#### **ORDER NO. 85-95**

## WASTE DISCHARGE REQUIREMENTS FOR MAGMA ELECTRIC COMPANY GEOTHERMAL POWER PLANT COOLING WATER BASINS 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 updated information on the discharge of wastes, dated July 24, 1985.
- 2. The discharger is discharging approximately 500,000 gallons-per-day of cooling water from the condensers of a 10 megawatt geothermal test plant into 23 acres of plastic lined storage basins, which are located in the S<sup>1</sup>/<sub>2</sub> of Section 7, T16S, R17E, SBB&M. Make-up water is pumped from the East Highline Canal into these basins. Prior to recirculation through the condensers the water is treated with the following chemicals:

Chemical	Usage	Concentration
Sulfuric Acid	ph Control	12 mg/l (pH 3.6)
Anticor 226L*	Corrosion inhibitor	0.01 mg/l
Chlorine	Anti-fouling	0.01 mg/l

prosphonic acid) a Line chloride. acove some of these additives are considere in accordance with the provisions of Subchapter 15 intle 23 of the California Administrative Code. However ine large volume of canal water added to the basins, the wastes are essentially neutralized by dilution, as shown in Finding No. 3 (below). 3. Monitoring reports during the past year show heavy metals in the wastewater with the following maximum values: Cr <0.01 mg/l Pb <0.01 mg/l Pb <0.01 mg/l WMM BARA ALAK

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0.01 mg/l	Corrosion inhibitor	Anticor 226L*

Anticor 226L consists of Amino (methylene phosphonic (eid) and ivdroxeyethylidene Diphosphonic acid and zinc chloride.

At the concentrations listed above some of these additives are considered as designated wastes in accordance with the provisions of Subchapter 15, Chapter 3 of Title 23 of the California Administrative Code. However, due to the large volume of canal water added to the basins, the wastes are essentially neutralized by dilution, as shown in Finding No. 3 (below).

Monitoring reports during the past year show heavy metals in the wastewater with the following maximum values:

> Cu 0.04 mg/l Zn 0.17 mg/l

Cr 50.01 mg/l

The contaminants listed above are below the levels considered toxic under Section 64435 and 64473 of Chapter 15 and Section 66699 of Chapter 30, Division 4 of Title 22 of the California Administrative Code. Therefore, this discharge is exempt from the provisions of Subchapter 15, Chapter 3, Title 23 of said Code in accordance with Section 2511 of said Subchapter.

- 4. The discharger also reports that the total dissolved solids concentration in the storage basins ranges from 2,300 mg/l up to 3,000 mg/l, and the pH varies from 7.5 to 8.7.
- 5. The discharger is also discharging wastewater into Warren Drain, which is governed by waste discharge requirements contained in Order No. 82-29 (NPDES No. CA 0104876).
- 6. This steam power plant has been in existence for more than six years, and the discharge into the basin has been subject to waste discharge requirements adopted in Board Order No. 78-4. The discharger is making no change in his present operations, and does not propose any change.
- 7. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted by the Regional Board on November 14, 1984. The Basin Plan contains water quality objectives for the Imperial Hydrologic Unit.
- 8. Deep groundwaters are saline and are utilized for geothermal power production, while shallow groundwaters in the local area are brackish and are not beneficially used. A 1977 groundwater study for the site indicates that the source of shallow groundwater which is within 10 feet of ground surface is infiltration from the Coachella and East Highline Canals. Monitoring reports received during the past year show that the TDS for the monitoring wells varies from 4,000 mg/l to 6,000 mg/l.
- 9. The Board has notified the discharger and interested agencies and persons of its intent to update waste discharge requirements for the discharge.
- 10. The Board in a public meeting heard and considered all comments pertaining to the discharge.
- 11. These waste discharge requirements govern an existing facility, which the discharger is currently operating, and therefore is exempt from the provisions of the California Environmental Quality Act in accordance with Section 15301 of Chapter 3, Title 14, of the California Administrative Code.

IT IS HEREBY ORDERED, the discharger, shall comply with the following:

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  - IT IS REREBY ORDERED, the discharger, shall comply with the following:-

### A. Discharge Specifications

- 1. Neither the treatment nor the discharge of wastewater shall create a pollution or a nuisance as defined in Division 7 of the California Water Code.
- 2. No wastewater other than that described in Finding No. 2, 3, and 4, (above) shall be discharged at this location.
- 3. A minimum freeboard depth of two (2) feet shall be maintained in each basin.
- 4. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the discharge facilities inoperable.
- 5. The discharger shall remove and relocate any wastes which are discharged contrary to the requirements contained in this Order.
- B. Provisions
  - 1. Prior to any modifications in this facility which could result in material change in the quality or quantity of wastewater discharged, or any material change in location of discharge, the discharger shall report in writing to the Regional Board.
  - 2. The discharger shall comply with "Monitoring and Reporting Program No. 85-95", and future revisions thereto, as specified by the Executive Officer.
  - 3. In the event of any change in control or ownership of land or waste disposal facilities owned or controlled by the discharger, the discharger shall:
    - a. Notify the Board of such change; and
    - b. Transmit a copy of this Order to the succeeding owner or operator, and file a copy of the transmittal letter with this Board.
  - 4. This Order supersedes Board Order No. 78-4.

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 <u>November 20, 1985</u>.

Executive Officer

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# MONITORING AND REPORTING PROGRAM NO. 85-95 FOR MAGMA ELECTRIC COMPANY GEOTHERMAL POWER PLANT COOLING WATER BASINS East Mesa Area - Imperial County

# Location of Basins: S<sup>1</sup>/<sub>2</sub> of Section 7, T16S, R17E, SBB&M

Magma Electric Company shall obtain a water sample from each basin and each groundwater monitoring well and report to the Regional Board concerning the following:

Constituent	Unit	Type of Sample	Sampling Frequency
Sulfate (SO <sub>4</sub> )	mg/l	Grab	Monthly
Chloride (Cl)	mg/l	Grab	Monthly
Total Dissolved Solids	mg/l	Grab	Monthly
Zine	mg/l	Grab	Monthly

The discharger shall report the water table elevation in each groundwater monitoring well monthly.

### REPORTING

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

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

1985 November 20 Date

#### MONITORING AND RLED LICE PROGRAMINO. 85-05

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