl) ether
043 Bis(2-chloroethoxy) methane
044 Methylene chloride (dichloromethane)
045 Methyl chloride (dichloromethane)
046 Methyl bromide (bromomethane)
047 Bromoform (tribromomethane)
048 Dichlorobromomethane
051 Chlorodibromomethane
052 Hexachlorobutadiene
053 Hexachloromyclopentadiene
054 Isophorone
055 Naphthalene
056 Nitrobenzene
057 2-nitrophenol
058 4-nitrophenol
059 2,4-dinitrophenol
060 4,6-dinitro-o-cresol
061 N-nitrosodimethylamine
062 N-nitrosodiphenylamine
063 N-nitrosodi-n-propylamin
064 Pentachlorophenol
065 Phenol
066 Bis(2-ethylhexyl) phthalate
067 Butyl benzyl phthalate
068 Di-N-Butyl Phthalate
069 Di-n-octyl phthalate
070 Diethyl Phthalate
071 Dimethyl phthalate
072 1,2-benzanthracene (benzo(a) anthracene
073 Benzo(a)pyrene (3,4-benzo-pyrene)
074 3,4-Benzofluoranthene (benzo(b) fluoranthene)
075 11,12-benzofluoranthene (benzo(b) fluoranthene)
076 Chrysene
077 Acenaphthylene
078 Anthracene
079 1,12-benzoperylene (benzo(ghi) perylene)
080 Fluorene
081 Phenanthrene
082 1,2,5,6-dibenzanthracene (dibenzo(,h) anthracene)
083 Indeno (,1,2,3-cd) pyrene (2,3-o-pheynylene pyrene)
084 Pyrene
085 Tetrachloroethylene
086 Toluene
087 Trichloroethylene
088 Vinyl chloride (chloroethylene)
089 Aldrin
090 Dieldrin
091 Chlordane (technical mixture and metabolites)
092 4,4-DDT
093 4,4-DDE (p,p-DDX)
094 4,4-DDD (p,p-TDE)
095 Alpha-endosulfan
096 Beta-endosulfan
097 Endosulfan sulfate
098 Endrin
099 Endrin aldehyde
100 Heptachlor
101 Heptachlor epoxide (BHC-hexachlorocyclohexane)
102 Alpha-BHC
103 Beta-BHC
104 Gamma-BHC (lindane)
105 Delta-BHC (PCB-polychlorinated biphenyls)
106 PCB-1242 (Arochlor 1242)
107 PCB-1254 (Arochlor 1254)
108 PCB-1221 (Arochlor 1221)
109 PCB-1232 (Arochlor 1232)
110 PCB-1248 (Arochlor 1248)
111 PCB-1260 (Arochlor 1260)
112 PCB-1016 (Arochlor 1016)
113 Toxaphene
114 Antimony
115 Arsenic
116 Asbestos
117 Beryllium
118 Cadmium
119 Chromium
120 Copper
121 Cyanide, Total
122 Lead
123 Mercury
124 Nickel
125 Selenium
126 Silver
127 Thallium
126 Silver
128 Zinc
129 2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)

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Sec.

423.14 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

423.15 New source performance standards (NSPS).

423.16 Pretreatment standards for existing sources (PSES).

423.17 Pretreatment standards for new sources (PSNS).

APPENDIX A—126 PRIORITY POLLUTANTS

AUTHORITY: Sec. 301; 304(b), (c), (e), and (g); 306(b) and (c); 307(b) and (c); and 501, Clean Water Act (Federal Water Pollution Control Act Amendments of 1972, as amended by Clean Water Act of 1977) (the "Act"; 33 U.S.C. 1311; 1314(b), (c), (e), and (g); 1316(b) and (c); 1317(b) and (c); and 1361; 86 Stat. 816, Pub. L. 92-500; 91 Stat. 1567, Pub. L. 95-217).

SOURCE: 47 FR 52304, Nov. 19, 1982, unless otherwise noted.

EDITORIAL NOTE: For compliance requirements, see 47 FR 52290, Nov. 19, 1982.

§ 423.10 Applicability.

The provisions of this part are applicable to discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium.

§ 423.11 Specialized definitions.

In addition to the definitions set forth in 40 CFR Part 401, the following definitions apply to this part:

(a) The term "total residual chlorine" (or total residual oxidants for intake water with bromides) means the value obtained using the amperometric method for total residual chlorine described in 40 CFR Part 136.

(b) The term "low volume waste sources" means, taken collectively as if from one source, wastewater from all sources except those for which specific limitations are otherwise established in this part. Low volume wastes sources include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment system, water treat-

PART 423—STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY

Sec.

423.10 Applicability.

423.11 Specialized definitions.

423.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

423.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

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Order No. 88-115

ment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included.

(c) The term "chemical metal cleaning waste" means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning.

(d) The term "metal cleaning waste" means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning.

(e) The term "fly ash" means the ash that is carried out of the furnace by the gas stream and collected by mechanical precipitators, electrostatic precipitators, and/or fabric filters. Economizer ash is included when it is collected with fly ash.

(f) The term "bottom ash" means the ash that drops out of the furnace gas stream in the furnace and in the economizer sections. Economizer ash is included when it is collected with bottom ash.

(g) The term "once through cooling water" means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat.

(h) The term "recirculated cooling water" means water which is passed through the main condensers for the purpose of removing waste heat, passed through a cooling device for the purpose of removing such heat from the water and then passed again, except for blowdown, through the main condenser.

(i) The term "10 year, 24/hour rainfall event" means a rainfall event with a probable recurrence interval of once in ten years as defined by the National Weather Service in Technical Paper No. 40. "Rainfall Frequency Atlas of the United States," May 1961 or equivalent regional rainfall probability information developed therefrom.

(j) The term "blowdown" means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.

(k) The term "average concentration" as it relates to chlorine discharge means the average of analyses made over a single period of chlorine release which does not exceed two hours.

(l) The term "free available chlorine" shall mean the value obtained using the amperometric titration method for free available chlorine described in "Standard Methods for the Examination of Water and Wastewater," page 112 (13th edition).

(m) The term "coal pile runoff" means the rainfall runoff from or through any coal storage pile.

§ 423.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

(a) In establishing the limitations set forth in this section, EPA took into account all information it was able to collect, develop and solicit with respect to factors (such as age and size of plant, utilization of facilities, raw materials, manufacturing processes, non-water quality environmental impacts, control and treatment technology available, energy requirements and costs) which can affect the industry subcategorization and effluent levels established. It is, however, possible that data which would affect these limitations have not been available and, as a result, these limitations should be adjusted for certain plants in this industry. An individual discharger or other interested person may submit evidence to the Regional Administrator (or to the State, if the State has the authority to issue NPDES permits) that factors relating to the equipment or facilities involved, the process applied, or other such factors related to such discharger are fundamentally different from the factors considered in the establishment of the guidelines. On the basis of such evidence or other available information, the Regional Administrator (or

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