

TECHNICAL MEMORANDUM

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Subject: Santa Rosa Regional Resource Authority
Adoption of Local Limits for the Santa Rosa Water Reclamation Facility

Date: May 14, 2019

This memo presents information that supports the adoption by the Santa Rosa Regional Resource Authority (SRRRA) of industrial pretreatment program local limits that were previously developed and adopted by the Rancho California Water District (RCWD) for the Santa Rosa Water Reclamation Facility (SRWRF). The SRWRF local limits previously adopted by RCWD would serve as SRRRA adopted local limits until an updated technical evaluation of the SRWRF local limits can be completed (scheduled for 2019) and subsequently approved by state and federal regulators.

Background. Regional Water Quality Control Board (RWQCB) Order No. 94-92 regulates the treatment and reuse of SRWRF recycled water. The SRWRF treats wastewater from RCWD, the Western Municipal Water District (WMWD) and the Elsinore Valley Municipal Water District (EVMWD). Amendment No. 5 to Order No. 94-92 (adopted by the San Diego RWQCB in December 2017) formally transferred regulatory responsibilities for operating the SRWRF from RCWD to SRRRA, a joint powers authority that is comprised of RCWD, WMWD, and EVMWD.

Order No. 94-92 requires SRRRA to maintain an industrial discharge pretreatment program for the SRWRF in accordance with regulations established by the U.S. Environmental Protection Agency (EPA) within Title 40, Section 403 of the *Code of Federal Regulations* (40 CFR 403). The development and periodic update of facility-specific sewer discharge standards (local limits) is one of the 40 CFR 403 pretreatment requirements. Local limits are required to prevent pollutants from:

- endangering treatment facilities or personnel,
- interfering with treatment or solids processes,
- passing through treatment processes in sufficient quantity to cause exceedance of water quality standards of effluent permit limitations, or
- causing exceedance of state or federal sludge standards.

Current SRWRF local limits were adopted by the RCWD Board of Directors, but these local limits have not been adopted by EVMWD and WMWD. Formal adoption by SRRRA of local limits for the SRWRF would ensure that:

- SRWRF local limits are implemented throughout the SRWRF tributary area, and
- SRRRA maintains compliance with federal regulations that require the development, implementation, and enforcement of local limits.

RCWD Adoption of SRWRF Local Limits. Existing SRWRF local limits were adopted by the Rancho California Water District (RCWD) in 2013. The technical process used to develop the RCWD-adopted local limits was performed in 2009, and included:

- identifying background pollutant concentrations in the SRWRF tributary area,
- identifying pollutants of concern and assessing pollutant removal at the SRWRF,
- identifying maximum SRWRF headworks loads consistent with ensuring compliance with RWQCB effluent limits,
- identifying maximum SRWRF headworks loads consistent with ensuring compliance with state and federal sludge limits,
- identifying maximum SRWRF headworks loads consistent with preventing bypass, interfering with treatment processes, or preventing health/safety issues, and
- identifying sewer discharge local limits required to ensure that the above SRWRF maximum headworks loads are not exceeded.

SRRRA Local Limits Update Effort. Several conditions that have changed since the implementation of the existing SRWRF local limits, including:

- changes in SRWRF wastewater quality due to water conservation efforts,
- changes in the SRWRF wastewater tributary area, as the Eastern Municipal Water District (EMWD) no longer contributes flow to the SRWRF,
- minor changes in discharge permit requirements applicable to the SRWRF, and
- minor changes in SRWRF wastewater and solids handling operations and performance.

SRRRA has authorized technical studies to assess these changed conditions and develop revised SRWRF local limits that are appropriate for the portions of RCWD, WMWD, and EVMWD that are tributary to the SRWRF. Since it may take more than a year to complete the local limits technical studies and achieve state and federal approval of the proposed revised local limits, SRRRA adoption of the previous local limits adopted by RCWD is proposed as an interim measure. The following sections identify how existing RCWD-adopted local limits represent appropriate interim SRWRF local limits until the SRRRA local limits update can be completed (scheduled for 2019) and approved by state and federal regulators.

Basis and Applicability of RCWD-Adopted Local Limits. SRWRF local limits adopted by RCWD included limits for:

- grease and oil,
- total dissolved solids and mineral constituents,
- toxic inorganic compounds, and
- toxic organic compounds.

Grease and Oil. SRWRF local limits adopted by RCWD include a 100 milligram per liter (mg/L) limit for grease and oil to prevent treatment inhibition and to support the control of fats, oil, and grease (FOG) within SRRRA member agency collection systems. Such FOG control programs are part of each member agency's Sanitary Sewer Management Plan.

The treatment inhibition and FOG considerations used in developing the existing RCWD-adopted local limit for grease and oil remain applicable. As a result, no change of the 100 mg/L grease and oil local limit is being considered as part of the current SRRRA technical re-evaluation of SRWRF local limits. SRRRA adoption of this existing grease and oil local limit is recommended.

Dissolved Mineral Constituents. SRWRF local limits for total dissolved solids (TDS), chloride, sulfate, iron, manganese, and boron were adopted by RCWD to ensure compliance with SRWRF recycled water effluent concentration limits established within RWQCB Order No. 94-92. Since these dissolved minerals are not removed by SRWRF treatment processes, the existing RCWD-adopted local limits for TDS and dissolved minerals remain applicable for ensuring compliance with SRWRF recycled water effluent concentration limits.

Toxic Inorganic Constituents. SRWRF local limits adopted by RCWD include local limits for cyanide and eleven toxic metals.

SRRRA retains the ability during wet weather conditions to discharge SRWRF recycled water to the EMWD Temescal Wash outfall pursuant to requirements established by the Santa Ana RWQCB in Order No. R8-2015-0006 (NPDES 8000188). The existing RCWD-adopted local limit for cyanide was developed to ensure compliance with effluent limits established within Order No. R8-2015-0006. Current cyanide limits established within Order No. R8-2015-0006 are only slightly modified from the effluent limits that were in effect at the time the existing SRWRF local limits were developed. As a result, the existing RCWD-adopted local limit for cyanide remains protective of achieving NPDES effluent limits for the Temescal Wash discharge option.

Local limits for toxic metals are, in part, dependent on SRWRF treatment removal efficiencies. (The greater the treatment removal, the greater the metals concentration in sludge.) Local limits for eleven metals were adopted by RCWD to ensure compliance with state and federal sludge limits.

Minor changes in SRWRF treatment removals of metals have occurred in recent years as SRWRF influent flows have increased. While these treatment removal changes may translate to small changes (in certain instances, minor relaxations) in recommended local limits for some metal constituents, the current RCWD-adopted local limits for metals remain protective of federal and state sludge limits. Pending completion of the SRRRA local limits update effort, SRRRA adoption of the existing RCWD-adopted local limits for toxic metals is recommended as an interim measure to ensure sludge compliance.

It should be noted that minor modifications to the SRWRF local limits for toxic metals may be recommended upon completion in 2019 of the ongoing SRRRA local limits update study. Additionally, as part of this local limits update study, it is possible that new local limits may be proposed for several additional toxic metals.

Toxic Organic Compounds. SRWRF local limits adopted by RCWD include limits for phenol and dibromochloromethane.

The phenol local limit is implemented to prevent treatment inhibition. The phenol local limit is a hold-over from SRWRF local limits originally adopted by RCWD more than two decades ago. Historic SRWRF influent concentrations of phenols are typically three orders of magnitude lower than the adopted phenol local limit, so it is unlikely that any reasonable potential exists for this local limit to be exceeded. Pending completion of the SRRRA local limits update effort, however, SRRRA adoption of the existing RCWD-adopted local limit for phenol is warranted.

The existing RCWD-adopted local limit for dibromochloromethane ensures compliance with dibromochloromethane effluent limits established within Order No. R8-2015-0006. Historic SRWRF data show that dibromochloromethane is almost never detected in the SRWRF influent, but almost always is present in the SRWRF recycled water as a result of its formation in the SRWRF chlorination process. Since SRWRF secondary treatment processes should result in near complete removal of any dibromochloromethane that might appear in the SRWRF influent, the SRRRA local limits technical study may conclude that:

- SRWRF recycled water dibromochloromethane concentrations are largely independent of influent concentrations (and instead are dependent on SRWRF disinfection operations), and as a result,
- no local limit is required for dibromochloromethane.

Until technical work is completed to support eliminating this local limit, however, SRRRA adoption of the RCWD-adopted local limit for dibromochloromethane is appropriate as an interim measure.

Conclusions. Adoption by SRRRA of the existing RCWD-adopted local limits represents the best available interim option to allow for immediate SRRRA action to:

- comply with federal pretreatment regulations by establishing local limits that are enforceable throughout the SRWRF tributary area,
- protect SRWRF treatment processes and operations, and
- help ensure compliance with applicable effluent and sludge regulations.

Existing RCWD-adopted local limits for the SRWRF remain applicable and appropriate for implementation until updated local limits can be developed (scheduled for 2019). It is recommended that SRRRA adopt the local limits previously adopted by RCWD to ensure continued compliance with federal pretreatment regulations.