

State of California  
Regional Water Quality Control Board  
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT  
February 11, 2015

- ITEM: 6
- SUBJECT: New WDRs: Waste Discharge Requirements for United States Navy Remote Training Site Onsite Wastewater Treatment System, Warner Springs, San Diego County (Tentative Order No. R9-2015-0012) (*Fisayo Osibodu*)
- PURPOSE: To consider adopting Tentative Order No. R9-2015-0012.
- RECOMMENDATION: Adoption of Tentative Order No. R9-2015-0012 (tentative Order, Supporting Document No. 1) is recommended.
- KEY ISSUES:
1. The wastewater treatment plant at the Remote Training Site Warner Springs (RTSWS) is being replaced with a new smaller Onsite Wastewater Treatment System/Advanced Treatment Unit (OWTS/ATU). The proposed OWTS/ATU has a design treatment capacity that is half the capacity of the old system.
  2. The tentative Order specifies an annual average discharge specification for total dissolved solids (TDS) of 1,400 milligrams per liter (mg/L), which exceeds the groundwater quality objective for TDS of 500 mg/L for the Warner Valley Hydrologic Area. Information contained in the Report of Waste Discharge (ROWD) indicates that there will be sufficient rainfall recharge on the property to prevent the discharge from causing the concentration of TDS to exceed 500 mg/L in groundwater downgradient or beneath the site.
  3. The tentative Order specifies that the OWTS/ATU must reduce the total nitrogen in the waste water by at least 50 percent. In addition to the nitrogen removal achieved by the OWTS/ATU, further nitrogen removal is expected to occur by nutrient uptake by vegetation in the disposal area, denitrification in the soil, and from dilution by rainfall recharge. These nitrogen removal mechanisms are expected to result in nitrate

concentrations downgradient or beneath the site that will not exceed the nitrate groundwater quality objective of 5 mg/L as nitrate (or 1.1 mg/L as N).

**PRACTICAL VISION:** The tentative Order implements one of the goals of the Practical Vision to maintain Healthy Waters in the San Diego Region by establishing requirements and discharge specifications for the new OWTS/ATU, which are intended to protect groundwater and surface water quality at the RTSWS.

**DISCUSSION:** The U.S. Navy uses the RTSWS facility for conducting survival, evasion, resistance and escape (SERE) training. The RTSWS (formerly referred to as the U.S. Navy SERE Camp) is located in a remote area of the Cleveland National Forest in the community of Warner Springs in northeast San Diego County (Supporting Document No. 2). The RTSWS includes a headquarters area with an administrative building, several staff barracks buildings, a wastewater treatment plant, and a training compound. West coast Navy/Marine Corps personnel who risk capture during wartime (e.g. aviators) undergo SERE training at the facility. The RTSWS covers over 6,300 acres, and has access to several thousand additional acres of training area. Over 1,500 Navy/Marine Corps personnel visit the RTSWS annually to receive training in skills necessary to survive in a hostile environment.

The existing wastewater treatment system at the RTSWS is about 40 years old, and is being replaced with a modern OWTS/ATU. The tentative order establishes Waste Discharge Requirements (WDRs) for the treatment and discharge of secondary treated domestic wastewater from the replacement OWTS/ATU. The OWTS/ATU consists of an influent pump station, septic tanks, Advantex AX-Max textile filter units, a 40,000 gallon effluent storage tank, and an effluent pump station. Secondary treated effluent from the OWTS/ATU will be discharged via a spray system for disposal on an existing one-acre field. A portion of the effluent will be taken up by vegetation in the spray field, and the rest will percolate into the vadose zone and into the groundwater.

The tentative Order establishes both technology and water quality-based discharge specifications for the discharge of secondary treated wastewater from the OWTS/ATU.

Technology based discharge specifications for treated wastewater discharged by the OWTS/ATU, are proposed for Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), and pH. The discharge specifications for BOD, TSS, and pH are based on design criteria for removal of these constituents by secondary wastewater treatment technology. Commonly, water quality-based discharge specifications for constituents such as TDS and nitrate are set at values at or below the water quality objectives for groundwater in the discharge area. The information contained in the ROWD demonstrates that there will be sufficient rainfall recharge on the property to prevent the discharge from causing the TDS concentration of groundwater to exceed 500 mg/L downgradient or beneath the site. As a result of the demonstration that the proposed discharge will be protective of water quality, the tentative Order proposes an annual average discharge specification for TDS of 1,400 mg/L, which exceeds the TDS water quality objective for the Warner Valley HA of 500 mg/L.

The tentative Order does not establish a specific numeric discharge specification for nitrate, but rather specifies that the OWTS/ATU must reduce the total nitrogen in the waste water by at least 50 percent. Information contained in the ROWD indicates that the concentration of nitrate downgradient or beneath the site will not exceed the nitrate groundwater quality objective of 5 mg/L as nitrate due to additional nitrogen removal mechanisms such as nutrient uptake by vegetation in the disposal area, denitrification in the soil, and dilution by rainfall recharge.

The Monitoring and Reporting Program also includes regular groundwater monitoring and reporting of TDS and total nitrogen concentrations in order to evaluate whether the discharge has any impacts on groundwater quality.

Written comments on the tentative Order and the Information Sheet were received from the U.S. Navy (Supporting Document No. 3). Staff's written responses to these comments can be found in Supporting Document No. 4. Changes were made to the tentative Order to address the U.S. Navy's comments. The changes made to the tentative Order are shown in underline/strikeout format in Supporting Document No. 6. A clean copy of the revised tentative Order is provided as Supporting Document No. 1.

LEGAL CONCERNS: None.

SUPPORTING DOCUMENTS:

1. Copy of Tentative Order No. R9-2015-0012.
2. Location Map.
3. Written Comments from the United States Navy.
4. Responses to Comments.
5. Underline/Strikeout version of Tentative Order No. R9-2015-0012.
6. Notification Letter for Public Hearing and Comment Period.

SIGNIFICANT CHANGES:

1. The annual average effluent flow limit has been reduced from 20,000 gpd to 5,000 gpd.
2. The annual average discharge specification for TDS has been changed from 900 mg/L to 1,400 mg/L, while the daily maximum discharge specification for TDS has been removed.
3. New discharge specifications have been established for total nitrogen, TSS, and pH.

COMPLIANCE RECORD:

There have been 12 violations of the annual average and daily maximum discharge specifications for TDS in the past 5 years. The effluent TDS concentration is not expected to exceed the new discharge specification for TDS established in the tentative Order.

PUBLIC NOTICE:

Notification of this action was sent to known interested parties by mail on November 24, 2014 (Supporting Document No. 7). The tentative Order was also posted on the San Diego Water Board website on November 24, 2014. These actions satisfy the public notification requirements of Water Code, division 7, section 13167.5 for a 30-day notice.