

## **Humboldt County Resort Improvement District No. 1**

The Humboldt County Resort Improvement District No. 1 (hereinafter Discharger or District) submitted comments on the draft NPDES permit (Order No. R1-2009-0094) on October 22, 2009. In its comments, the Discharger requested a minor change to the draft Order. The minor change has been incorporated in the revised draft Order along with related requirements added to ensure compliance with Title 22 Water Reclamation Criteria. The following is the staff response to comments from the Discharger:

**Comment 1: Monitoring of Recycled Water for Coliform Organisms.** *Following a careful review of the draft copy of the Waste Discharge Requirements for the Humboldt County Resort Improvement District No.1 we find an issue with only one item. The requirement to change from our current weekly total coliform bacteria testing to daily testing of our recycled water being irrigated onto our golf course. We feel this would place a real hardship on the District in that we are situated on the coast in a very rural environment and are some 2-hours from the nearest State Certified Laboratory. In our renewed permit is it possible we could continue to monitor weekly? Thank you for your consideration. - Michael Luce, Director of Public Works/Chief Operator, Humboldt County Resort Improvement District No.1*

**Response:** The increase in the monitoring from weekly to daily monitoring for total coliform bacteria for the recycled water discharge was proposed in the draft Order because the California Department of Public Health specifies daily monitoring for determining compliance with the applicable 7-day median total coliform standard for recycled water. Daily coliform monitoring is routinely established in waste discharge requirements throughout the region when the permitted discharge includes a discharge of recycled water. Where a renewed discharge permit increases the monitoring frequency of any constituent, it is understood that increased monitoring will result in added expense to the permittee. Regional Water Board staff acknowledges the potential hardship on the District as stated by Mr. Luce, the District's Director of Public Works. In considering a response to the District's request for a return to weekly monitoring, Regional Water Board staff weighed the significant burden on the District against the need to meet the expectations of the California Department of Public Health with respect to coliform monitoring frequency.

The goal of water recycling regulations, as expressed in Title 22 of the California Code of Regulations (Water Reclamation Criteria), is to protect public health by ensuring adequate disinfection of treated wastewater prior to its use as recycled water. Adequate disinfection for tertiary recycled water is achieved through operational parameters such as restrictions on the maximum allowable turbidity through the tertiary media filters and continuous attainment of a CT value (the product of total chlorine residual and chlorine contact time) of no less than 450 mg-minutes/L and though compliance with effluent limitations for total coliform bacteria. The turbidity and CT requirements are required to be met continuously and, as a fail-safe measure, the recycled water system must include alarms and the capability to divert effluent that does not meet the minimum CT value or exceeds the maximum allowable turbidity. Effluent coliform monitoring provides a final check on the overall adequacy of the recycled water disinfection system. Recycled water not meeting effluent coliform limitations must be also diverted from its recycled water use.

While the value of a daily coliform check should not be minimized, less than daily coliform monitoring may be acceptable, on a case-by-case basis, provided that continuous disinfection is ensured through continuous compliance with the turbidity and CT requirements. The emphasis on turbidity and CT offers two key advantages: 1) it will ensure continuous disinfection; and (2) system alarms will warn the Permittee of potentially inadequate disinfection in time for them to avoid discharges that would violate the coliform effluent limitation. Because the District has demonstrated through design specifications and routine monitoring that it complies with Title 22 regulations, including coliform limitations, at anticipated recycled water flows, it is reasonable to conclude that it will continue to comply in the future.

The burden of daily coliform monitoring to the District is significant. The District currently drives its weekly samples 45 minutes to the community of Redway for drop-off to a courier who then transports the samples 90 minutes to a state certified laboratory in Arcata to meet the 6-hour allowable holding time for the total coliform analytical method. Daily sampling and transport of samples to Redway would require the Discharger to provide a daily courier seven days per week. Mr. Luce has indicated that a daily courier service would require the District to hire an additional employee, which would cost the District an estimated \$40,000-60,000 per year, an expense that is prohibitively expensive for this small District. Obtaining and maintaining state certification for an in-house laboratory at the treatment facility would, at a minimum, require additional laboratory training for operations staff, but would likely require the District to hire additional personnel.

Finally, if the cost of compliance with daily bacteria monitoring results in the District abandoning water recycling, treated wastewater previously reused beneficially at the golf course will be redirected for disposal to the Discharger's ocean outfall, which discharges to an Area of Biological Significance (ASBS). An increase of waste discharge to the ASBS is not desirable and may compromise the Discharger's existing exception to the prohibition against waste discharges to the ASBS.

Regional Water Board staff has considered the District's request and finds that once per week monitoring for effluent coliform bacteria is acceptable because the return to weekly monitoring will not result in noncompliance with all requirements for disinfected tertiary recycling water specified in the Title 22 Water Reclamation Criteria, including the 7-day median effluent limitation. Granting the request does not result in a reduction in frequency compared to the previous permit.