

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

MEETING OF APRIL 11 AND 12, 2001

Lancaster

ITEM: 14

SUBJECT: **AMENDED WASTE DISCHARGE REQUIREMENTS - IMC CHEMICALS, INC. AND THE U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT, SEARLES DRY LAKE OPERATIONS -TRONA PLANT, SAN BERNARDINO COUNTY**

CHRONOLOGY: March 8, 1984 Waste Discharge Requirements adopted - Board Order No. 6-84-28, Kerr-McGee Chemical Corporation

August 8, 1991 Revised Waste Discharge Requirements adopted - Board Order No. 6-91-910, North American Chemical Company

June 14, 2000 Revised Waste Discharge Requirements adopted - Board Order No. 6-00-53, IMC Chemicals, Inc.

ISSUE: Should the Regional Board amend the Waste Discharge Requirements (WDRs) to extend the compliance date for meeting final effluent limits and to set more restrictive interim effluent limits?

DISCUSSION: The Discharger withdraws highly mineralized brine from the subsurface of Searles (Dry) Lake. Minerals are extracted from the brine by methods involving washing, dissolution, crystallization, filtration, drying, solvent extraction, and precipitation. The products produced at the Trona plant are borax, anhydrous borax and boric acid. Effluent (depleted brine) is discharged to the Searles Lake system through surface recharge.

A kerosene-like organic material is used as the solvent in the facility's liquid-liquid extraction unit (LLX). Brine discharged from the LLX is passed through an air stripper for solvent removal. The Searles Lake system is a hydraulically "closed" basin meaning there is no natural outlet for surface or ground water. Surface water was historically ephemeral, but is now present year round due to plant effluent discharges. Petroleum hydrocarbons from the LLX are being released into the Searles Lake system and have caused accumulation of organic compounds and oil in and on waters on the Lake surface and in Lake sediments.

The existing WDRs include a time schedule to reach final effluent limits of non-detectable concentrations of TPH as kerosene total recoverable petroleum hydrocarbons, formaldehyde and total phenol in the discharge. The final effluent limits are effective July 1, 2001.

IMCC requested an extension to the April 1, 2001 date to construct facilities and the July 1, 2001 final effluent compliance date, in order to further develop technologies to minimize organic contaminants in the brine discharge. IMCC has implemented best management practices (BMPs) for in-plant discharges, controls to minimize bird contact with the effluent ponds and a new start-up procedure for the LLX that reduces start-up solvent emissions. IMCC has also completed studies of several treatment technologies. Additional time is needed to evaluate potential process changes and further refine analytical methods for the brine discharge.

The proposed Order amends the existing WDRs and reduces the interim effluent limits for the maximum concentration of kerosene hydrocarbons in the discharge to 6.1 mg/l. The total recoverable petroleum hydrocarbon interim effluent limit is reduced 8.6 mg/l. Additionally, the proposed Order includes a new interim effluent limit for total phenols of 100 ug/l. These limits reflect effluent concentrations reasonably achievable by treatment technologies that can be put in place now and implementation BMPs.

Further reductions in contaminant concentrations may be achieved through in-plant process changes and/or additional effluent treatment. The proposed Order establishes a schedule to submit reports of an evaluation of process changes, further laboratory analytical methods research, and an evaluation of best achievable technologies for meeting non-detectable concentrations in the discharge. The proposed Order requires compliance with current final effluent limits by December 1, 2002.

The existing WDRs describe that the Discharger may submit to the Regional Board information to complete an analysis according to State Water Resources Control Board Resolution 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and the non-degradation objective contained in the Water Quality Control Plan for the Lahontan Region. If justified based on the above analysis, the Regional Board may consider changes to the final effluent limits in the proposed Order.

RECOMMENDATION: Adoption of the Order as proposed.

Enclosure: Proposed Board Order