STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF JULY 9, 2004
Prepared on June 17, 2004

ITEM NUMBER: **21**

SUBJECT: **Waiver of Waste Discharge Requirements, Onsite Soil Remediation**

DISCUSSION:

It is anticipated that Olin Corporation, on or about June 30, 2004, will submit necessary application information regarding authorization to discharge perchlorate treatment substrate. The proposed discharge is part of Olin's onsite soil remediation project, which will cover an approximately 100,000 square foot soil treatment area. Buried drip tape will deliver up to 28,800 gallons per day of electron donor substrate. Over two years, it is anticipated that approximately 15,500,000 gallons would be applied, which is equivalent to 5 soil pore volumes. This would represent the maximum substrate addition. Olin is proposing to apply: calcium magnesium acetate (CMA), gypsum, and potassium bromide (a conservative tracer) during system startup. Olin will then follow up with additional applications of CMA or other substrate as needed. Calcium Magnesium Acetate is a road deicer, known to be biodegradable and not a significant threat to water quality. Seasonally, high groundwater has been measured at 16 feet below ground surface (BGS). The remediation focus will be the vadose zone from 0 to 16 feet BGS. Soils with perchlorate concentrations above 7.8 mg/kg will be excavated and treated ex situ. Soils below 7.8 mg/kg will be treated in situ to a final goal of 50 µg/kg. This level corresponds to a level at which groundwater would not be impacted over 4 ppb. Olin has designed the remediation system (electron donor drip application system) to conform to the following constraints:

- **Limit migration of electron donor outside the treatment area** – the rate of biodegradation is expected to be rapid and surpass that of donor infiltration thereby limiting transport to groundwater.
- **Limit horizontal movement of infiltration front** – The application rate will be moderated to promote deeper rather than horizontal penetration of electron donor.
- **Minimize remedial time frame** – The process is designed to minimize remedial time frames by moving a minimum of 2 to 3 pore volumes in the first two years.
- **Limit impacts to shallow groundwater** – The rate of electron donor infiltration will be moderated to limit any potential impacts to groundwater chemistry.
- **The system will be monitored** – Performance monitoring will enable Olin to operate the system in a manner which protects groundwater and maximizes perchlorate treatment

Regional Board staff believes it is appropriate to waive waste discharge requirements based on the engineering design constraints listed above, groundwater extraction and treatment system implementation, and the proposed monitoring system. The existing onsite extraction and treatment system provides perchlorate treatment for onsite-impacted groundwater. According to the *First Quarter 2004 On-Site Groundwater Containment & Treatment Performance and Discharger Monitoring Report* the system appears to be effectively containing and treating onsite shallow groundwater. Olin will monitor the vadose zone for an early indication of a release or lateral migration of substrate and or perchlorate. The proposed monitoring system will be composed of suction lysimeters, soil

moisture probes and shallow groundwater monitoring wells (0 – 15' deep). The proposed monitoring system is intended to verify that the electron donor is not impacting groundwater and that additional perchlorate is not leaching to groundwater. Should monitoring indicate that groundwater is being adversely impacted, Regional Board staff will propose Waste Discharge Requirements and/or require discharge cessation. The Executive Officer will add elements of the proposed monitoring system to Monitoring Reporting Program 2001-0161, or develop separate specific monitoring requirements, which will be provided in a subsequent mailing prior to the July 9, 2004 Regional Board meeting. Regional Board staff believe the conditional waiver is consistent with the Water Quality Control Plan, Central Coast Basin, the State Water Resources Control Board's anti-degradation policy, and is believed to be in the public interest.

Regional Board staff proposes the following waiver conditions be approved for the proposed onsite soil remediation system (election donor substrate application):

1. The discharge must occur only from a soil remediation system designed specifically for this project and approved by the Executive Officer.

2. The discharger must comply with all requirements of applicable water quality control plans adopted by the Central Coast Regional Water Quality Control Board and approved by the State Water Resources Control Board, and water quality control plans and policies adopted by the State Water Resources Control Board.

3. The discharge quality and quantity must ensure that beneficial uses of the receiving groundwater will not be impaired.

4. Discharge of wastes classified as "hazardous," as defined in California Code of Regulations, Title 23, Section 2521, or "designated," as defined in California Water Code Section 13173, is prohibited.

5. The discharge shall not create a pollution, contamination, or nuisance, as defined by California Water Code Section 13050.

6. Discharge (including, overflow, bypass, seepage, and over spray) to surface waters or surface water drainage courses is prohibited.

7. Discharge, either directly or indirectly, to areas not identified in the report of waste discharge or approved design document is prohibited.

8. Discharge of radioactive substances, and chemical and biological warfare agents is prohibited. Discharge of wastes containing substances in concentrations toxic to human, plant, animal, or aquatic life is prohibited.

9. The discharger shall comply with revised Monitoring & Reporting Program No. R3-2001-0161, as approved by the Executive Officer.

10. Regional Board staff shall be allowed entry onto discharge generation and disposal areas to determine compliance with waiver conditions.

11. Unless reconsidered by the Regional Board, this waiver expires July 9, 2009.

It should be noted that the above conditions will be included in Resolution No. R3-2004-0119 that the Regional Board will consider approving at the July 9, 2004 meeting. Resolution No. R3-2004-0119 will be provided via a separate mailing.

CEQA

The remediation system is an action taken to protect the environment and is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), pursuant to Section 15308, Title 14, California Code of Regulations.

RECOMMENDATION

That the Regional Board conditionally waive the requirement to waive Waste Discharge Requirements for electron donor substrate application associated with the onsite soil remediation project by approving Resolution No. R3-2004-0119. Waiver conditions are identified above and will be included in Resolution No. R3-2004-0119.

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