

EXECUTIVE OFFICER'S SUMMARY REPORT
8:30 a.m., December 10, 2009
North Coast Regional Water Board
David C. Joseph Hearing Room
5550 Skylane Boulevard, Suite A
Santa Rosa, California

ITEM: 5

SUBJECT: Public Hearing to Consider Adoption of General Waste Discharge Requirements Order No. R1-2009-0105 for *In Situ* Soil and Groundwater Remediation for Volatile Organic Compound and/or Metal Impacted Sites Within the North Coast Region, including a Mitigated Negative Declaration and Initial Study/Environmental Checklist.

DISCUSSION

The Regional Water Board may adopt a general set of waste discharge requirements for a category of discharges if the Regional Water Board finds or determines that the discharges are produced by the same or similar operations, involve the same or similar types of wastes, require the same or similar treatment standards, and are more appropriately regulated under general requirements than individual discharge requirements. The treatment of volatile organic compounds (VOCs) and heavy metal sites (including hexavalent chromium) can use the same process for in situ treatment, known as the reducing process. The item today is to consider adoption of General Waste Discharge Requirements Order No. R1-2009-0105 (General WDRs) for the *in-situ* soil and groundwater remediation for VOCs and/or metal impacted sites within the North Coast Region, including the Mitigated Negative Declaration and Environmental Checklist.

The reductive process includes the injection of amendments to dechlorinate VOCs and reduce heavy metals. The reactions cause the contaminants to be chemically reduced to nontoxic or less toxic compounds. Reducing agents can include, but are not limited to: cheese whey, molasses, corn syrup, lactose, ethanol, emulsified oils, hydrogen releasing compounds, calcium polysulfide, sodium dithionite, sodium metabisulfite, zero-valent iron, and others. These compounds are hereinafter referred to as "reducing agents". The *in situ* reductive process speeds up the cleanup of contaminated groundwater through the injection of reducing agents which enhance subsurface conditions that support the chemical breakdown of toxic substances. In some cases, *in situ* applications may be combined with *ex situ* cleanup technologies, such as groundwater extraction, which may be used for hydraulic control, recirculation/reinjection, and/or as a contingency plan component.

Changes in soil and groundwater chemistry can occur during these processes resulting in localized exceedances of water quality objectives that are generally limited in duration and/or in a relatively small portion of the aquifer. These waste discharge requirements allow exceedances of water quality objectives to occur while these reductive processes are taking place, but only within the treatment zone, and for a limited period of time. During the reductive dechlorination process, parent VOC compounds such as tetrachloroethene (PCE) and trichloroethene (TCE) breakdown to the more toxic intermediary VOC (i.e., vinyl chloride). However, this is temporary and the

dechlorination of vinyl chloride continues to occur, ultimately breaking down to carbon dioxide and water.

Dischargers in the North Coast Region are now frequently proposing the *in situ* addition of reducing agents as a remedial technology. Regional Water Board staff anticipate that many similar projects are likely to occur in the future.

Under the proposed General WDRs, applicants would submit a Notice of Intent for Coverage and filing fee to Regional Water Board staff describing the proposed activity. Staff would review the Notice of Intent to determine whether the project should be regulated under the provisions of the General WDRs. If the General WDRs are found to be applicable, staff would advise the discharger of the enrollment under the General WDRs following completion of all necessary public noticing activities. The proposed General WDRs would allow such projects to proceed without individual waste discharge requirements issued on a case-by-case basis by the Regional Water Board, provided that the discharger complies with the conditions set forth in proposed General WDRs. The requirements of the permit, including the issuance of a site specific monitoring and reporting program, will ensure that the addition of reducing agents is an effective treatment for contaminants of concern, and will not cause a long term adverse impact to water quality and will protect human health and the environment. The adoption of these proposed General WDRs will help conserve staff resources and facilitate the cleanup of contaminated sites.

Permits by other agencies, such as the local implementing agency and local air quality management district, may also be required. The General WDRs would be conditional upon the applicant obtaining all necessary permits.

Initial Study/Checklist and Mitigated Negative Declaration

Regional Water Board staff (staff) prepared and circulated for comment an Initial Study/Checklist and Mitigated Negative Declaration for the General Waste Discharge Requirements Order No. R1-2009-0105 for the *In Situ* Soil and Groundwater Remediation for Volatile Organic Compound and/or Metal Impacted Sites within the North Coast Region. The Initial Study/Checklist and Mitigated Negative Declaration were prepared in accordance with Title 14, California Code of Regulations, Section 15063.

Staff has determined, on the basis of the Initial Study/Checklist and the documents and sources referenced therein, that the action to adopt the General Waste Discharge Requirements Order No. R1-2009-0105 will have a less than significant impact on the environment with incorporation of the mitigation measures identified in the proposed General WDRs and related Initial Study/Checklist. Staff has determined that the projects that meet the eligibility requirements of the proposed General WDRs will have a significant beneficial effect on the environment to achieve water quality restoration and protection within a reasonable period of time.

PRELIMINARY STAFF RECOMMENDATION:

Adopt General Waste Discharge Requirements Order No. R1-2009-0105, including the Mitigated Negative Declaration and Initial Study/Environmental Checklist as proposed.