Report on May 13, 2008 Discharge Event

On May 13, 2008 between 12:00 a.m. and 7:00 a.m. the main treatment facility located at 2001 Paradise Drive released 67,500 gallons of **water into Raccoon Straits in the usual method. However, the discharged water** had undergone **only** Primary treatment and Disinfection, not **the usual** Secondary treatment. Under our NPDES Permit, **releasing water with only primary treatment** is allowed only during extreme wet weather. Therefore, the District immediately notified the State Office of Emergency Services, Regional Water Quality Control Board, Directors of Environmental Health, Marin County Department of Health Services and the County Public Health Officer. Within thirty minutes of reporting, warning signs were placed along the Bay notifying the public to stay out of the water.

Why did it happen?

A float switch that controls a pump at the main treatment facility located at 2001 Paradise Drive experienced an electrical fault. This fault triggered a back-up system which bypasses two of the treatment process steps applied to the wastewater under normal (dry weather) conditions. During extreme wet weather this bypass is standard procedure, allowed and expected under our NPDES Permit. The effluent discharged contained no solids, and it was chlorinated and de-chlorinated before being discharged in the usual manner – through our outfall pipe 800 feet out into Raccoon Straits.

When a pump fails, our SCADA (Supervisory Control And Data Acquisition) system activates an alarm that (during off-hours) is monitored by a security company. When an alarm activates, the security company immediately contacts plant staff. In this case, the float switch failure caused a pump to run continuously, so the system was working. Had a pump actually failed, operators would have been alerted to the condition by the security company.

Was the public at risk?

At no time did any untreated wastewater or treated effluent “spill” or “overflow” from our facilities, so there was never an opportunity for the public to have direct contact with the effluent emanating from the plant. Nevertheless, we erred on the side of caution and placed warning signs along the Bay,

Upon discovering the bypass the release of effluent from the treatment facility was stopped. While maintenance staff worked on diagnosing the problem, operational staff collected water samples (multiple, over time) from the point of discharge and from the Bay. Results of tests are below. **The effluent discharged during this event had lower bacterial counts than the Bay waters generally.**

What are we doing to prevent a recurrence?

The systems that experienced the failure had undergone preventive maintenance most recently in 2006. At the time, an inspection of the circuits that failed revealed no anomalies. Typically this form of inspection takes place every 5 years. Henceforth we will inspect annually. Similarly, inspections of the float-switch assemblies are being done, and replacements installed, along with an alarm on the flow meters, and a sensor to monitor the levels in the wet-weather tanks.

Robert L. Lynch, District Manager

Marin County Public Health Laboratory

Bacteriological Analysis of water samples taken on May 13, 2008

Parameter	**Max. allowable under Public Beach Sanitation and Ocean Water-Contact Sports bacteriological standards**	**SD#5 Weekly average**	**Bay samples**	**Point of discharge (samples taken at SD#5 plant)**
Total Coliform Daily Max	10,000 MPN/100ML	80 MPN/100ML	31,420,30, <10,<10 and 10 MPN/100ML	
Fecal Coliform	400MPN/100ML		<10,<10,<10 ,<10,<10 and <10 MPN/100ML	
Entercoccus	104MPN/100ML		<10,<10,<10 ,<10,<10 and 10 MPN/100ML	

Brelje & Race Laboratory

Bacteriological Analysis of water samples taken on May 13, 2008

Parameter	Max. allowable under NPDES permit	SD#5 Weekly average	Bay samples	Point of discharge (samples taken at SD#5 plant)
Total Coliform Daily Max	10,000 MPN/100ML	80 MPN/100ML		4.0, 7.0,<2.0 and13 MPN/100ML
Ammonia	Not Required			26,24,24 and26
Biochemical Oxygen Demand	<45 mg/l	24 mg/l		8.5, 8.5, 7.5 and 8.9 mg/l
Total Suspended Solids	<45 mg/l	7 mg/l		5,6,4.5,and 7.5 mg/l

Coliform: Coliform bacteria are the indicator organism for determination of the efficiency of the disinfection process. The lab culture samples of our effluent and the presence of coliform is an indication that pathogenic organisms may be present. This is reported as MPN/100 (number of colifom bacteria in 100 milliliters sample)

B.O.D. (Biochemical Oxygen Demand): Measurement of the effluent's capacity to consume dissolved oxygen to stabilize all remaining organic matter. The permit limits for our effluent for discharge into San Francisco bay require that we remove 85% influent B.O.D. and meet a weekly average of less than 45mg/l and a monthly average of less than 30 mg/l B.O.D.

TSS (Total Suspended Solids): Measurement of suspended solids in the effluent. Our permit requires that we move at least 85% of the influent TSS and that the effluent limit is less than 45 mg/l as a weekly average and less than 30 mg/l as a monthly average.