

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

COMPLAINT NO. R2-2009-0027

ADMINISTRATIVE CIVIL LIABILITY  
IN THE MATTER OF  
SANITARY SEWER OVERFLOW  
MT. VIEW SANITARY DISTRICT  
CONTRA COSTA COUNTY

This Complaint is issued to Mt. View Sanitary District (hereinafter “Discharger”) to assess administrative civil liability pursuant to California Water Code (“CWC”) Section 13385 and Section 13323. The Complaint addresses a discharge of untreated wastewater resulting from a sanitary sewer overflow (SSO). The Discharger violated Order R2-2006-0063 (NPDES Permit No. CA0037770). The violation cited herein occurred January 4, 2009 through January 5, 2009.

The Assistant Executive Officer of the California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the “Regional Water Board”) hereby gives notice that:

1. The Discharger is alleged to have violated provisions of law for which the Regional Water Board may impose civil liability pursuant to CWC Section 13385 and Section 13323. This Complaint proposes to assess \$498,000 in penalties for the violation cited based on the considerations described in this Complaint. The deadline for comments on this Complaint is May 1, 2009, 5 p.m.
2. The Discharger owns and operates a sanitary sewer collection system (collection system) consisting of approximately 108 miles of gravity sewer pipe, 2 miles of force mains, and 4 pump stations. The Discharger’s collection system covers an area of approximately 5 square miles and serves an approximate population of 18,250 consisting primarily of residential customers and some light industrial/commercial customers.
3. This Complaint is issued to address a 586,000 gallon SSO caused by electrical equipment failure and faulty wiring. The SSO originated from the Discharger’s collection system and occurred from January 4, 2009, through January 5, 2009.
4. Unless waived, the Regional Water Board will hold a hearing on this Complaint at its June 10, 2009, meeting, at the Elihu M. Harris State Building, First Floor Auditorium, 1515 Clay Street, Oakland. The Discharger or its representative will have an opportunity to be heard and contest the allegations in this Complaint and the imposition of the civil liability. An agenda for the meeting will be mailed to the Discharger not less than 10 days before the hearing date. The deadline to submit all written comments and evidence concerning this Complaint is May 1, 2009, 5 p.m. At the hearing, the Regional Water Board will consider whether to affirm, reject, or modify the proposed civil liability, to refer the matter to the Attorney General for recovery of judicial liability, or take other enforcement actions.

5. The Discharger can waive its right to a hearing to contest the allegations contained in this Complaint by (a) paying the civil liability in full or (b) undertaking an approved supplemental environmental project in an amount not to exceed \$240,500 and paying the remainder of the civil liability, all in accordance with the procedures and limitations set forth in the attached waiver.

### **ALLEGATIONS**

1. On January 5, 2009, the Discharger reported to the Regional Water Board an SSO to waters of the state from its sewer collection system at pump station no. 4.
  - a. The SSO was discovered by contractors working on a sewer line repair at the Shell Martinez Refinery property near pump station no. 4 who reported the SSO to the Discharger around 10:00 am on January 5, 2009.
  - b. The SSO ceased at about 10:15 a.m. when the Discharger arrived at the pump station and manually turned on the pumps that had shut down.
  - c. The Discharger determined that the SSO began at approximately 9:10 am on January 4, 2009.
  - d. The total SSO volume was approximately 586,000 gallons of raw sewage. There was no wet weather during the entire period of the SSO.
  - e. The Discharger later determined that the cause of the SSO was due to electrical system failure and faulty wiring at the pump station.
  - f. The SSO entered Vine Hill Creek via a storm drain adjacent to pump station no. 4, and ultimately reached a brackish marsh located east of the intersection of I-680 and Arthur Road in Martinez, Contra Costa County.
  - g. The SSO caused significant fish mortality in the impacted surface waters.
  - h. The Discharger began efforts to recover the SSO approximately 3 hours after the SSO was discovered and about 28 hours after the SSO began. The Discharger was able to recover approximately 18% (105,060 gallons) of the total SSO volume.
2. An SSO is a discharge from a collection system of raw sewage consisting of domestic wastewater as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the collection system. An SSO contains high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease, and other pollutants. An SSO causes a public nuisance when untreated wastewater is discharged to areas with public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. An SSO that discharges to land and is not fully cleaned up or contained, discharges to surface waters and/or seeps to ground waters. SSOs pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

### **REQUIREMENTS APPLICABLE TO THE DISCHARGER**

1. The Discharger is subject to Regional Water Board Order No. R2-2006-0063 (NPDES Permit No. CA0037770). Order No. R2-2006-0063 prescribes waste discharge requirements for the Discharger's discharges.

2. Order No. R2-2006-0063 includes the following prohibition:

*Section III. Discharge Prohibitions*

*B. The bypass of untreated or partially treated wastewater to waters of the State, either at the Discharger's Wastewater Treatment Plant (Facility) or from the collection system or pump stations tributary to the Facility, is prohibited, except as provided for bypasses under the conditions stated in 40 CFR 122.41(m) (4), in A.12 of the Standard Provisions and Reporting Requirements for NPDES Surface Water Discharge Permits, August 1993...*

**WATER CODE PROVISIONS RELEVANT TO THESE DISCHARGES**

1. Pursuant to CWC Section 13385(a)(2), a discharger is subject to civil liability for violating any waste discharge requirement issued pursuant to Chapter 5.5, which is the Water Code chapter that applies to the Board's issuance of NPDES permits. The Regional Water Board may impose civil liability administratively pursuant to CWC, Chapter 5, Article 2.5 (commencing at Section 13323) in an amount not to exceed the sum of both of the following:
  - a. Ten thousand dollars (\$10,000) for each day in which a violation occurred.
  - b. Ten dollars (\$10) for each gallon exceeding 1,000 gallons of discharge and not cleaned up.

If this matter is referred to the Attorney General for judicial enforcement, a higher liability of \$25,000 for each day of violation and \$25 for each gallon exceeding 1,000 gallons of discharge and not cleaned up, may be imposed by a superior court.

**VIOLATIONS**

1. The SSO that occurred on January 4 and 5, 2009 resulted in the discharge of untreated wastewater to waters of the State. The SSO originated from the collection system or pump stations tributary to the Discharger's Facility, and thus violated Prohibition III.B. of Regional Water Board Order No. R2-2006-0063.

**MAXIMUM LIABILITY**

The maximum administrative civil liability the Regional Water Board may impose for the violations is \$3,560,000 based on the following calculations:

Two days of violation for SSO = 2 days x \$10,000/day/violation = \$20,000  
Discharge exceeding 1000 gallons and not cleanup = (586,000 gallons - 105,060 gallons - 1000 gallons) x \$10/gallon = \$4,799,400  
Total: \$4,790,000 + \$20,000 = **\$4,819,400**

## CONSIDERATION OF FACTORS UNDER CWC 13385

1. In determining the proposed amount of civil liability to be assessed against the Discharger, the Regional Water Board's prosecution staff has taken into consideration the factors described in CWC Section 13385. The factors described include
  - The nature, circumstances, extent, and gravity of the violation or violations,
  - Whether the discharge is susceptible to cleanup or abatement,
  - The degree of toxicity of the discharge,
  - With respect to the discharger, the ability to pay and the effect on ability to continue in business,
  - Any voluntary cleanup efforts undertaken,
  - Any prior history of violations,
  - The degree of culpability,
  - The economic benefit or savings, if any, resulting from the violation, and
  - Other such matters as justice may require.

At a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation.

### 2. **The nature, circumstances, extent, and gravity of the violation or violations**

#### *Nature*

The violation involved approximately 586,000 gallons of raw sewage undiluted by any stormwater that discharged into Vine Hill Creek, and a brackish marsh. The violation occurred for a period of about 25 hours.

#### *Circumstances*

The cause of the SSO was due to an electrical system failure compounded by incorrect wiring at the pump station. The electrical system failure shutdown the primary pumps. Because the control for both the backup pump and the alarm notification system were also wired to the same electrical system that failed, neither system activated. In essence, when the pumps stopped because of the electrical system failure, wastewater collected in the pump station's wet wells. Because of the incorrect wiring, the backup system and alarms did not trigger. So when the two wet wells reached hydraulic capacity, raw sewage from the wells overflowed through the manhole.

The electrical system that failed was the programmable logic controller (PLC). A PLC is a digital computer used for automation of electromechanical processes. A PLC automatically controls the sequencing of pump motors and remote devices at pump stations including alarm functions. At pump station no. 4, the PLC controls the high-level alarms for both the primary and backup wet wells. When raw sewage levels in either wet well reach a predetermined high level, the pump(s) are signaled to turn on by the PLC. In addition, when the PLC accepts an alarm signal from either wet well, it notifies Discharger staff via an auto-dialer

system programmed to page, call, and fax. The PLC's wiring was incorrect because the primary wet well, the backup wet well and the float control system at pump station no. 4 were not configured independently. So when the PLC failed and the wet wells reached capacity, neither the primary pump nor the backup pump was signaled to turn on. Additionally, no high level alarms were transmitted via the auto-dialer system to notify the Discharger of the SSO.

The PLC failed due to a defective circuit of the central processing unit (CPU) module. An investigation into the specific causes of the defect is being conducted by a Discharger contractor. The Discharger has preliminarily concluded that the circuit defect was highly likely caused by a PG&E momentary power interruption that supplied transient voltage to pump station no. 4. PG&E confirmed that on January 3 and 4, 2009, two power outages occurred that impacted customers on the same circuit that supplies power to pump station no. 4. Although power was not interrupted to pump station no. 4, it is highly likely a dip in power resulted in failure of the PLC.

#### *Extent*

The SSO impacted approximately one mile of Vine Hill Creek and 13,000 square feet (0.3 acres) of the marsh.

#### *Gravity*

The gravity of this SSO was high. The SSO resulted in the discharge of a large volume of raw sewage to waters of the state. Since this SSO occurred during dry weather conditions, it was undiluted and posed a high level of toxicity to surface waters resulting in significant fish mortality. The fish killed included primarily mosquito fish and sticklebacks common to drainage channels. No endangered or threatened species were impacted by the SSO. The water bodies impacted were not drinking water sources. Also, there was no evidence of impact to water contact recreation due to limited public access to these water bodies.

### **3. Whether the discharge is susceptible to cleanup or abatement**

During dry weather, either all or a portion of an SSO can be contained and returned to the sanitary sewer for treatment. The Discharge was not able to contain or return to the sanitary sewer any portion of the SSO prior to it reaching surface waters. The Discharger recovered about 18% of total SSO volume (105,060 gallons) from Vine Hill Creek approximately 3 hours after the SSO was discovered. However, this was about 28 hours after the SSO began and the discharge had caused toxicity in the surface waters.

### **4. The degree of toxicity of the discharge**

The SSO's degree of toxicity was high. The SSO created a localized toxic environment in the water column as a result of discharge of oxygen-demanding pollutants that lowered dissolved oxygen levels and elevated ammonia concentration which is a demonstrated fish toxicant. Water quality monitoring results conducted by the Discharger demonstrated

dissolved oxygen levels as low as about 0.34 mg/l in Vine Hill Creek and 0.6 mg/l in the marsh. These levels are significantly lower than the minimum level of 5 mg/l<sup>1</sup> needed by more aquatic organisms to survive. Un-ionized ammonia levels were detected as high as 36 mg/l as N in Vine Hill Creek. This level is significantly greater than the maximum level 0.16 mg/l as N<sup>2</sup> above which acute toxicity to fish occurs. As noted above, the SSO caused significant fish mortality.

**5. The ability to pay and the effect on ability to continue in business**

The Discharger is financially stable and has the financial resources to provide for debt service obligations and financial needs, including this proposed administrative civil liability.

In 2008, the Contra Costa County Local Agency Formation Commission (LAFCO) prepared a Water and Wastewater Municipal Services Review for Central Contra Costa County (MSR) as required by Government Code §56000 et seq. LAFCO reviewed several service providers including the Discharger with respect to the need for and adequacy of current services and each agency’s ability to continue to provide adequate services in the future. Based on their review, LAFCO determined that the Discharger has the financial resources to provide for operations and maintenance and capital needs of the wastewater system, as well as debt service obligations. LAFCO also determined that the Discharger is financially stable, and has the capacity to continue to provide services within its boundaries.

The Discharger provided financial information including annual budgets (summarized in *Table 1* below) and sewer rate fees. The Discharger’s net assets at the end of fiscal year (FY) 2007/2008 were \$21.82 million. The Discharger’s primary sources of revenue are service charges and connection and franchise fees. The Discharger also receives some property tax revenue as well as grants and interest income on investments.

**Table 1: Discharger’s Financial Summary**

	<b>FY 2005/2006 Actual</b>	<b>FY 2006/2007 Actual</b>	<b>FY 2007/2008 Actual</b>	<b>FY 2008/2009 Budgeted</b>
<b>Revenue</b>	\$4,509,895	\$5,469,597	\$5,460,149	\$7,554,042.78
<b>Expenses</b>	\$4,340,167	\$4,303,251	\$4,995,644	\$11,123,655.59
<b>Change in Net Assets</b>	\$169,728	\$1,166,346	\$1,464,505	\$(3,569,612.81) Estimated
<b>Net Assets, Beginning of Year</b>	\$19,021,263	\$19,190,991	\$20,357,390	\$21,821,895
<b>Net Assets, End of Year</b>	\$19,190,991	\$20,357,390	\$21,821,895	\$18,252,282.19 Estimated

<sup>1</sup> January 2007 San Francisco Bay Basin Water Quality Control Plan (Basin Plan) establishes this numerical water quality objective for dissolved oxygen concentrations in nontidal waters designated as warm water habitat (minimum of 5 mg/l).

<sup>2</sup> Basin Plan establishes this numerical water quality objective for un-ionized ammonia concentrations in the Central Bay and upstream (maximum of 0.16 mg/l as N).

*Note: Revenues/Expenses include both operating and non-operating revenues/expenses. All reserves are designated to meet projected needs, long-range projects and debt service requirements. For FY 2008-2009, the Discharger's expenses will exceed expected revenues. However, the Discharger has maintained reserves to cover such shortfalls.*

The Discharger has the authority to adjust its sewer rate scale to provide for financial needs. In 2006, the Discharger implemented rate increases to ensure that adequate financial resources are available to implement the Sewer System Management Plan (SSMP) and capital improvement projects. The rates were increased for a period of three fiscal years starting with FY 2006/2007. The monthly rate went up to \$39.95/month for FY 2008/2009, about a 44% increase from FY 2005/2006. This rate is now on par with the average sewer rates for Contra Costa County (about \$37/month in FY 2007/2008).

As a result of the sewer rate increase, the Discharger now has approximately \$1.1 million more for FY 2008/2009 than they collected in FY 2006/2007. This additional revenue would allow them to borrow approximately \$11 million (assuming an interest rate of 5% for 15 years). Therefore, with this additional revenue alone, the Discharger has the ability to pay up to \$11 million. The Discharger could also raise its monthly sewer rate fees by \$0.36 per equivalent dwelling unit (EDU) to raise sufficient funds to pay for a loan that would cover the proposed penalty (assuming an interest rate of 5% for 15 years).

#### **6. Any voluntary cleanup efforts undertaken**

The Discharger began efforts to recover the SSO from Vine Hill Creek approximately 3 hours after the SSO was discovered and about 28 hours after the SSO began. The Discharger recovered approximately 18% (105,060 gallons) of the total SSO volume. On January 6, 2009, after recovery efforts were completed, the Discharger, upon consultation with California Department of Fish and Game, flushed Vine Hill Creek with 56,000 gallons of advanced secondary, ultra-violet disinfected effluent water from the Discharger's Facility. Beginning on January 9, 2009 and continuing through January 11, 2009, the Discharger successfully implemented aeration activities to raise the dissolved oxygen levels in the marsh.

#### **7. Any prior history of violations**

The Discharger had several SSOs prior to this SSO. Regional Water Board records show that the Discharger had approximately 45 SSOs totaling about 273,000 gallons since December 2004. Regional Water Board's records prior to 2004 are not complete or accurate; however, it is likely the Discharger had SSOs prior to this time.

Prior to this SSO, the majority of the total SSO volume discharged (two events totaling 203,000 gallons) resulted from severe storm events in December 2005 which caused backup in the sanitary sewer system. The remainder of the SSO volume discharged (about 70,000 gallons over a 4 year period) was caused by grease, root and unknown blockages.

## **8. The degree of culpability**

The Discharger's degree of culpability is medium. The Discharger is culpable for the violations because it is responsible for the proper operation and maintenance of its collection system. The SSO at pump station no. 4 could have been prevented with (1) circuit upgrades to the pump station control system to ensure adequate independent redundancy between the primary and backup wet wells, and (2) implementation of measures to protect sensitive electrical equipment from power variations (i.e. surge protection). However, it was not until this SSO occurred that the Discharger became aware of the fact that the PLC, the backup wet well pump, and the float control system were not wired correctly to provide adequate redundancy. The Discharger would not have been able to detect the incorrect wiring unless it had disassembled the PLC and conducted an engineering review of the device. This type of analysis is not a standard O&M procedure.

Nonetheless, the Discharger did not adequately implement measures to protect electronic equipment at pump station no. 4 as it had done four months prior at the Discharger's Wastewater Treatment Plant (Facility). On September 8, 2008, the Discharger had an unauthorized discharge event (bypass of partially treated wastewater) at the Facility. The event occurred as a result of a PG&E momentary power interruption. PG&E supplied transient voltage in the power grid causing multiple shutdowns of major process pumping systems in the Facility. As a result of this event, the Discharger implemented measures to protect sensitive equipment at the Facility from power variations. Specifically, the Discharger installed surge protection with uninterruptible power supply (UPS) on the PLC which provides control logic to all three primary pumping systems at the Facility. Similar surge protection measures should have been implemented at pump station no. 4.

## **9. The economic benefit of savings**

The Discharger identified and already implemented some upgrades (e.g., purchase of and rewiring of new PLC, purchase of Smart Cover®) to the pump station to prevent similar failures in the future. These upgrades cost about \$8,500, and the cost savings from not completing this change until just recently is minimal (about \$6,700 assuming 6% interest rate over a 10 year period).

## **10. Other such matters as justice may require**

The Discharger has proactively taken steps to prevent reoccurrence of a similar SSO event in the future. On January 8, 2009, the Discharger made modifications to the circuitry of the PLC, backup wet well pump and float control system to add independent redundancy at the pump station. In case of a malfunction of the PLC, the new circuit will turn on the pump if the backup wet well level reaches the high level float switch. An alarm signal will also be sent to the autodialer. If the float control system loses power, an alarm signal will also be sent to the autodialer. The autodialer is powered by AC and backed up by battery.

In addition, the Discharger plans to install a Smart Cover® at pump station no. 4 in the hinged hatch cover over the inlet channel to the primary wet well. This will provide



additional independent back-up by monitoring water levels and alarms at pre-set high level water conditions. The Discharger has also commissioned an audit of all its pump stations to assess adequacy of and identify vulnerabilities related to pump station capacity, redundancy, and alarm and control systems. The audit will also assess surge protection needs at all the pump stations.

**11. Staff Time**

Regional Water Board Staff time to prepare the Complaint and supporting evidence is estimated to be about 100 hours. Based on an average cost to the State of \$170 per hour, the total staff cost is \$17,000.

**CEQA EXEMPTION**

This issuance of this Complaint is an enforcement action and is, therefore, exempt from the California Environmental Quality Act, pursuant to Title 14, California Code of Regulations, Section 15321.

March 30, 2009  
Date

Thomas E. Mumley  
Assistant Executive Officer

Attachment: Waiver of Hearing

## WAIVER OF HEARING

If you waive your right to a hearing, the matter will be included on the agenda of a Regional Water Board meeting but there will be no hearing on the matter, unless a) the Regional Water Board staff receives significant public comment during the comment period, or b) the Regional Water Board determines it will hold a hearing because it finds that new and significant information has been presented at the meeting that could not have been submitted during the public comment period. If you waive your right to a hearing but the Water Board holds a hearing under either of the above circumstances, you will have a right to testify at the hearing notwithstanding your waiver. **Your waiver is due no later than May 1, 2009, 5 p.m.**

- Waiver of the right to a hearing and agreement to make payment in full.  
By checking the box, I agree to waive my right to a hearing before the Regional Water Board with regard to the violations alleged in Complaint No.R2-2009-0027 and to remit the full penalty payment to the State Water Pollution Cleanup and Abatement Account, c/o Regional Water Quality Control Board at 1515 Clay Street, Oakland, CA 94612, within 30 days after the scheduled Hearing date. I understand that I am giving up my right to be heard, and to argue against the allegations made by the Assistant Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed unless the Regional Water Board holds a hearing under either of the circumstances described above. If the Regional Water Board holds such a hearing and imposes a civil liability, such amount shall be due 30 days from the date the Regional Water Board adopts the order imposing the liability.
  
- Waiver of right to a hearing and agree to make payment and undertake an SEP.  
By checking the box, I agree to waive my right to a hearing before the Regional Water Board with regard to the violations alleged in Complaint No. R2-2009-0027, and to complete a supplemental environmental project (SEP) in lieu of the suspended liability up to \$240,500 and paying the balance of the fine to the State Water Pollution Cleanup and Abatement Account (CAA) within 30 days after the scheduled Hearing date. The SEP proposal shall be submitted no later than **May 15, 2009**. I understand that the SEP proposal shall conform to the requirements specified in Section IX of the Water Quality Enforcement Policy, which was adopted by the State Water Resources Control Board on February 3, 2009, and be subject to approval by the Assistant Executive Officer. If the SEP proposal, or its revised version, is not acceptable to the Assistant Executive Officer, I agree to pay the suspended penalty amount within 30 days of the date of the letter from the Assistant Executive Officer rejecting the proposed/revised SEP. I also understand that I am giving up my right to argue against the allegations made by the Assistant Executive Officer in the Complaint, and against the imposition of, or the amount of, the civil liability proposed unless the Regional Water Board holds a hearing under either of the circumstances described above. If the Regional Water Board holds such a hearing and imposes a civil liability, such amount shall be due 30 days from the date the Regional Water Board adopts the order imposing the liability. I further agree to satisfactorily complete the approved SEP within a time schedule set by the Assistant Executive Officer. I understand failure to adequately complete the approved SEP will require immediate payment of the suspended liability to the CAA.

- Waiver of right to a hearing within the 90-day hearing requirement in order to extend the hearing date.

By checking this box, I hereby waive my right to have a hearing before the Regional Water Board within 90 days after service of the Complaint, but I reserve the right to have a hearing in the future. I agree to promptly engage the Regional Water Board prosecution staff in discussions to resolve the outstanding violation(s). By checking this box, the Discharger requests that the Regional Water Board delay the hearing so that the Discharger and the prosecution team can discuss settlements. It remains within the discretion of the Regional Water Board to agree to delay the hearing.

---

Name (print)

---

Signature

---

Date

---

Title/Organization