

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

COMPLAINT NO. 01-020A

**ADMINISTRATIVE CIVIL LIABILITY
AND MANDATORY PENALTY
IN THE MATTER OF
SONOMA VALLEY COUNTY SANITATION DISTRICT
SONOMA COUNTY**

This Complaint to assess Administrative Civil Liability and Mandatory Minimum Penalties pursuant to Water Code section 13385 (c), (e), (h) and/or (i) is issued to Sonoma Valley County Sanitation District (hereafter Discharger) based on a finding of violations of Waste Discharge Requirements Order No. 98-111 (NPDES No. CA0037800). The period covered by this Complaint is **January 1, 2000** through **December 31, 2000**. Effluent violations in this Complaint are subject to mandatory minimum penalties under Section 13385 (h) and (i) of the California Water Code. All violations of Waste Discharge Requirements Order No. 98-111 are also subject to discretionary penalties under Section 13385 (c) and (e) of the California Water Code¹.

The Executive Officer finds the following:

1. On October 21, 1998, the Regional Water Quality Control Board, San Francisco Bay Region, (Regional Board) adopted Waste Discharge Requirements (Order No. 98-111), for Sonoma Valley County Sanitation District (Discharger), to regulate discharges of waste from the District's wastewater treatment facility.
2. The Discharger owns and operates a treatment plant near the town of Sonoma, in Sonoma County, which treats domestic, commercial and industrial wastewater from the greater Sonoma area with a population of approximately 35,000. In 1995, the Sonoma County Board of Supervisors transferred operating authority of the treatment plant from the Sonoma County Public Works Department to the Sonoma County Water Agency (SCWA), which operates the plant at issue and several smaller treatment plants regulated by the North Coast Regional Water Quality Control Board, as well as providing drinking water to several communities in Sonoma and Marin counties.
3. The Discharger filed a petition with the State Board to review Order 98-111 on November 16, 1998. On February 2, 2000, the State Board dismissed the petitions of both the Discharger and environmental groups, who also petitioned. The Discharger is currently challenging the permit in court on the basis that the permit limits for mercury,

¹ The Board is required to impose, at least, Mandatory Minimum Penalties (MMP) if it finds that certain violations occurred. In addition, the Board is authorized but not required to impose additional penalties for the same violations. If the Board imposes the additional penalties in the form of an Administrative Liability (ACL), the Board is required, under Section 13385 of the Water Code, to, at a minimum, recover the economic benefit amount, if any, or the MMP amount, whichever is greater.

copper, dieldrin, lindane, tributyltin, cyanide, and PAHs create an undue burden on the Discharger. Despite the fact that the discharger has contested these limits in court, they legally remain in effect. It should be noted that the Discharger has been in full compliance with these contested limits since October 1998. This enforcement action is brought against a number of conventional pollutant limits and zinc limits, which are not subject to the pending legal challenge. This enforcement action is also brought without regard to the pending legal challenge.

4. The treatment plant has an average dry weather flow permitted capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the peak wet weather flow periods. Discharge is prohibited in the dry season months from May through October. During the wet season an average of 4.85 mgd is treated and discharged to Schell Slough, a tributary to San Pablo Bay. Peak flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins for later treatment and discharge. For the period covered by this Complaint (January 1, 2000 through December 31, 2000), discharge to Schell Slough ceased between and May 19, 2000 and November 1, 2000.
5. The treatment plant has no primary treatment, and preliminary treatment at the headworks consists of screening. The plant's aerated grit chamber with conventional removal and separation equipment failed in March 2000. Until new grit removal equipment is installed under the Discharger's current headworks and grit chamber capital improvement project, which is scheduled to go on-line in late July 2001, grit will continue to be removed via the aeration basins. The extended aeration activated sludge process, followed by sedimentation, disinfection, and dechlorination, provides secondary treatment. The Discharger undertook improvements to the treatment plant to increase its wet weather capacity beginning in 1997. These improvements included completion of a new chlorine contact tank, increased aeration in the extended aeration tanks and construction of two new circular secondary clarifiers. The first of these clarifiers went on-line in November 1999 and the second in October 2000. The first clarifier was then taken off-line at that time to determine if the corrosion control anodes at the bottom of the first clarifier were contributing to the zinc exceedances, which are one of the bases for this ACL. In mid-January 2001, an automatic shut-valve was installed to shut off discharge to the Slough and divert to equalization basins when chlorine residuals are detected or a power failure occurs.

Citations from Discharger's NPDES permit

6. Waste Discharge Requirements Order No. 98-111 states, in part:

"A. DISCHARGE PROHIBITIONS

- ...
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

...

B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
 3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.
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5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

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- 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

<i>Constituent</i>	<i>Units</i>	<i>Daily Average [b]</i>	<i>Monthly Average [b]</i>
Zinc [d]	µg/L	58	

Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be

performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.

- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- d. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.”

ALLEGATIONS AND CONSIDERATION OF FACTORS

Administrative Civil Liability and Mandatory Minimum Penalty

7. California Water Code Section 13385 requires the Board to impose Mandatory Minimum Penalties (MMPs) and authorizes the Regional Board to assess an Administrative Civil Liability. A copy of the statute is attached as Attachment A.
8. Effluent violations identified from January 1, 2000 through December 31, 2000 are subject to mandatory penalties under Water Code Section 13385 (h), and (i) and, at the Board's discretion, penalties under Water Code Section 13385 (c) and (e). If the Board imposes the penalties over and above MMPs, these penalties are referred to as an Administrative Civil Liability (ACL). In the event that the Board assesses an ACL, the penalty must be assessed at a level that recovers any economic benefits from the violations.
9. Section 13385(e) of the California Water Code requires the Board to consider several factors when determining the amount of the ACL penalty. These include the nature, circumstances, extent and gravity of the violations, and, with respect to the violator, the ability to pay, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. At a minimum, the ACL must recover any economic benefit for violations that occurred after January 1, 2000. These factors are discussed below.

1. ACL – Nature of the Violations

10. The effluent limitation violations covered by this Complaint are listed in Table 1. During the seven months of discharge in 2000 (January through May 18 and November through December), there were fifteen (15) zinc daily limit violations, seven (7) chlorine residual, three (3) daily maximum coliform, two (2) moving median coliform, two (2) pH violations, and one (1) acute toxicity violation. Since Regional Board staff recommend that the Board impose administrative civil liabilities on the violations that occurred between January 1, 2000 and December 31, 2000, staff considered the factors in Water Code section 13385 (e) and assessed the economic benefit for these violations. The Discharger failed to comply with Order No. 98-111 during the seven months of discharge between January 1, 2000 and December 31, 2000 by exceeding the above limitations by the reported values in Table 1 on the corresponding dates.

TABLE 1. Violations between January 1, 2000 and December 31, 2000.

	Violation Date	Effluent Limit	Parameter	Permit limit	Reported Value	Statute 13385*
1	1-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
2	10-Jan-00	B.7.a.	Zinc	Daily avg 58 µg/L	70 µg/L	(h)(1)&(i)(2)
3	15-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
4	20-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
5	24-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
6	26-Jan-00	B.3.b.	Coliform (d max)	Sing smpl Max 240 MPN	1600 MPN	(i)(2)
7	31-Jan-00	B.2.	pH	Minimum 6.5	6.4	(i)(2)
8	1-Feb-00	B.2.	pH	Minimum 6.5	5.9	(i)(2)
9	4-Feb-00	B.5.	Acute Toxicity	Min 70% survival	55%	(i)(2)
10	7-Feb-00	B.7.a	Zinc	Daily avg 58 µg/L	140 µg/L	(i)(1)
11	13-Feb-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	1.5 mg/L	(i)(2)
12	16-Feb-00	B.3.a.	Coliform (med)	7-d med 23 MPN	27 MPN	(i)(2)
13	17-Feb-00	B.3.a.	Coliform (med)	7-d med 23 MPN	27 MPN	(i)(2)
14	13-Mar-00	B.7.a	Zinc	Daily avg 58 µg/L	78 µg/L	(i)(1)
15	2-Apr-00	B.3.b.	Coliform (d max)	Sing smpl Max 240 MPN	1600 MPN	(i)(2)
16	3-Apr-00	B.7.a	Zinc	Daily avg 58 µg/L	63 µg/L	(i)(2)
17	10-Apr-00	B.7.a	Zinc	Daily avg 58 µg/L	61 µg/L	(i)(2)
18	17-Apr-00	B.7.a	Zinc	Daily avg 58 µg/L	91 µg/L	(i)(1)
19	1-May-00	B.7.a	Zinc	Daily avg 58 µg/L	71 µg/L	(i)(1)
20	8-May-00	B.7.a	Zinc	Daily avg 58 µg/L	63 µg/L	(i)(2)
21	14-May-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.11 mg/L	(i)(2)
22	15-May-00	B.7.a	Zinc	Daily avg 58 µg/L	63 µg/L	(i)(2)
23	6-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	110 µg/L	(h)(1)&(i)(2)
24	7-Nov-00	B.3.b.	Coliform (d max)	Sing smpl Max 240 MPN	1600 MPN	(i)(2)
25	13-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	67 µg/L	(i)(2)
26	20-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	76 µg/L	(i)(1)
27	27-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	67 µg/L	(i)(2)
28	4-Dec-00	B.7.a	Zinc	Daily avg 58 µg/L	62 µg/L	(i)(2)
29	5-Dec-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	13 mg/L	(i)(2)
30	11-Dec-00	B.7.a	Zinc	Daily avg 58 µg/L	64 µg/L	(i)(2)

Volumes released = 123 million gallons

*Water Code section 13385 (h)(1) refers to the first serious violation² in 6-month period, (i)(1) refers to second and subsequent serious violations, and (i)(2) refers to chronic violations as defined therein.

- The Discharger also failed to comply with the Discharge Prohibitions in Order No. 98-111 during the months between January 1, 2000 and December 31, 2000 by exceeding the Discharge Prohibition A.2. These violations constitute exceedances of the Discharger's permit. The Discharger violated this Discharge Prohibition on 4 days during the months between January 1, 2000 and December 31, 2000 by discharging untreated wastewater on the following dates and by the corresponding amounts:

² Serious violation refers to any waste discharge that exceeds the effluent limitations by 20 percent or more for Group II pollutants (toxic pollutants) or by 40 percent or more for a Group I pollutants (conventional pollutants), as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations.

Table 2. Sewer System Overflows in 2000

Date	Gallons of overflow
February 13/14, 2000	264,000
May 30, 2000	6,000
December 12, 2000	1,200
TOTAL gallons	271,200 gallons

2. ACL – Circumstances, Extent, and Gravity of the Violations

12. The above tables provide dates on which the violations occurred and the extent of the violations (exceedance concentrations). The Discharger has not been able to determine the source of the zinc violations. However, as discussed in the staff report, “Staff Analysis and Recommendations”, dated April 16, 2001, which was prepared in support of this Complaint, one plausible conclusion, based on the Discharger’s influent as compared to other treatment plant influents, is that the Discharger’s pollution prevention/source reduction and pretreatment programs have not been managed adequately or have not been implemented aggressively enough. The zinc anodes at the bottom of the new secondary clarifier may also be a contributing factor. This problem predates the time period covered in this Complaint. The Discharger began to exceed their zinc limit in November 1999. However, beginning in May 1999, the Discharger’s influent concentrations are clearly higher than other similar treatment plant’s influent (See Figure 3 in Staff Analysis and Recommendations). The chlorine residual and pH violations were due to operator error related to dosing problems of the sulfur dioxide dechlorination system. While the chlorine residual violations were due to under-dosing of the dechlorinating agent, sulfur dioxide, the pH violations were due to over-dosing of sulfur dioxide. For further discussion of the circumstances by which the above violations occurred, see the staff report.

3. ACL – Water Quality and Public Health Effects of the Violations

13. The water quality and public health effects of the effluent limit violations listed in the tables above are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation is the most detrimental to the aquatic environment. The Discharger’s permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan’s shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that an acceptable source control plan was in place. Continued exemption from this prohibition may be reconsidered if violations of this frequency and magnitude continue to occur.
14. High concentrations of zinc can be acutely toxic to aquatic organisms. The effluent limit in the permit is based on the water quality objective in the Basin Plan for zinc, 58 µg/L. The Discharger’s highest concentration of zinc during 2000 was 140 µg/L and the average for the year was 78 µg/L.

15. The acutely toxic effects of chlorine residual and low pH to aquatic organisms have also been well established. Coliform bacteria are used as indicator species for pathogens (disease causing organisms) in the effluent. Pathogens are harmful to humans as well as fish and wildlife. Sewer overflows can cause exceedances of water quality objectives, particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There are potential public health impacts due to public contact with contaminated water in the areas where sewer overflows occurred.

4. ACL – History of Previous Violations and Enforcement

16. On November 14, 1997 this Board issued an Administrative Civil Liability (ACL) Complaint (Complaint No. 97-126) to the Discharger for 262 violations of effluent limitations and 62 incidents of overflows from the collection system between January 1994 and July 1997. The largest percentages of effluent limit violations for this period were for coliform (31%) and settleable solids (24%) exceedances. On February 6, 1998, the discharger waived an amended ACL, with two supplemental environmental projects in lieu of \$75,000 of the \$83,000 penalty.
17. On February 9, 1999 the Board sent a Notice of Violation (NOV) to the Discharger for effluent limit violations (pH and coliform) and for sewer system overflows that totaled to 25,800 gallons.
18. On April 29, 1999 this Board sent a Notice of Violation (NOV) to the Discharger for sewer system overflows during four days in February 1999 that totaled to 355,680 gallons.
19. On June 9, 2000 the Board sent a Notice of Violation (NOV) to the Discharger for violations of zinc, chlorine residual and coliform bacteria effluent limitations that occurred between January 1, 2000 and April 30, 2000.

5. ACL – Degree of Culpability

20. The Discharger has been given numerous warnings about their large number of violations both before and during the time period covered by this Complaint. As stated above, the Regional Board has sent several Notices of Violation in addition to a fairly recent ACL (February 1998) regarding the Discharger's repeated violations. In a letter dated July 14, 2000 responding to the most recent Notice of Violation, the Discharger attempted to reduce the relevance of the violations and place the culpability on (1) the lower effluent limit that the Discharger received with the reissued permit in 1998, and (2) the increased monitoring performed by the Discharger. However, this increased monitoring is required of dischargers when violations occur; lower frequency of monitoring is allowed when full and consistent compliance is readily demonstrated. Also, the lower limit established in their reissued permit was based on the 1995 Basin Plan, which other shallow-water dischargers are required to, and generally do, meet. Of the 16 zinc violations reported by

all dischargers in the region during the 6 months between January 1, 2000 and June 30, 2000, 13 were from the Discharger's plant. The Discharger's influent zinc concentrations indicate the problem is, at least partially, due to source water or commercial entities in the service area. Other possible causes of the zinc violations are operational procedures (e.g., cleaning tanks and sending wash water to headworks) or the sacrificial anodes on the new clarifier, which became operational in November 1999.

6. ACL – Other Factors that Justice May Require

21. The treatment plant has been within 92% to 98% of its permitted dry weather capacity for the last several years. Increased flows from an increasing number of hook-ups in the community exacerbate the problems with capacity at both the plant and within the collection system. It is typical for dischargers to begin planning for an increase in permitted dry weather capacity when the flows reach 75% capacity to allow time to perform the necessary Anti-degradation Analysis needed to grant a capacity increase. While the Discharger has increased wet weather capacity, there are no near-term plans to perform the Anti-degradation Analysis of the beneficial use impacts from increased effluent. At the same time, the Discharger has not indicated how they intend to limit the number of hook-ups to the collection system from their growing community in order to stay within their permitted dry weather capacity.

PROPOSED CIVIL LIABILITY

Mandatory Minimum Penalties

22. According to monitoring reports submitted and certified by the Discharger, the Discharger's effluent caused seven (7) serious violations during the seven months of discharge between January 1, 2000 and December 31, 2000. On January 10, February 7, March 13, April 17, May 1, November 6, and November 20, 2000, the Discharger exceeded Effluent Limitation B.7.a, zinc, by more than 20% over the daily average limit of 58 µg/L with reported values of 70, 140, 78, 91, 71, 110, and 76 µg/L, respectively. The zinc violations on January 10, 2000 and November 6, 2000 constitute the first serious violations within a six-month period. There were two "first" serious violations, as defined under Section 13385(h)(1), in the time period of this Complaint. Those serious violations occurred on January 10, 2000 and November 6, 2000. Pursuant to Sections 13385(h)(1) and 13385(i)(1), the amount of the mandatory penalty for the above serious violations is \$21,000 or, in lieu of the \$6,000 of the penalty for the two first serious violations for each six-month period, the discharger may spend an equal amount for a supplemental environmental project or to develop a pollution prevention plan.
23. According to monitoring reports submitted by the Discharger, the Discharger committed twenty-three (23) chronic violations by exceeding Effluent Limitation B.1, chlorine residual, seven (7) times; Effluent Limitation B.2, pH, two (2) times; Effluent Limitation B.3, total coliform, five (5) times; Effluent Limitation B.5, acute toxicity, one (1) time; and Effluent Limitation B.7.a, zinc daily average by less than 20% over the limit, eight (8) times during the six-months of discharge between January 1, 2000 and December 31,

2000. Penalties are assessed for the fourth and subsequent violations except for serious violations, pursuant to Section 13385(i)(2). Two of the chronic violations in the first six-month period are not finable under Section 13385(i)(2). Since the first serious violation on January 10, 2000 occurred prior to the first three chronic violations, this serious violation is also the first non-finable chronic violation under Water Code Section 13385 (although it is finable as a serious violation). Similarly, in the second six-month period between May and November, the zinc violation on November 6, 2000 occurred prior to the first three chronic violations during that period; thus, this serious violation is also the third non-finable chronic violation for the second six-month period under Water Code Section 13385 (see Table 2 below). Since the second six-month period overlaps with the first six-month period, all of the chronic violations in this period require a \$3,000 fine. Therefore, only two of the 23 chronic are removed from requiring fines and the amount of the mandatory penalty for twenty-one (21) chronic violations is \$63,000.

24. The Table below lists the violations, the dates they occurred, the volumes released, the type of violation (i.e., serious or chronic), and the mandatory minimum penalty for that violation.

Table 3. Sonoma VCSD Violations from January 1, 2000 through December 31, 2000

	Parameter	Date	Volume Released (MG)	Violation Type*	Mandatory fine*
1	Chlorine Residual	1/1/00	0.03	1 st Chronic	
2	Zinc (d avg)	1/10/00	3.066	2 nd Chronic + Serious	**\$3,000
3	Chlorine Residual	1/15/00	0.03	3 rd Chronic	
4	Chlorine Residual	1/20/00	0.04	Chronic	\$3,000
5	Chlorine Residual	1/24/00	0.1	Chronic	\$3,000
6	Coliform (d max)	1/26/00	6.695	Chronic	\$3,000
7	pH (min)	1/31/00	5.056	Chronic	\$3,000
8	pH (min) (bioassay)	2/1/00		Chronic	\$3,000
9	Acute Toxicity (5 day)	2/4/00	22.578	Chronic	\$3,000
10	Zinc (d avg)	2/7/00	4.213	Serious	\$3,000
11	Chlorine Residual	2/13/00	.117	Chronic	\$3,000
12	Coliform (median)	2/16/00	11.43	Chronic	\$3,000
13	Coliform (median)	2/17/00	11.19	Chronic	\$3,000
14	Zinc (d avg)	3/13/00	5.423	Serious	\$3,000
15	Coliform (d max)	4/2/00	3.743	Chronic	\$3,000
16	Zinc (d avg)	4/3/00	3.011	Chronic (<20%)	\$3,000
17	Zinc (d avg)	4/10/00	3.449	Chronic (<20%)	\$3,000
18	Zinc (d avg)	4/17/00	7.658	Serious	\$3,000
19	Zinc (d avg)	5/1/00	3.295	Serious	\$3,000
20	Zinc (d avg)	5/8/00	3.858	Chronic (<20%)	\$3,000
21	Chlorine Residual	5/14/00	.02	Chronic (1/1-6/30) + 1 st Chronic (5/11-11/6)	\$3,000
22	Zinc (d avg)	5/15/00	4.604	Chronic (1/1-6/30) + 2 nd Chronic (5/12-11/7)	\$3,000
23	Zinc (d avg)	11/6/00	3.864	Serious + 3 rd Chronic	**\$3,000
24	Coliform (d max)	11/7/00	3.62	Chronic	\$3,000
25	Zinc (d avg)	11/13/00	3.933	Chronic (<20%)	\$3,000

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	Parameter	Date	Volume Released (MG)	Violation Type*	Mandatory fine*
26	Zinc (d avg)	11/20/00	3.162	Serious	\$3,000
27	Zinc (d avg)	11/27/00	3.319	Chronic (<20%)	\$3,000
28	Zinc (d avg)	12/4/00	3.111	Chronic (<20%)	\$3,000
29	Chlorine Residual	12/5/00	--	Chronic	\$3,000
30	Zinc (d avg)	12/11/00	3.133	Chronic (<20%)	\$3,000
Total # violations= 30		Total volumes released = 123 million gallons			\$84,000

*Mandatory minimum penalties for chronic and serious violations are defined under Water Code Section 13385 (h) and (i).

**Fines may be suspended if the discharger proposes and implements an acceptable supplemental environmental project or pollution prevention plan.

25. The total amount of the mandatory minimum penalty is \$84,000 for the period from January 1, 2000 through December 31, 2000.

ACL – Economic Benefit

26. As noted above, the Board is authorized to impose an ACL in addition to the MMPs. If the Board assesses an ACL, the Board is required to recover any assessed economic benefit gained by the Discharger from postponing measures that may have prevented the violations. (See Economic Savings section in the Staff Analysis and Recommendations for a more detailed discussion.) The economic benefit assessed, \$146,500, was derived from the following five factors:

- i. Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (\$13,100)³. Postponement resulted in continued zinc violations.
- ii. Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated and updated annually since January 1995 when the Sonoma County Water Agency became the operating authority for the plant, or at least as of their last ACL in February 1998 (\$1,400)⁴. Postponement resulted in decreased efficiency and increasing number of conventional and toxic pollutant violations.
- iii. Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's April 29, 1999 Notice of Violation and request for report pursuant to Section 13267 (\$47,400)⁵. Postponement resulted in continued sewer system overflows.

³ Economic Benefit for postponement of pollution prevention program, \$13,100, was derived from one-time non-depreciable cost of \$34,000 and annually recurring costs of \$8,000 between January 1, 2000 and May 25, 2001.

⁴ Economic Benefit for postponement of an optimization program, \$1,400, was derived from one-time non-depreciable cost of \$30,000 between January 1, 2000 and May 25, 2001.

⁵ Economic Benefit for postponement of a collection system improvement plan, \$47,400, was derived from one time capital investment of \$473,100 [\$8,100,000 (extrapolated from example city, Benicia) minus \$3,369,000 spent in 1995/1996; sum divided by ten, for 10 years over which sum is allowed to be spent]. Dates for non-compliance and

- iv. Postponement of repairing and installing new headworks and grit removal chamber as of March 14, 2000, when the old grit removal chamber failed (\$62,200)⁶. Postponement may have contributed to zinc violations by requiring aeration basins to perform removal of grit. Also, Board was not notified before removing a component in treatment process.
- v. Postponement of automatic chlorination and dechlorination equipment (\$22,400)⁷, which would reduce the number of chlorine, pH and coliform violations.

Regional Board staff determined that the above actions should have been taken to attain compliance or avoid violations. Using USEPA's Benefits Model (BEN), staff determined the interest earned by delaying compliance with these actions as the amount of the economic benefit. The total economic benefit gained by the District is \$146,500. The total economic benefit is compared to the mandatory minimum penalty and the greater of the two is the non-discretionary portion of the assessed penalty.

ACL – Maximum Potential Civil Liability on All Violations

- 27. The potential maximum amount of administrative civil liability for each day of violation is ten thousand dollars (\$10,000) plus ten dollars (\$10) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

If this matter is referred to the Attorney General, a maximum liability of \$25,000 per day and \$25 per gallon may be imposed.

ACL – Staff Costs

- 28. The Board incurred staff costs in order to prepare this Complaint and supporting information. Regional Board staff time to investigate the violations and prepare the Complaint and Staff Report totaled 140 hours, at an average cost to the State of \$100 per hour. Thus, the total staff cost for this enforcement action is \$14,000.

Proposed Penalty

- 29. Since the Mandatory Minimum Penalty, \$84,000, is less than the total assessed economic benefit, \$146,500, the proposed penalty in this ACL is based on the non-discretionary total economic benefit described above, plus staff costs. This ACL does not include additional discretionary penalties that consider the required factors. Table 5 below itemizes the economic benefits from each factor and shows the comparison of total MMP with total assessed economic benefit.

compliance were January 1, 2000 and May 1, 2001, respectively, for 2000 year economic benefit results and January 1, 2001 and May 25, 2001, respectively, for 2001 results.

⁶ Economic Benefit for postponement of installing a new headworks and grit removal chamber, \$62,200, was derived from capital investment costs provided by the Discharger for installing a new grit removal system (\$953,000). Dates for non-compliance and compliance are March 14, 2000 and May 25, 2001.

⁷ Economic Benefit for postponement of installing automatic dosing systems for chlorine and sulfur dioxide, \$22,400, was derived from capital investment costs estimated for the equipment and installation (\$290,000). Dates for non-compliance and compliance were January 1, 2000 and May 25, 2001, respectively.

Table 5. Itemized Recommended Penalties

<i>Penalty Category</i>	<i>Summation</i>	<i>Assessed Fine</i>
MMP (non-discretionary)	\$ 84,000	
ACL – Economic Benefit (non-discretionary)		
(a) Source Reduction	\$ 13,100	
(b) Plant Optimization	\$ 1,400	
(c) Collection System (SSOs) (discretionary)	\$47,400	
(d) Headworks and Grit Removal	\$62,200	
(e) Automated chlorine/dechlorination	\$22,400	
Total Economic Benefit	\$146,500	\$146,500
Staff Costs		\$ 14,000
Total Penalty		\$ 160,500

30. The Executive Officer of the Regional Board proposes that an Administrative Civil Liability be imposed by the Regional Board under Section 13385 of the Water Code in the amount of \$160,500. This amount is the sum of \$146,500 in economic benefit, and staff costs of \$14,000.

ACL – Ability to Pay

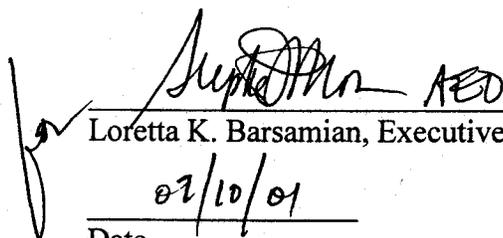
31. The Discharger’s ability to pay the proposed ACL is based on the Discharger’s 2000-01 Fiscal Year Budget, expenditures and revenues. Gross revenues for the facility during 2000 were approximately \$6 million. The proposed penalty, \$160,500, is approximately 3% of the Discharger’s gross revenues for the plant. Based on this information, the Discharger should be able to pay this amount without significant impact on its ability to conduct its responsibilities.

32. Issuance of this Complaint is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.

SONOMA VALLEY COUNTY SANITATION DISTRICT IS HEREBY GIVEN NOTICE THAT:

1. The Executive Officer of the Regional Board proposes that the Discharger be assessed Administrative Civil Liability in the amount of 160,500 dollars (\$160,500) that includes 146,500 dollars (\$146,500) in economic benefit and 14,000 dollars (\$14,000) in staff costs.
2. The Discharger has signed the waiver, thus waiving the right to a hearing, paid \$92,000 to the State Water Resources Control Board on June 20, 2001, and proposed a supplemental environmental project (SEP) in the amount of \$68,500. The SEP, which is described in Attachment B of this Complaint, is acceptable to the Executive Officer. A detailed proposal of the project shall be submitted to the Executive Officer for approval by August 15, 2001.

3. Board staff recommends that \$68,500 be suspended pending completion of the proposed supplemental environmental project (SEP). The proposed project, Historical Hydrology and Ecology of Lower Non-tidal Sonoma Valley, shall include quarterly progress reports. The final report on the SEP shall be submitted to the Board within 60 days of project completion. The SEP must be completed by September 1, 2002. Any money not used by that date must be submitted to the Regional Board and made payable to the State Cleanup and Abatement Account or directed toward an alternative project acceptable to the Executive Officer.



Loretta K. Barsamian, Executive Officer
02/10/01

Date

Attachments:

Attachment A – Citation from Water Code Section 13385

Attachment B – Project Proposal: Historical Hydrology and Ecology of Lower Non-tidal Sonoma Valley.

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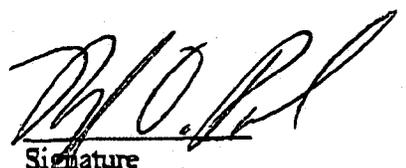
Administrative Civil Liability and Mandatory Penalty, Complaint No. 01-020A
Sonoma Valley County Sanitation District

WAIVER

Waiver of the right to a hearing and agree to make payment in full.
By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020A. I understand that I am giving up my right to be heard, and to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of or the amount of, civil liability proposed. I further agree to remit payment for the civil liability imposed within thirty (30) days after the waiver is signed.

Waiver of the right to a hearing and agree to propose a PPP or SEP.
By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020A and to propose and complete an Executive Officer-approved supplemental environmental project (SEP) for the amount of liability suspended of no more than \$68,500 in lieu of a portion of the administrative civil liability (total minus non-SEP allowed portion of MMP (\$78,000) and staff costs (\$14,000)). I have remitted payment of the remainder of the total (\$92,000) to the State Cleanup and Abatement Fund account including \$14,000 in staff costs. If the pollution prevention plan or supplemental environmental project is not acceptable to the Executive Officer, I agree to pay the suspended payment of no more than \$68,500 within 30 days of a letter from the Executive Officer denying approval of the proposed project. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to complete a pollution prevention plan or conduct a supplemental environmental project approved by the Executive Officer within a time schedule set by the Executive Officer.

RAUDY D. POOLE
Name (print)


Signature

7/10/01
Date

SONOMA COUNTY WATER AGENCY
Title/Organization

ATTACHMENT A
Water Code Section 13385 Citation
Complaint No. 01-020A
ACL/MMP
Sonoma Valley County Sanitation District

California Water Code Section 13385, which authorizes the Regional Board to assess administrative civil liability, states, in part, the following:

“(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the sum of both of the following:

- (1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.
- (2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), the term "discharge" includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that 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.

....

- (h) (1) Notwithstanding any other provision of this division, a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for the first serious violation in any six-month period, except that in lieu of assessing that penalty the state board or the regional board may elect to require the discharger to spend an amount equal to the penalty for a supplemental environmental project in accordance with the enforcement policy of the state board and any applicable guidance document, or to develop a pollution prevention plan.
- (2) For the purpose of this section, a serious violation means any waste discharge that exceeds the effluent limitations for a Group II pollutant, as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations, by 20 percent or more or for a Group I pollutant, as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations, by 40 percent or more.
- (3) For the purposes of this section, a "supplemental environmental project" means an environmentally beneficial project that a person agrees to undertake, with the approval of the regional board, that would not be undertaken in the absence of an enforcement action under Section 13385.
- (i) Notwithstanding any other provision of this division, a minimum mandatory penalty of three thousand dollars (\$3,000) shall be assessed for each violation, not counting the first violation described in paragraph (1) of subdivision (h) for the purposes of paragraph (1) of this subdivision and not counting the first three violations described in paragraph (2), if either of the following applies:
 - (1) The person commits two or more serious violations in any six-month period.
 - (2) The person does any of the following four or more times in any six-month period:
 - (A) Exceeds a waste discharge requirement effluent limitation.
 - (B) Fails to file a report pursuant to Section 13260.
 - (C) Files an incomplete report pursuant to Section 13260.
 - (D) Exceeds a toxicity discharge limitation where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.”

ATTACHMENT B
Description of Supplemental Environmental Project
Complaint No. 01-020A
ACL/MMP
Sonoma Valley County Sanitation District

Project Title: Historical Ecology Project for the Sonoma Creek Watershed

Project Proponents: Sonoma Ecology Center (SEC) and San Francisco Estuary Institute (SFEI)

Project Managers: Richard Dale, Executive Director SEC, and Robin Grossinger, SFEI

Estimated Cost: \$64,000

Project Description: The Sonoma Ecology Center (SEC) and the San Francisco Estuary Institute (SFEI), with additional local partners, will carry out the first phase of a Historical Ecology Project for the Sonoma Creek Watershed. The project will be designed to develop a range of important technical information about natural conditions and environmental change to inform local environmental management. The project will build upon preliminary efforts already underway by both groups in this regard, and be a broad-based effort, involving diverse members of the community in the study of their landscape.

The first phase involves defining and prioritizing historical research questions in communication with the broader community, establishing a project headquarters, and collecting historical data. Products from the first year will include an established local center for historical ecology, a substantial archive of useful, previously unavailable documents, and an assessment of potential data products for the subsequent phases. The project will be collaborative in all aspects, with complimentary responsibilities for SEC and SFEI. Briefly, SFEI will have primary responsibility for overall project direction and technical guidance; SEC will have primary responsibility for establishment of the local project and local data collection, including oral history. This first phase of the project is budgeted at \$64,000 and would be completed one year from project start date.

REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF ANALYSIS AND RECOMMENDATIONS (AMENDED)

TO: Loretta K. Barsamian
Executive Officer

FROM: Tobi L. Tyler
WRCE

DATE: July 10, 2001

SIGNATURE: Tobi L. Tyler

SUBJECT: Sonoma Valley County Sanitation District – Sonoma Wastewater Treatment Plant, Sonoma County, Consideration of Administrative Civil Liability for NPDES Permit Violations, **Complaint No. 01-020A**

CONCUR: Shin-Roei Lee
for Shin-Roei Lee
Section Leader

Shin-Roei Lee
Shin-Roei Lee
Division Chief

Reviewed for Legal
Form and Sufficiency:

Dorothy Dickey
Dorothy Dickey
Attorney

This recommendation for Administrative Civil Liability and Mandatory Minimum Penalty assesses penalties for effluent violations of Sonoma Valley County Sanitation District's (Discharger's) NPDES permit, Order No. 98-111, during the period between **January 1, 2000** and **December 31, 2000**. All effluent violations identified are subject to a penalty under Section 13385(c), (e), (h) and (i) of the California Water Code.

In this Order, there are two types of penalties recommended in this Order. The Board is required to impose Mandatory Minimum Penalties (MMP) if it finds that certain violations occurred. In addition, the Board is authorized but not required to impose additional penalties for the same violations. Those additional penalties are called Administrative Civil Liability (ACL). If the Board imposes penalties in the form of an ACL, the Board is required under Section 13385 (e) to recover, at a minimum, the economic benefit amount, if any, or the MMP amount, whichever is greater.

From January 1, 2000 through December 31, 2000, the Discharger violated effluent limitations in its NPDES permit on 30 days in the 7 months of discharge in 2000 (January through May 18 and November through December). During these months there were fifteen (15) zinc daily limit violations, seven (7) chlorine residual, three (3) daily maximum coliform, two (2) moving median coliform, two (2) pH violations, and one (1) acute toxicity violation. These violations are subject to Mandatory Minimum Penalties under California Water Code Section 13385 (h) and (i). The zinc violations consisted of zinc concentrations in the effluent that exceeded 20% of the

daily average limit of 58 µg/L every month except December during the discharge season, January through May, November and December. In April and May, two additional samples each month exceeded the zinc daily limit by less than 20%. The Discharger has not found the cause or causes for the zinc violations. Five of the seven chlorine residual violations occurred in January (the other two were in February and May). The Discharger has not determined the cause of the coliform violations. The fish mortalities during the toxicity testing, which ended February 4, could have been due to low pH on February 1, 2000, which in turn was due to high chlorine and sulfur dioxide feed rates and low alkalinity rain infiltration.

Significant¹ sewer overflows occurred on four (4) days between January 1, 2000 and December 31, 2000. These overflows totaled 271,200 gallons of untreated wastewater. An unknown percentage of this untreated wastewater was discharged to waters of the State. These overflows occurred on February 13, 2000, February 14, 2000, May 30, 2000, and December 12, 2000. The quantities of these overflows were 264,000, 6,000, and 1,200 gallons, respectively. The 264,000-gallon spill in February 2000 was due to heavy rainfall and inflow and infiltration (I/I) problems in the collection system and consisted of eight separate spills primarily to Sonoma and Agua Caliente Creeks. These sewer system overflows are violations of Discharge Prohibitions in the Discharger's permit and not violations of the effluent limitations. Therefore, these violations are not subject to Mandatory Minimum Penalties, but are subject to discretionary penalties under Water Code Section 13385 (h) and (i). However, these sewer system overflows are subject to penalties under Section 13385 (a)-(g). Therefore, any economic benefit assessed with regard to overflows must be recovered if the Board imposes the ACL.

A total of 123.3 million gallons of inadequately treated wastewater was discharged at the outfall into Schell Slough, a tributary of San Pablo Bay or other waters of the State, between January 1, 2000 and December 31, 2000. The Discharger's 30 NPDES permit violations during January 2000 through December 2000 released approximately 123 million gallons of inadequately treated water to Schell Slough, while an estimated 271,200 gallons of untreated wastewater from sewer system overflows was discharged to surface areas with an undetermined amount reaching nearby creeks.

The nature of the above releases poses a risk to beneficial uses, public health, and the aquatic biota of the creeks, to which the overflows ran, as well as Schell Slough and San Pablo Bay. The Mandatory Minimum Penalties amount to \$84,000, while the economic benefit amounts to \$146,500. Based on the following analysis and rationale, therefore, I recommend that we seek Administrative Civil Liability of \$160,500. This amount recovers estimated economic benefits of \$146,500 and staff costs of \$14,000. I also recommend we allow submittal of a proposal for a supplemental environmental project or pollution prevention project totaling at least \$6,000 in lieu of Mandatory Minimum Penalties for the first two serious violations within any 180-day period according to Section 13385 (h)(1), but not more than \$68,500².

¹ Significant sewer overflows refer to overflows greater than 1000 gallons.

² \$68,500 includes \$6,000 for first two serious violations and is the total penalty minus non-SEP allowed portion of MMP minus staff costs [$\$160,500 - (\$84,000 - \$6,000) - \$14,000 = 68,500$].

Table 1. Recommended Penalties

<i>Penalty Category</i>	<i>Recommended Penalty</i>
Mandatory Minimum Penalty (non-discretionary)	(\$ 84,000)
Economic Benefit (discretionary and non-discretionary)*	\$146,500
Staff Costs	\$ 14,000
Total [(higher of MMP or Economic Benefit) + Staff Costs]	\$160,500

*See Table 5 for Itemized fines within this category

BACKGROUND

The Sonoma Valley County Sanitation District (Discharger) owns and operates the municipal wastewater treatment plant located in Sonoma. The Sonoma County Board of Supervisors transferred operating authority for the treatment plant from the Sonoma Public Works Department to the Sonoma County Water Agency, located in Santa Rosa, on January 1, 1995. The plant treats domestic and light commercial wastewater collected from the cities and unincorporated areas of Sonoma, Glen Ellen, Boyes Hot Springs, and Agua Caliente to a level of secondary treatment. The treated effluent is discharged to Schell Slough during the wet weather season from November 1 through April 30 and is reclaimed for agricultural use during the remainder of the year. Upon request, the Discharger may be allowed to discharge beyond April 30 if circumstances warrant, which was the case in May 2000. The Discharger requested a discharge time extension to Schell Slough in order to perform maintenance and repair work on one of its effluent storage reservoirs. Discharge to Schell Slough ceased on May 18, 2000.

The treatment plant has an average dry weather flow design capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the wet weather flow period. Influent flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins. Treatment consists of screening followed by extended aeration activated sludge treatment, secondary sedimentation, disinfection, and dechlorination. Average wet weather season discharge for 1998 through 2000 was 4.8 mgd. During the dry weather season, disinfected effluent is routed to several storage reservoirs, from which it is pumped to various water reclamation users. The Discharger has a separate permit, Order No. 92-067, for its water reclamation requirements. For the applicable time period of this Complaint, the storage reservoirs began receiving treated effluent on May 18, 2000. This was also the date when discharge to Schell Slough ceased.

NPDES PERMIT PROHIBITIONS AND EFFLUENT LIMITATIONS VIOLATED

Prohibitions and effluent limitations have been established in the Discharger's NPDES permit, Order No. 98-111, under Discharge Prohibition, Section A and Effluent Limitations, Section B. The applicable portions of this section of the permit are as follows:

"A. DISCHARGE PROHIBITIONS

- ...
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

...
B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.
5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

- 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

<i>Constituent</i>	<i>Units</i>	<i>Daily Average [b]</i>	<i>Monthly Average [b]</i>
Zinc [d]	µg/L	58	

...
Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
 1. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four."

ENFORCEMENT CONSIDERATIONS

As noted above, there are two types of penalties recommended in this Order. The Board is required to impose Mandatory Minimum Penalties (MMP) if it finds that certain violations occurred. In addition, the Board is authorized but not required to impose additional penalties for the same violations. Those additional penalties are called Administrative Civil Liability (ACL). If the Board imposes penalties in the form of an ACL, the Board is required under Section 13385 (e) to recover, at a minimum, the economic benefit amount, if any, or the MMP amount, whichever is greater.

Section 13385(e) of the California Water Code requires the Board to consider several factors when determining the amount of the ACL penalty. These include the nature, circumstances, extent and gravity of the violations, and, with respect to the violator, the ability to pay, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. These factors are discussed below. At a minimum, the ACL must recover any economic benefit for violations that occurred after January 1, 2000.

I. FACTORS THAT MUST BE CONSIDERED IN DETERMINING AMOUNT OF ACL

A. Nature of the Violations

The year 2000 violations consisted of fifteen (15) zinc, seven (7) chlorine residual, five (5) coliform, two (2) pH, and one (1) acute toxicity. These violations are subject to, at least, mandatory penalties under Water Code Section 13385(h) and (i), as well as 13385(c). Table 2 below lists the violations incurred between January 1, 2000 and May 18, 2000, when discharge to Schell Slough was suspended, and November 1, 2000 through December 31, 2000. The table also lists the limit for each pollutant violated and the reported value.

Table 2. Sonoma VCSD Violations from January 1, 2000 through December 31, 2000

	Parameter	Date	Effluent Limit #	Permit limit	Reported value
1	Chlorine Residual	1/1/00	B.1.	0.0 mg/L	0.1 mg/L
2	Zinc (d avg)	1/10/00	B.7.a.	58 µg/L	70 µg/L
3	Chlorine Residual	1/15/00	B.1.	0.0 mg/L	0.1 mg/L
4	Chlorine Residual	1/20/00	B.1.	0.0 mg/L	0.1 mg/L
5	Chlorine Residual	1/24/00	B.1.	0.0 mg/L	0.1 mg/L
6	Coliform (d max)	1/26/00	B.3.b.	240 MPN	1,600 MPN
7	pH (min)	1/31/00	B.2.	6.5	6.4
8	pH (min) (bioassay)	2/1/00	B.2.	6.5	5.9
9	Acute Toxicity (5 day)	2/4/00	B.5.	70%	55%
10	Zinc (d avg)	2/7/00	B.7.a.	58 µg/L	140 µg/L
11	Chlorine Residual	2/13/00	B.1.	0.0 mg/L	1.5 mg/L
12	Coliform (median)	2/16/00	B.3.a.	23 MPN	27 MPN
13	Coliform (median)	2/17/00	B.3.a.	23 MPN	27 MPN
14	Zinc (d avg)	3/13/00	B.7.a.	58 µg/L	78 µg/L

**Staff Analysis and Recommendations, Complaint No. 01-020A
Sonoma Valley County Sanitation District**

	Parameter	Date	Effluent Limit #	Permit limit	Reported value
15	Coliform (d max)	4/2/00	B.3.b.	240 MPN	1,600 MPN
16	Zinc (d avg)	4/3/00	B.7.a	58 µg/L	63 µg/L
17	Zinc (d avg)	4/10/00	B.7.a	58 µg/L	61 µg/L
18	Zinc (d avg)	4/17/00	B.7.a	58 µg/L	91 µg/L
19	Zinc (d avg)	5/1/00	B.7.a	58 µg/L	71 µg/L
20	Zinc (d avg)	5/8/00	B.7.a	58 µg/L	63 µg/L
21	Chlorine Residual	5/14/00	B.1.	0.0 mg/L	0.11 mg/L
22	Zinc (d avg)	5/15/00	B.7.a	58 µg/L	63 µg/L
23	Zinc (d avg)	11/6/00	B.7.a	58 µg/L	110 µg/L
24	Coliform (d max)	11/7/00	B.3.b.	240 MPN	1,600 MPN
25	Zinc (d avg)	11/13/00	B.7.a	58 µg/L	67 µg/L
26	Zinc (d avg)	11/20/00	B.7.a	58 µg/L	76 µg/L
27	Zinc (d avg)	11/27/00	B.7.a	58 µg/L	67 µg/L
28	Zinc (d avg)	12/4/00	B.7.a	58 µg/L	62 µg/L
29	Chlorine Residual	12/5/00	B.1.	0.0 mg/L	13.0 mg/L
30	Zinc (d avg)	12/11/00	B.7.a	58 µg/L	64 µg/L

The total amount of inadequately treated wastewater over this period was 123 million gallons during the six and one-half months of discharge in 2000.

The mandatory minimum penalty under Water Code Section 13385(h) and (i) is \$84,000. Since there were two six month periods during which first time serious violations could be counted, \$6,000 of the total mandatory penalty of \$84,000 can be suspended, according to Section 13385(h)(1), if the discharger proposes and implements an acceptable supplemental environmental project or pollution prevention plan.

From January 1, 2000 through December 31, 2000, the Discharger also violated the discharge prohibition that prohibits bypass or overflow of untreated or partially treated wastewater to waters of the State on four (4) days. The 4 significant sewer system overflow events, which totaled 271,200 gallons, occurred on the following dates with the corresponding gallons of overflow:

Table 3. Sewer System Overflows

Date	Gallons of overflow
February 13/14, 2000	264,000
May 30, 2000	6,000
December 12, 2000	1,200
TOTAL gallons	271,200 gallons

B. Effects of Water Quality

The water quality effects of the effluent limit violations listed in Tables 2 and 3 are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation can be the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end

tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that acceptable source control plans were in place, which is a prerequisite to allowing a shallow-water discharge exemption. Continued exemption from this prohibition may be questionable in the future if violations of this frequency and magnitude continue to occur.

Zinc

The most disconcerting of the above violations are the zinc violations. Although the amount of zinc that is biologically available depends on the chelating capacity of the effluent and receiving waters, high concentrations of zinc can be acutely toxic to aquatic organisms. This is reflected in the fact that the Basin Plan water quality objectives (Table 3-3 and 3-4) for zinc for chronic and acute values (58 µg/L and 170 µg/L, respectively) are listed under the 24-hour average, rather than the 4-day average, for chronic and instantaneous maximum, rather than the 1-hour average for acute. The Basin Plan's Table 4-3 lists effluent limitations for selected toxic pollutants discharged to surface waters. The limit for shallow water discharges is 58 µg/L. The maximum concentration found in the Discharger's effluent, 140 µg/L, was over twice this limit, and every month of discharge in the first half of 2000 had a serious zinc violation, meaning at least 20% over this limit.

Also disconcerting is the fact that zinc violations have increased. There were three (3) zinc violations (one serious) in the eight months of discharge between November 1998 and December 1999, whereas there were fifteen (15) zinc violations in the 7 months of discharge in 2000. The Discharger responded to exceedances of their permit limit correctly by increasing sampling frequency from monthly to weekly. Their permit requires increased sampling frequency following a violation in effluent limitations. However, the Discharger noted in their letter of response to the Regional Board's June 9, 2000 Notice of Violation (NOV) (see Prior History section of this report) that this increase in sampling frequency was one of the reasons why they were seeing increases in zinc exceedances. It is apparent from this response that the Discharger does not understand the purpose of effluent limitations or the seriousness of the exceedances.

Chlorine

The acutely toxic effects of chlorine residuals to aquatic organisms have also been well established. Studies of toxic effects of a pollutant usually distinguish between acute and chronic toxicity. Acute toxicity refers to the death of a test organism after a relatively short toxicant exposure time while chronic toxicity refers to lethal or sublethal effects due to long-term toxicant exposure. The article entitled "Site-specific evaluation of power plant chlorination", by Mattice and Zittel, Journal WPCF (Vol. 48, No. 10), dated October 1976, contains dose duration curves for marine (saltwater) and freshwater species as indicators of both acute and chronic toxicity. The duration curves reveal that exposure to as little as 0.1 mg/l of chlorine residual can result in acute toxicity for marine, estuarine or freshwater species. Seven (7) chlorine residual violations occurred in the six months of discharge in 2000.

pH

Mathematically, pH is defined as the negative logarithm of the hydrogen ion concentration in a water sample. Due to the logarithmic nature of pH, the measured value of 5.9 on February 1,

2000 represents a hydrogen ion concentration that is about four times greater than the permitted value of 6.5. Since discharges to Schell Slough from the Sonoma wastewater treatment plant receive little dilution, the excess chlorine residuals and the pH violations may have posed a significant risk to the aquatic biota of Schell Slough. There were two (2) pH violations during the seven months of discharge between January 1, 2000 and December 31, 2000. However, the compliance monitoring results show that the effluent is typically running at the low end of the 6.5 to 8.5 limit due to one or more of the following reasons: (1) low alkalinity of the source water, (2) over feeding of sulfur dioxide, and/or (3) aeration in the extended aeration basins.

Coliform

The coliform violations caused some beneficial use impairment since coliform is primarily a human water contact recreation problem and Sonoma Creek and San Pablo Bay both include designations for REC-1 (water contact recreation) and REC-2 (non-contact water recreation) beneficial uses. Although Schell Slough is not listed in the Basin Plan's Table 2-6 and is fairly remote and inaccessible for water contact recreational use, it is located between Sonoma Creek and San Pablo Bay and water quality violations could affect beneficial uses. The number of coliform violations decreased from 27 in the eight months of discharge between November 1998 and December 1999 to five (5) in the 7 months between January through December 2000. These reductions are probably due to the capital improvements made during that time, i.e., the new chlorine contact chamber and the new secondary clarifier.

Sewer System Overflows

The sewer system overflows totaling 264,000 gallons on February 13 and 14, 2000 were very considerable in size. Although these overflows were related to heavy rainfall induced inflow and infiltration, the cumulative water quality impacts on Sonoma, Agua Caliente, and Fryer Creeks, as well as others, are significant. Sewer overflows can cause exceedances of water quality objectives, particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There is potential for contact with contaminated water in the areas where sewer overflows occurred. The Board sent a Notice of Violation that required increased measures to control the District's sewer system overflows. These measures included a comprehensive rehabilitation of the sewer system to reduce infiltration and inflow of water, and construction of relief sewers parallel to, or as replacements of, existing trunk sewers, thus making it possible to convey peak flows to the treatment facilities. The District has completed Phase II of a three-phase Sewer System Overflow Prevention Study. Phase III will include a capital improvement plan and is due to the Regional Board on December 1, 2001.

C. Degree of Culpability

The Discharger is responsible at all times for ensuring proper operation and maintenance of the treatment plant and collection system and for meeting the purpose and intent of the NPDES permit requirements for discharge. It appears that most of the violations noted in this analysis could have been avoided with more timely facility upgrades, plant optimization, more aggressive pollution prevention and pretreatment programs, and greater oversight of plant operations and

maintenance through staff training. Although the Discharger has made a number of capital improvements to the plant, such as two new clarifiers and a new chlorine contact tank, these improvements should have been implemented sooner. Furthermore, as the inadequacies of the pollution prevention, source reduction control, and pretreatment programs became apparent with increasing violations, these programs, which are required under the District's permit, should have been thoroughly reassessed and improvements made on a more timely basis.

Chlorine Residual

The chlorine residual violations in January and May 2000 were due to under-dosing of sulfur dioxide, which in turn is partly due to lack of or inadequate instrumentation and partly to human error. Sulfur dioxide dosing is done manually, which is prone to operator error. Automated technology has been available for several years and the manual controls should have been replaced sooner. On December 27, 2000, the District completed the automation of the plant effluent meter inlet valve, which causes the effluent flow to automatically and immediately shut off whenever the dechlorinated effluent analyzer detects any chlorine residual or when a power failure occurs. Prior to this, plant operators responded to dechlorination analyzer indications of chlorine residual spikes by diverting plant discharge to storage for re-treatment and manually increasing sulfur dioxide dosage (usually within 10 minutes of the spike). A few of the reported levels of chlorine residual were higher than those noted in the above table because, while effluent was being rerouted back to be combined with the influent, the operator performed analyzer flushing and maintenance, which is necessary to keep the analyzers functioning properly. However, since the effluent was rerouted and no discharge occurred during this time, Board staff did not consider these incidents as violations.

The chlorine residual violation on February 13, 2000 was a result of the slow start-up time on the emergency generator following a power failure. Prior to year 2000, the Discharger violated the 0.0 mg/L chlorine residual limit seven (7) times between January and April 1999. The Discharger stated in its 1999 Annual Report that the District "will complete the installation of flow paced and residual trimmed dechlorination control" ... and are "researching chlorine and sulfite analyzers in an effort to identify and install the best available technology for solving this problem". An automatic dosing system is scheduled to be implemented when the filters are added to the treatment process, which is expected within the next one to 1½ years. The plant released about 335,000 gallons of water with chlorine residuals of 0.1 to 1.5 mg/l between January and May 2000. This ACL evaluates the Discharger's economic benefit from delaying the installation of this automated dechlorination system.

Zinc

The Discharger has not yet determined the cause for the zinc violations. However, the high zinc in the influent as well as effluent, especially when compared to other dischargers with the same source water, appears to point to unidentified sources within the community, either from industry, commercial or residential sources. The high zinc concentrations may also be due to a combination of factors, such as changes in treatment processes (new clarifiers) and/or addition of orthophosphate to the water distribution system. The Sonoma County Water Agency instituted orthophosphate fairly recently for copper corrosion control. The Agency states, however, that it is not zinc orthophosphate that it is using. Also, since this Agency supplies water to Novato and

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Petaluma, the water in these communities would have been affected as well. Since influent concentrations in these communities are generally lower, this indicates that there are probably significant sources in the community. From the Discharger's influent and effluent data (presented below), it appears likely that there are significant sources of zinc in the community that have not been identified. Whether this source is industrial users or others is not known.

The Discharger proposed several possibilities as the source of the zinc in their response to the Board's Notice of Violation, dated June 9, 2000. The Discharger's investigative report, submitted July 15, 2000, concluded that (1) zinc was a very common substance present in many residential and commercial wastewaters, (2) that zinc levels have not changed significantly in the last five years, and (3) that the increases in zinc violations may be due to increased monitoring (weekly versus monthly sampling) and a lower limit in the permit (58 $\mu\text{g/L}$ in existing permit versus 86 $\mu\text{g/L}$ in the previous permit), but are "not likely" a result of changes in the treatment process. The "change in treatment process" refers to the installation in November 1999 of a new secondary clarifier, which has sacrificial anodes for corrosion prevention containing approximately two percent zinc. The report went on to state that the Discharger "will monitor some of its industrial users for zinc concentrations by the end of this year", assess whether the anodes are a significant source of zinc once the second clarifier without the anodes is on-line, and initiate a treatment plant optimization study beginning in September 2000, which involves evaluation of metals removal rates in its treatment system during dry and wet weather conditions.

Below are two graphs of Sonoma's zinc concentrations. The first graph shows influent and effluent concentrations beginning in January 1999, which is when the Discharger started to sample the influent for metals. The second graph shows the zinc effluent concentrations during the past 7 years approximately, and the permit limits during that time period, which changed from 86 to 58 $\mu\text{g/L}$ in late 1998.

Figure 1.

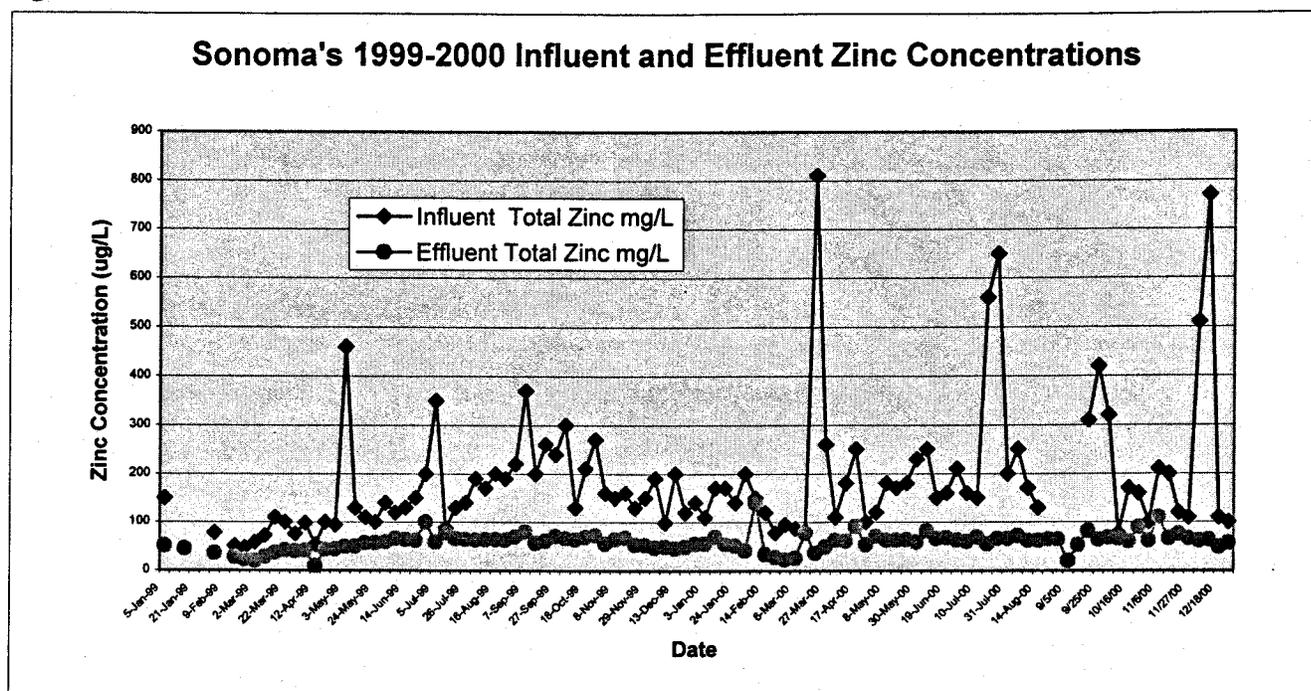
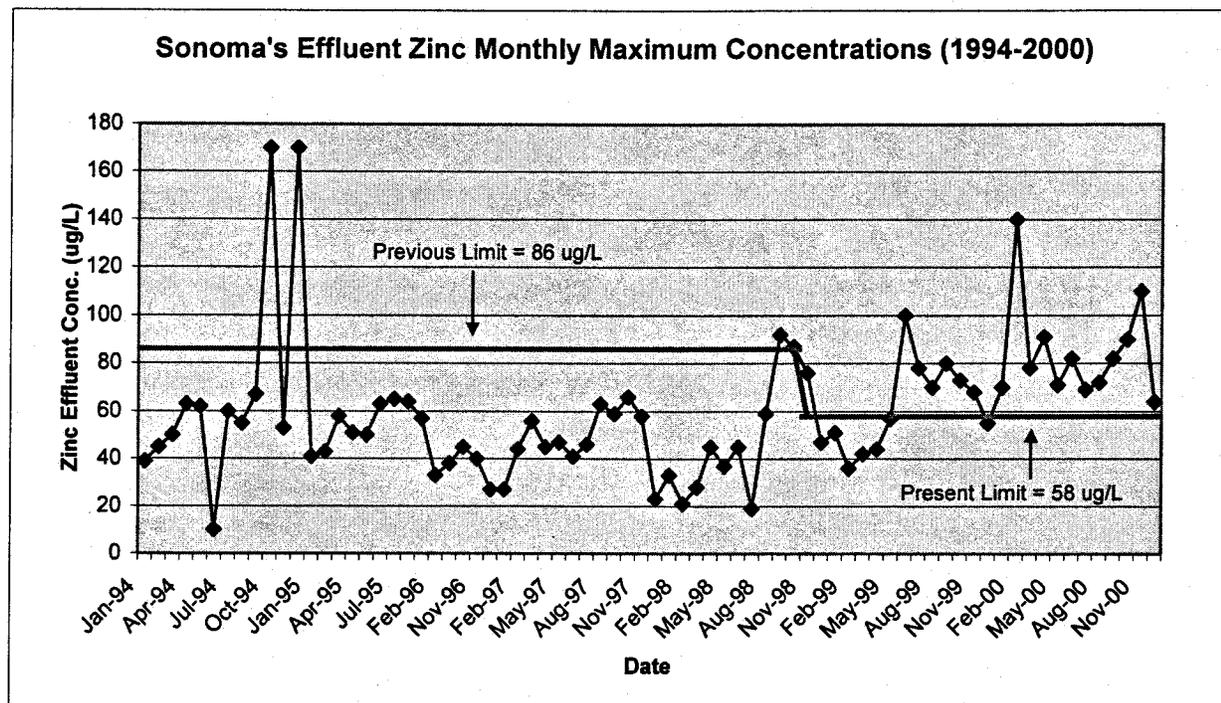


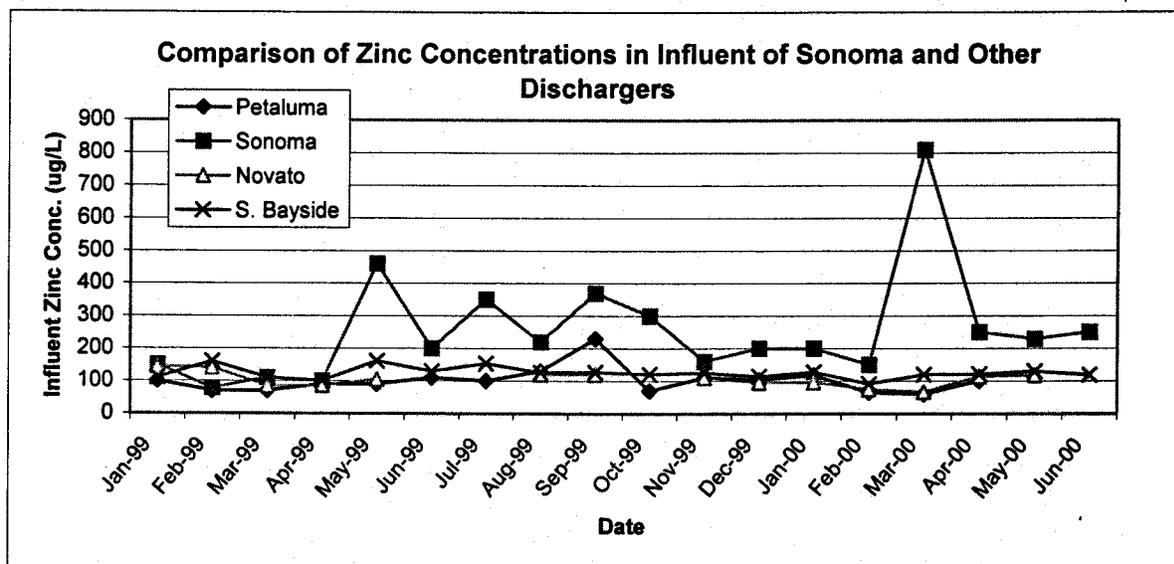
Figure 2.



Because the data show that the Discharger had exceedances of their prior permit limit of 86 $\mu\text{g/L}$ as well as their current permit limit of 58 $\mu\text{g/L}$, the Discharger could and should have initiated a source control program at least upon reissuance of their current permit, if not before. Therefore, the Discharger achieved an economic benefit from not implementing these programs at that time.

The Discharger's influent concentrations of zinc are higher than in any other treatment plant in the region. A few of these other plants are shown in the next graph. The first three all receive the same source water, which is distributed by Sonoma County Water Agency (the Discharger) and is primarily from the Russian River. Petaluma and Novato's influent zinc concentrations are significantly lower than Sonoma's and, except for an increase in Petaluma's zinc concentration in September 1999, are very close in value to each other. South Bayside Authority's zinc concentrations are shown here for comparison with regard to other source water. No other treatment plant in the Region had influent concentrations as high as Sonoma according to the Regional Board's Electronic Reporting System. Zinc concentrations from Petaluma, Sonoma, Novato, and South Bayside Authority's influent are shown in Figure 3.

Figure 3.

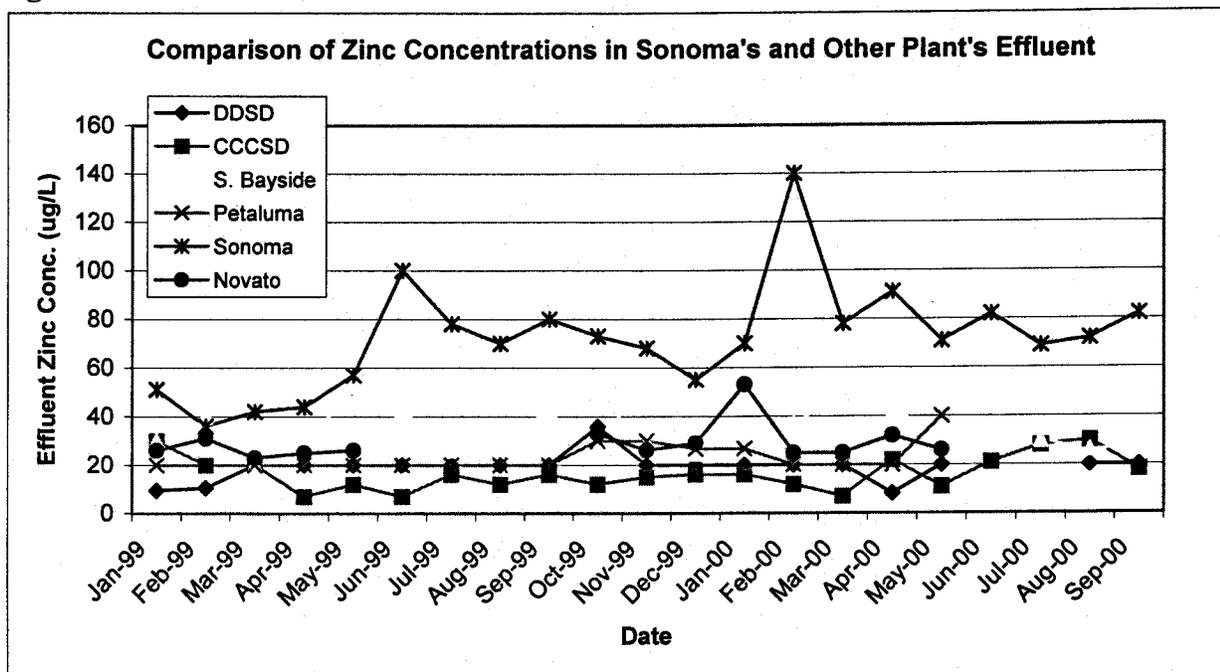


The Plant Operator stated that the high level of zinc found in the influent in March may have been a result of cleaning out the chlorine contact tank and sending this wastewater back to the headworks for retreatment. If this is the case, then future maintenance operations of this sort must be changed (possibly by just sending the effluent temporarily to the equalization basins for dilution with other influent before sending it back through the headworks). In any case, a full review of these sorts of cleaning operations needs to be performed and operational changes made in order to maximize performance and minimize violations.

Board staff also compared zinc concentrations in the effluent of other treatment plants, particularly those with similar treatment processes. The graph below illustrates zinc concentrations from six treatment plants, including the Discharger's; these are Delta Diablo Sanitation District (DDSD), Central Contra Costa Sanitary District (CCCSD), South Bayside System Authority (S. Bayside), Petaluma, and Novato. Except for Petaluma, which has oxidation ponds, the treatment processes are similar to Sonoma's secondary process; i.e. activated sludge. Other facilities are getting significantly better removal rates (including those without pond

systems) as shown by the very few violations of zinc by other dischargers in the region (13 of the 16 zinc violations in the region from January to December 2000 were the Discharger's). Although deep water dischargers have a higher effluent limitation for zinc due to a dilution credit granted for this pollutant, the following graph shows that even without this credit, effluent zinc concentrations are generally lower than Sonoma's. The following graph shows the daily maximum zinc concentrations in effluents from both deep water dischargers who have a 10:1 dilution factored into their limit (DDSD, CCCSD, and S. Bayside) and shallow water dischargers with no dilution credit (Petaluma, Sonoma, and Novato).

Figure 4.



The Discharger's effluent concentrations are clearly higher than any of the other dischargers compared, irrespective of permit limits. In addition to the type of treatment processes and source water, these other dischargers were selected for their relative size.

Although capital improvement projects are ongoing, they are significantly overdue. At a minimum, continuous treatment plant optimization should have occurred in a more expedient manner. Without implementing either upgrades or plant optimization until this year, the Discharger should have at least begun a more aggressive source reduction program than has been in place up until now. Although the 1999 annual report states that "the industrial waste department is aggressive in implementing source control", the department's actions have obviously not proven to be very effective. Therefore, the District, i.e. Sonoma County Water Agency management, should be evaluating the activities of the industrial waste department with a great deal more scrutiny in order to increase the program's effectiveness.

The District's grit removal system failed on March 14, 2000 and was not been brought back into service. The reason given was that it would have cost the District \$5,000 for the repairs, but the

mechanical staff "had little confidence that those repairs would last for long". The chief operator stated that he decided to forego the repairs since (1) the plant accomplishes "complete grit removal" in the aeration tanks and (2) the District was planning to put a new grit removal system into service in about a year from the failure date. This dependence on the aeration basins for grit removal could, however, be another possible contributing factor to the increases in zinc concentrations considering the fact that the District has difficulties with low pH, which would tend to dissolve metals that may be present in the grit. Also, the grit removal system was part of the District's treatment system and removal of any part of the treatment process requires Regional Board staff approval, which the District did not pursue. In fact, the District did not even report the failure of the grit removal system. This ACL evaluates the economic benefit the Discharger has gained from not replacing the headworks and grit removal sooner.

Acute Toxicity and pH

The acute toxicity violation appears to have resulted from low pH, probably the result of overfeeding with sulfur dioxide. The plant operator stated that it was necessary to overfeed sulfur dioxide to prevent continued chlorine residuals. However, he pointed out that the low pHs may have also been a result of the fine-bubble diffusers in the extended aeration system increasing the levels of carbon dioxide and consequently bicarbonate in the water. For whatever reason, the resulting low pH is the likely cause of the 55% survival of Three-spine Stickleback. The Discharger did not begin another acute toxicity test until 10 days after the completion date of the failed test, February 4, 2000. A bioassay test was performed on another fish species, the Fathead Minnow, during the same time period as the failed test on the Three-spine Stickleback (January 31 to February 4, 2000), which resulted in 100% survival. However, in the future if toxicity resumes, and especially if the Discharger runs only one species, the Discharger must obtain more conclusive results by running another bioassay immediately following a failed bioassay. The permit requires immediate bioassay retesting after a failed test³.

Coliform

The Discharger has also not determined the cause of the total coliform violations in January and April. The coliform violations in February were explained by high flows.

D. History of Violations and Enforcement

The Regional Board imposed an Administrative Civil Liability (ACL) in the amount of \$83,000 against the Discharger on February 9, 1998, for 242 violations of effluent limitations and 738,000 gallons of collection system (sewer) overflows from January 1994 through July 1997. The effluent limit violations consisted primarily of exceeding coliform limits (31%) and settleable solids limits (24%). Other violations during the 3.5 year period included exceeding limits for copper, chlorinated pesticides and PAHs, chlorine residual, oil and grease, pH, mercury, TSS, arsenic, and lead.

These violations were due, in part, to deferred maintenance and replacement by the previous operating authority, the Public Works Department. After the Sonoma County Board of

³ "If a violation of acute toxicity requirements occurs, bioassay testing shall continue back to back until compliance is demonstrated." Self-Monitoring Program, Part B, footnote 7 to Table 1.

Supervisors transferred operating authority to the Sonoma County Water Agency (Agency) on January 1, 1995, the Agency developed a capital replacement program requiring \$40-\$50 million dollars over a ten year period, of which \$30 million was designated for collection system replacement and rehabilitation. The 10-year capital improvement plan included replacement of the chlorine contact chamber, secondary clarifiers, extended aeration system, chlorination/dechlorination equipment, and monitoring and control equipment. The plan also included expanding effluent storage and reclamation reservoirs. The new chlorine contact tank was put into service in February 1999. As stated earlier, the first and second of three circular clarifiers were put into service in November 1999 and late September 2000, respectively. The Discharger has had numerous problems with the aeration system in the extended air activated sludge secondary treatment process. The air diffuser equipment that the Discharger replaced in 1998 was replaced in October 2000 under warranty due to failures in the system.

Regional Board staff sent the Discharger a Notice of Violation (NOV) letter on April 29, 1999 for violations of their NPDES permit related to collection system overflows totaling 355,680 gallons during the month of February 1999. Pursuant to Section 13267 of the California Water Code, the Discharger was required to conduct a sewer system overflow prevention study which included the feasibility of eliminating overflows up to a certain storm event (1, 5 or 20 year storm event). The sewer system overflow prevention study is scheduled to be complete December 2001. During the period covered by this Complaint, January 1, 2000 through December 30, 2000, the Discharger reported four (4) overflows of significant volume (greater than 1,000 gallons). These overflows are listed in Table 3 and total 271,200 gallons of untreated wastewater.

Board staff issued another notice of violation (NOV) letter to the Discharger on June 9, 2000 for the zinc, chlorine residual, and coliform violations during the period between January 1, 2000 and May 18, 2000. These violations have been noted above and are listed in Table 2.

E. Other Factors Justice May Require

The Discharger's increasing number of customers (hook-ups), while the plant is within 92-98% of their current dry weather capacity, is another consideration that needs to be taken into account. The Discharger currently has a dry weather treatment capacity limit of 3.0 million gallons per day (MGD). The average of three dry summer months (July through September) daily flow for 1998, 1999, and 2000 were 2.94, 2.75, and 2.85 MGD, respectively. Although the Discharger's wet weather capacity has been increased from 8 to 12 MGD with new secondary clarifiers, their dry weather capacity has not been adequately addressed from an anti-degradation standpoint.

F. Economic Benefits to the Discharger

The violations in Tables 2 and 3 probably could have been avoided or reduced in frequency if the Discharger had replaced and/or upgraded its equipment in a more timely fashion, improved plant maintenance and operations, and provided better training to its operators and technicians. The Discharger's economic savings amounts to the interest or investment income earned from capital that would have otherwise been spent on plant improvements, and additional staffing needs

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necessary for compliance with its NPDES permit. To estimate economic benefits to the District from these violations, Board staff used the USEPA's Benefits (BEN) model, data supplied by the District and judgment based on similar facilities when District data was in doubt or unavailable.

For violations that occurred before January 1, 2000, the Regional Board must consider economic benefits. For violations that occurred on or after January 1, 2000, the Regional Board must recover any economic benefit the Discharger derived from the acts that constituted violations if penalties other than Mandatory Minimum Penalties are assessed. Regional Board staff's estimate of the economic benefit gained by the Discharger from postponing measures after January 1, 2000 amounts to **\$146,500**. This assessment comes from the following five factors:

1. Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (**\$13,100**). Dates used in BEN model: January 1, 2000 through May 25, 2001 (since a satisfactory source control program for zinc has not yet been implemented). Effect of postponement: continued zinc violations.
2. Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated in January 1995 when the Sonoma County Water Agency became the operating authority for the plant (**\$1,400**). Dates used in model: January 1, 2000 through May 25, 2001. Effect of postponement: decreased efficiency and increases in overall number of violations.
3. Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's Notice of Violation and request for report pursuant to Section 13267 (**\$47,400**). The economic benefit was based on that total cost estimated to complete work on the collection system minus what had been spent as of January 1, 2000. That sum (\$4.7 million) was then divided by ten to account for the time over which these expenditures are expected to be made. Dates used in model: January 1, 2000 through May 25, 2001 for 2000 expenditures (\$36,613) and January 1, 2001 through May 25, 2001 (\$10,764) for 2001 expenditures. Effect of postponement: continued sewer system overflows.
4. Postponement of headworks and grit removal replacement based on the cost of replacing the system as of the grit chamber failure on March 14, 2000. (**\$62,200**) Dates used in model: March 14, 2000 through May 25, 2001. Effect of not anticipating and installing equipment: possible contributing factor to zinc violations, impact on pumping equipment, diffusers and other aerating equipment, and generally more maintenance requirements, as well as potential contributing factor to zinc violations.
5. Postponement of replacing the manual SO₂ dose feed to an automated dechlorination control system and replacing step-feed chlorine dosage to a chlorine demand-compound loop system (**\$22,400**). Dates used in model: January 1, 2000 through May 25, 2001. Effect of not installing this equipment: increased number of coliform, pH and chlorine residual violations.

Source Reduction Program

The cost savings gained by the Discharger from not implementing a source reduction program for zinc when the permit was reissued with a lower limit of 58 µg/L (previously 86 µg/L) was estimated by the interest on the source reduction program that should have been initiated in November 1998. Staff used USEPA's BENEFITS (BEN) model to calculate the economic benefit gained by the Discharger by using the cost of a source reduction program for a similar metal, such as copper. For comparison purposes, the cost of determining pollutant sources and developing a pollution prevention plan for copper, which was required by the 1998 NPDES permit, was approximately \$34,000. The ongoing costs of implementing the pollution prevention plan are estimated at \$8,000 per year. Using \$34,000 in on-time non-depreciable expenditures and \$8,000 in annually recurring costs, the benefit gained by not developing and implementing the pollution prevention plan for zinc between January 1, 2000 and May 25, 2001 is estimated at **\$13,100**.

Plant Optimization

The cost of conducting a plant optimization study was approximately \$30,000 and should have been done when Sonoma County Water Agency first took over operating the plant in 1995. Using the \$30,000 as a one-time non-depreciable expenditure, the benefit gained by not conducting a plant optimization study by January 1, 2000, is estimated at **\$1,400** using USEPA's BEN model. The non-compliance and compliance dates used in the model were January 1, 2000 and May 25, 2001, respectively.

I/I Collection System Study

The third economic savings component came from the postponement of an inflow and infiltration study and capital improvement project specifically targeted to improve the collection system and prevent sewer system overflows. The Discharger should have started the study when they received the ACL on February 18, 1998, but instead began the sewer system work in June 1999 after receiving the Board's Notice of Violation. During the time period of this Complaint, it was estimated that \$47,400 in economic benefit was derived based upon estimates from a project at a similar-size community that has recently undergone upgrades to their collection system.

The total cost for the similar community with its 120 miles of collection pipes was \$12,800,000. By comparison, the Discharger's collection system has 76 miles of collection system pipeline, which is 63.3% of the example community. Therefore, the capital improvement costs for the Discharger's collection system are estimated to cost approximately \$8.1 million. The Discharger spent \$3.369 million on collection system improvements between 1995 and 1996, so Regional Board staff subtracted this amount from the \$8.1 million. This resulted in an amount of \$4,731,000. Since the Discharger would not be expected to spend \$4.7 million in one year, the \$4.731 million was divided by ten and the resulting \$473,100 used in the USEPA's BEN model to determine economic benefit for not having implemented the study earlier. The economic benefit gained in the first year after January 1, 2000, \$36,613, was assessed using the noncompliance and compliance dates of January 1, 2000 and May 25, 2001, respectively, and \$473,100 as a capital investment. The economic benefit gained during 2001, \$10,764, was assessed using January 1, 2001 and May 25, 2001 as non-compliance and compliance dates,

respectively, and \$473,100 as the capital investment. The economic savings that results from the sum of these amounts, \$36,613 and \$10,764, is **\$47,400**.

Headworks and Grit Chamber

The fourth component of the economic analysis is the postponement of the headworks and grit removal replacement. The grit chamber failed on March 14, 2000. The new headworks project is expected to be completed by the end of May 2001. The District should have anticipated the headworks system failure before March 14, 2000 and should have replaced it sooner than 14 months after its failure. Postponement of this project could be linked to higher metals in the effluent due to reliance on the aeration basins for grit removal. Grit removal via the aeration basins, combined with the low pH wastewater, could be contributing to the zinc violations. The assessed economic benefit of \$62,200 was derived from project's cost data provided by the District. The grit chamber replacement costs were \$953,000. . Using noncompliance and compliance dates of March 14, 2000, when the grit chamber failed, and May 25, 2001 as the compliance date resulted in a savings of **\$62,200**.

Automated Chlorination/Dechlorination

The fifth component to the economic benefit is the lack of automatic chlorination and dechlorination. Automated feed systems for chlorination and dechlorination, which has been available and has been installed in most other plants for many years, would reduce the number of coliform and chlorine residual violations and, in the long run, probably save the District money by reducing the quantity of chemicals used. A chlorine demand-compound loop and automated dechlorination control systems have been available and should have been installed several years ago. If a noncompliance date of January 1, 2000 is used with a compliance date of May 25, 2001 and a total cost of \$290,000 for the upgrade is used as the one-time capital investment, the economic benefit result is **\$22,400**.

Thus, the total economic benefit gained by the Discharger for postponing a source reduction control program (\$13,100), treatment plant optimization program (\$1,400), Inflow/Infiltration reduction program for the collection system (\$47,400), headworks/grit chamber (\$62,200), and automated chlorination/dechlorination (\$22,400) is **\$146,500**.

G. Ability To Pay

A review of Sonoma County Water Agency's financial statement regarding the Sonoma treatment plant indicates that gross revenue sources during 1999 were \$5.8 million. Gross revenues for 2000 are expected to exceed those of 1999 by \$232,330. The proposed monetary ACL penalty of \$160,500 is about 3% of the Discharger's gross revenue sources for this facility. This amount, \$160,500, is within the Discharger's ability to pay based on the above information.

II. MANDATORY MINIMUM PENALTIES

Table 4 below, like Table 2, lists the violations incurred between January 1, 2000 and May 18, 2000, when discharge to Schell Slough was suspended, and November 1, 2000 through

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December 31, 2000. This table also lists the volumes released during the violations, and mandatory minimum penalties required under Water Code Section 13385 (h) and (i).

Water Code Section 13385 (h)(1) provides that a supplemental environmental project (SEP) or pollution prevention plan (PPP) may be assessed for the first serious violation within any six-month (or 180 days). The serious violations, occurred on January 10, February 7, March 13, April 17, May 1, November 6, and November 20, 2000 when the District exceeded Effluent Limitation B.7.a, zinc, by more than 20% over the daily average limit of 58 µg/L with reported values of 70, 140, 78, 91, 71, 110, and 76 µg/L, respectively. Since the first serious violation on January 10, 2000 occurred prior to the first three chronic violations, this serious violation is also the first non-finable chronic violation under Water Code Section 13385. The other chronic violations consisted of exceeding Effluent Limitation B.1, chlorine residual, seven (7) times; Effluent Limitation B.2, pH, two (2) times; Effluent Limitation B.3, total coliform, five (5) times; Effluent Limitation B.5, acute toxicity, one (1) time; and Effluent Limitation B.7.a, zinc daily average by less than 20% over the limit, eight (8) times. Similarly, in the second six-month period between May and November, the zinc violation on November 6, 2000 occurred prior to the first three chronic violations during that period; thus, this serious violation is also the third non-finable chronic violation under Water Code Section 13385. Since assessment of penalties for the first three chronic violations is not mandatory, two of the chronic violations are not counted in the total penalty. However, a total of twenty-eight (28) violations are subject to a mandatory penalty under Section 13385(h) and (i) of the California Water Code.

Table 4. Sonoma VCSD Violations from January 1, 2000 through December 31, 2000

	Parameter	Date	Volume Released (MG)	Comment*	Mandatory fine*
1	Chlorine Residual	1/1/00	0.03	1 st Chronic	
2	Zinc (d avg)	1/10/00	3.066	2 nd Chronic + Serious	**\$3,000
3	Chlorine Residual	1/15/00	0.03	3 rd Chronic	
4	Chlorine Residual	1/20/00	0.04	Chronic	\$3,000
5	Chlorine Residual	1/24/00	0.1	Chronic	\$3,000
6	Coliform (d max)	1/26/00	6.695	Chronic	\$3,000
7	pH (min)	1/31/00	5.056	Chronic	\$3,000
8	pH (min) (bioassay)	2/1/00		Chronic	\$3,000
9	Acute Toxicity (5 day)	2/4/00	22.578	Chronic	\$3,000
10	Zinc (d avg)	2/7/00	4.213	Serious	\$3,000
11	Chlorine Residual	2/13/00	.117	Chronic	\$3,000
12	Coliform (median)	2/16/00	11.43	Chronic	\$3,000
13	Coliform (median)	2/17/00	11.19	Chronic	\$3,000
14	Zinc (d avg)	3/13/00	5.423	Serious	\$3,000
15	Coliform (d max)	4/2/00	3.743	Chronic	\$3,000
16	Zinc (d avg)	4/3/00	3.011	Chronic (<20%)	\$3,000
17	Zinc (d avg)	4/10/00	3.449	Chronic (<20%)	\$3,000
18	Zinc (d avg)	4/17/00	7.658	Serious	\$3,000
19	Zinc (d avg)	5/1/00	3.295	Serious	\$3,000
20	Zinc (d avg)	5/8/00	3.858	Chronic (<20%)	\$3,000
21	Chlorine Residual	5/14/00	.02	Chronic (1/1-6/30) + 1 st Chronic (5/11-11/6)	\$3,000

**Staff Analysis and Recommendations, Complaint No. 01-020A
Sonoma Valley County Sanitation District**

	Parameter	Date	Volume Released (MG)	Comment*	Mandatory fine*
22	Zinc (d avg)	5/15/00	4.604	Chronic (1/1-6/30) + 2 nd Chronic (5/12-11/7)	\$3,000
23	Zinc (d avg)	11/6/00	3.864	Serious + 3 rd Chronic	**\$3,000
24	Coliform (d max)	11/7/00	3.62	Chronic	\$3,000
25	Zinc (d avg)	11/13/00	3.933	Chronic (<20%)	\$3,000
26	Zinc (d avg)	11/20/00	3.162	Serious	\$3,000
27	Zinc (d avg)	11/27/00	3.319	Chronic (<20%)	\$3,000
28	Zinc (d avg)	12/4/00	3.111	Chronic (<20%)	\$3,000
29	Chlorine Residual	12/5/00	--	Chronic	\$3,000
30	Zinc (d avg)	12/11/00	3.133	Chronic (<20%)	\$3,000
Total # violations= 30		Total volumes released = 123 million gallons			\$84,000

*Mandatory minimum penalties for chronic and serious violations are defined under Water Code Section 13385 (h) and (i).

**Fines may be suspended if the discharger proposes and implements an acceptable supplemental environmental project or pollution prevention plan.

Since the total amount of economic benefit, \$146,500, is greater than the mandatory minimum penalty of \$84,000, the economic benefit overrides the mandatory minimum penalty.

III. STAFF COSTS

Regional Board staff time to investigate the violations and prepare the Complaint and Staff Report totaled 140 hours, at an average cost to the State of \$100 per hour. Thus, the total staff cost for this enforcement action is \$14,000.

IV. SUMMARY

The sum of the mandatory minimum penalties is \$84,000. The sum of the economic benefit is \$146,500 (sum of \$13,100, \$1,400, \$47,400, \$62,200, and \$22,400). The staff costs are \$14,000. This is summarized in Table 5 below.

Table 5. Itemization of Recommended Penalties

<i>Penalty Category</i>	<i>Summation</i>	<i>Assessed Fine</i>
MMP (non-discretionary)	\$ 84,000	
ACL – Economic Benefit (non-discretionary)		
(a) Source Reduction	\$ 13,100	
(b) Plant Optimization	\$ 1,400	
(c) Collection System (SSOs)	\$47,400	
(d) Headworks and Grit Removal	\$62,200	
(e) Automated chlorine/dechlorination	\$22,400	
Total Economic Benefit	\$146,500	\$146,500
Staff Costs		\$ 14,000
Total Recommended Penalty		\$160,500

As noted above, if the Board imposes both ACL and MMPs, it must recover, at a minimum, the economic benefit amount or the MMP amount whichever is greater. Since the total amount of the economic benefit is greater than the mandatory minimum penalty of \$84,000, the minimum

administrative civil liability assessed is the amount of the economic benefit, \$146,500, plus the staff costs, \$14,000. This results in a sum of **\$160,500**.

V. MAXIMUM PENALTY

The California Water Code provides several enforcement remedies for discharges in violation of Board-issued NPDES permits:

1. Impose Administrative Civil Liability pursuant to Section 13385
2. Refer to the Attorney General to have a superior court impose civil liability pursuant to Section 13385

Section 13385 sets a maximum liability of \$10,000/day and \$10/gallon for the discharge volume that is not cleaned up, or is not susceptible to cleanup, and that exceeds 1,000 gallons. If this matter is referred to the Attorney General, a liability of \$25,000/day and \$25/gallon can be imposed.

RECOMMENDATIONS

In consideration of the facts in this case and prior Board actions, I recommend that the maximum liability be reduced to account for the Discharger's efforts to upgrade the treatment facility and their responsiveness with regard to our requests for information. The recommended civil liability is **\$160,500** against Sonoma Valley County Sanitation District for its 34 NPDES permit violations and 123.3 million gallons of inadequately treated wastewater from January 1, 2000 through December 31, 2000. The proposed liability recovers economic benefits of \$146,500 and \$14,000 in staff costs to prepare the Complaint and staff report.

On June 20, 2001, the District sent payment of \$92,000 for the MMP portion of this Complaint, plus staff costs, to the State Water Resources Control Board. The District proposed a supplemental environmental project (SEP), the Historical Hydrology and Ecology of lower Non-tidal Sonoma Valley, in lieu of the remaining portion, \$68,500. Board staff recommends that \$68,500 be suspended pending completion of the proposed SEP.



California Regional Water Quality Control Board

San Francisco Bay Region



Winston H. Hickox
Secretary for
Environmental
Protection

Internet Address: <http://www.swrcb.ca.gov>
1515 Clay Street, Suite 1400, Oakland, California 94612
Phone (510) 622-2300 • FAX (510) 622-2460

Gray Davis
Governor

Date: **MAY 23 2001**
File No. 2149.4009(TT)

CERTIFIED MAIL NO. 70993220000146713297
RETURN RECEIPT REQUESTED

Mr. Randy Poole
Sonoma County Water Agency
P.O. Box 11628
Santa Rosa, CA 95406

Subject: Administrative Civil Liability and Mandatory Minimum Penalties under Water Code
Section 13385 -- Complaint Nos. 01-020A and 01-020B

Dear Mr. Poole:

Enclosed are two Complaints. Complaint No. 01-020A is for water quality violations that occurred after January 1, 2000 (between January 1, 2000 and December 31, 2000) and Complaint No. 01-020B is for violations that occurred before January 1, 2000 (between November 1, 1998 and December 31, 1999).

Complaint No. 01-020A alleges that there were thirty (30) violations of your NPDES permit limits during the seven months of discharge between January 1, 2000 and December 31, 2000: seven (7) serious violations and twenty (23) non-serious (chronic) violations. As of January 1, 2000, violations of effluent limitations are subject to at least mandatory minimum penalties (MMPs) under Water Code Section 13385 (h) and (i) for serious and chronic violations. Penalties over and above MMPs, referred to as Administrative Civil Liabilities (ACL), are assessed at a level that either recovers any economic benefit from the violations or recovers the MMP amount whichever is greater. The MMP amount is \$84,000, the economic benefit is \$146,500, and staff costs are \$14,000. Complaint No. 01-020A recommends an administrative penalty of \$160,500, based on an assessed economic benefit from a number of factors plus staff costs. A proposal for a Supplemental Environmental Project (SEP) or Pollution Prevention Plan (PPP) may be submitted for Executive Officer approval. Up to \$74,500 of the fine may be spent on either a SEP or PPP. The approved project must be completed by August 1, 2002.

Complaint No. 01-020B alleges that there were eighty-two (82) violations of your NPDES permit limits during the eight months of discharge between November 1, 1998 and December 31, 1999. Complaint No. 01-020B recommends a reduction of the initial assessed penalty of \$188,400 (based on staff costs, economic benefit and consideration of factors pursuant to Section 13385

Mr. Randy Poole

- 2 -

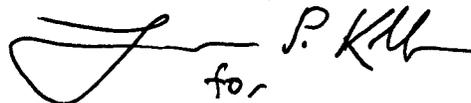
(e)) to a final proposed penalty of **\$87,900**, based on economic benefit and staff costs alone. In addition, this amount may be used for an Executive Officer approved SEP or PPP, or it may be used for an approved source identification and reduction study for zinc and automation equipment for the treatment plant's chlorination and dechlorination systems. These projects must be completed by August 1, 2002.

I plan to bring this matter to the Regional Board at its **July 18, 2001** meeting. You have three options:

1. You can appear before the Board at the meeting to contest the matter. Written comments are due by **June 20, 2001**. At the meeting the Board may impose an administrative civil liability in the amount proposed or for a different amount, decline to seek civil liability, or refer the case to the Attorney General to have a Superior Court consider imposition of a penalty.
2. You can waive the right to a hearing by signing the last page of each Complaint and checking the first box. By doing so, you agree to pay the liability.
3. For Complaint 01-020A you can waive the right to a hearing and agree to complete a pollution prevention plan or supplemental environmental project in lieu of a portion of the penalty by signing the last page of the Complaint and checking the second or third box. For Complaint 01-020B you can waive the right to a hearing and agree to complete a zinc source identification and reduction study and install automation equipment or you can agree to complete an SEP or PPP in lieu of a the penalty by signing the last page of the Complaint and checking the second or third box, respectively. Note that zinc study plan and proposed pollution prevention plan or supplemental environmental project must be acceptable to the Executive Officer. If either the zinc study plan or a pollution prevention plan or supplemental environmental project is not acceptable, then you agree to pay the liability.

If you have any questions please call Tobi Tyler at (510) 622-2431 or contact her by email at tt@rb2.swrcb.ca.gov.

Sincerely,



for

Loretta K. Barsamian
Executive Officer

Enclosure: Complaint No. 01-020A and 01-020B
Staff reports for each Complaint (Staff Analysis and Recommendations)

cc: Dorothy Dickey, OCC
Sheryl Freeman, OCC

Azar Bolandgray
Office of the Attorney General
1515 Clay St., Suite 2000
Oakland, CA 94612-1413

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

COMPLAINT NO. 01-020A

**ADMINISTRATIVE CIVIL LIABILITY
AND MANDATORY PENALTY
IN THE MATTER OF
SONOMA VALLEY COUNTY SANITATION DISTRICT
SONOMA COUNTY**

This Complaint to assess Administrative Civil Liability and Mandatory Minimum Penalties pursuant to Water Code section 13385 (c), (e), (h) and/or (i) is issued to Sonoma Valley County Sanitation District (hereafter Discharger) based on a finding of violations of Waste Discharge Requirements Order No. 98-111 (NPDES No. CA0037800). The period covered by this Complaint is **January 1, 2000** through **December 31, 2000**. Effluent violations in this Complaint are subject to mandatory minimum penalties under Section 13385 (h) and (i) of the California Water Code. All violations of Waste Discharge Requirements Order No. 98-111 are also subject to discretionary penalties under Section 13385 (c) and (e) of the California Water Code¹.

The Executive Officer finds the following:

1. On October 21, 1998, the Regional Water Quality Control Board, San Francisco Bay Region, (Regional Board) adopted Waste Discharge Requirements (Order No. 98-111), for Sonoma Valley County Sanitation District (Discharger), to regulate discharges of waste from the District's wastewater treatment facility.
2. The Discharger owns and operates a treatment plant near the town of Sonoma, in Sonoma County, which treats domestic, commercial and industrial wastewater from the greater Sonoma area with a population of approximately 35,000. In 1995, the Sonoma County Board of Supervisors transferred operating authority of the treatment plant from the Sonoma County Public Works Department to the Sonoma County Water Agency (SCWA), which operates the plant at issue and several smaller treatment plants regulated by the North Coast Regional Water Quality Control Board, as well as providing drinking water to several communities in Sonoma and Marin counties.
3. The Discharger filed a petition with the State Board to review Order 98-111 on November 16, 1998. On February 2, 2000, the State Board dismissed the petitions of both the Discharger and environmental groups, who also petitioned. The Discharger is

¹ The Board is required to impose, at least, Mandatory Minimum Penalties (MMP) if it finds that certain violations occurred. In addition, the Board is authorized but not required to impose additional penalties for the same violations. If the Board imposes the additional penalties in the form of an Administrative Liability (ACL), the Board is required, under Section 13385 of the Water Code, to, at a minimum, recover the economic benefit amount, if any, or the MMP amount, whichever is greater.

currently challenging the permit in court on the basis that the permit limits for mercury, copper, dieldrin, lindane, tributyl tin, cyanide, and PAHs create an undue burden on the Discharger. Despite the fact that the discharger has contested these limits in court, they legally remain in effect. It should be noted that the Discharger has been in full compliance with these contested limits since October 1998. This enforcement action is brought against a number of conventional pollutant limits, acute toxicity and zinc limits which are not subject to the pending legal challenge. This enforcement action is also brought without regard to the pending legal challenge.

4. The treatment plant has an average dry weather flow permitted capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the peak wet weather flow periods. Discharge is prohibited in the dry season months from May through October. During the wet season an average of 4.85 mgd is treated and discharged to Schell Slough, a tributary to San Pablo Bay. Peak flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins to be treated or, if the plant is threatened, blended with secondary effluent and discharged. For the period covered by this Complaint (January 1, 2000 through December 31, 2000), discharge to Schell Slough ceased between and May 19, 2000 and November 1, 2000.
5. The treatment plant has no primary treatment, and preliminary treatment at the headworks consists of screening. The plant's aerated grit chamber with conventional removal and separation equipment failed in March 2000. Until new grit removal equipment is installed under the Discharger's current headworks and grit chamber capital improvement project, which is scheduled to go on-line in late May 2001, grit will continue to be removed via the aeration basins. The extended aeration activated sludge process, followed by sedimentation, disinfection, and dechlorination, provides secondary treatment. The Discharger undertook improvements to the treatment plant to increase its wet weather capacity beginning in 1999. These improvements included completion of a new chlorine contact tank, increased aeration in the extended aeration tanks and ongoing construction of three new circular secondary clarifiers. The first of these clarifiers went on-line in November 1999 and the second in October 2000. The first clarifier was then taken off-line at that time to determine if the corrosion control anodes at the bottom of the first clarifier were contributing to the zinc exceedances, which are one of the bases for this ACL. In mid-January 2001, an automatic shut-valve was installed to shut off discharge to the Slough and divert to equalization basins when chlorine residuals are detected or a power failure occurs.

Citations from Discharger's NPDES permit

6. Waste Discharge Requirements Order No. 98-111 states, in part:
 - “A. DISCHARGE PROHIBITIONS**
 - ...
 2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations

tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

...

B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
 3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.
-
5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

-
- 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

Constituent	Units	Daily Average [b]	Monthly Average [b]
Zinc [d]	µg/L	58	

Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- d. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four."

ALLEGATIONS AND CONSIDERATION OF FACTORS

Administrative Civil Liability and Mandatory Minimum Penalty

7. California Water Code Section 13385 requires the Board to impose Mandatory Minimum Penalties (MMPs) and authorizes the Regional Board to assess an Administrative Civil Liability. A copy of the statute is attached as Appendix A.
8. Effluent violations identified from January 1, 2000 through December 31, 2000 are subject to mandatory penalties under Water Code Section 13385 (h), and (i) and, at the Board's discretion, penalties under Water Code Section 13385 (c) and (e). If the Board imposes the penalties over and above MMPs, these penalties are referred to as an Administrative Civil Liability (ACL). In the event that the Board assesses an ACL, the penalty must be assessed at a level that recovers any economic benefits from the violations.
9. Section 13385(e) of the California Water Code requires the Board to consider several factors when determining the amount of the ACL penalty. These include the nature, circumstances, extent and gravity of the violations, and, with respect to the violator, the ability to pay, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. At a minimum, the ACL must recover any economic benefit for violations that occurred after January 1, 2000. These factors are discussed below.

1. ACL – Nature of the Violations

10. The effluent limitation violations covered by this Complaint are listed in Table 1. During the seven months of discharge in 2000 (January through May 18 and November through December), there were fifteen (15) zinc daily limit violations, seven (7) chlorine residual, three (3) daily maximum coliform, two (2) moving median coliform, two (2) pH violations, and one (1) acute toxicity violation. Since Regional Board staff recommend that the Board impose administrative civil liabilities on the violations that occurred

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

between January 1, 2000 and December 31, 2000, staff considered the factors in Water Code section 13385 (e) and assessed the economic benefit for these violations. The Discharger failed to comply with Order No. 98-111 during the seven months of discharge between January 1, 2000 and December 31, 2000 by exceeding the above limitations by the reported values in Table 1 on the corresponding dates.

TABLE 1. Violations between January 1, 2000 and December 31, 2000.

	Violation Date	Effluent Limit	Parameter	Permit limit	Reported Value	Statute 13385*
1	1-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
2	10-Jan-00	B.7.a.	Zinc	Daily avg 58 µg/L	70 µg/L	(h)(1)&(i)(2)
3	15-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
4	20-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
5	24-Jan-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.1 mg/L	(i)(2)
6	26-Jan-00	B.3.b.	Coliform (d max)	Sing smpl Max 240 MPN	1600 MPN	(i)(2)
7	31-Jan-00	B.2.	pH	Minimum 6.5	6.4	(i)(2)
8	1-Feb-00	B.2.	pH	Minimum 6.5	5.9	(i)(2)
9	4-Feb-00	B.5.	Acute Toxicity	Min 70% survival	55%	(i)(2)
10	7-Feb-00	B.7.a	Zinc	Daily avg 58 µg/L	140 µg/L	(i)(1)
11	13-Feb-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	1.5 mg/L	(i)(2)
12	16-Feb-00	B.3.a.	Coliform (med)	7-d med 23 MPN	27 MPN	(i)(2)
13	17-Feb-00	B.3.a.	Coliform (med)	7-d med 23 MPN	27 MPN	(i)(2)
14	13-Mar-00	B.7.a	Zinc	Daily avg 58 µg/L	78 µg/L	(i)(1)
15	2-Apr-00	B.3.b.	Coliform (d max)	Sing smpl Max 240 MPN	1600 MPN	(i)(2)
16	3-Apr-00	B.7.a	Zinc	Daily avg 58 µg/L	63 µg/L	(i)(2)
17	10-Apr-00	B.7.a	Zinc	Daily avg 58 µg/L	61 µg/L	(i)(2)
18	17-Apr-00	B.7.a	Zinc	Daily avg 58 µg/L	91 µg/L	(i)(1)
19	1-May-00	B.7.a	Zinc	Daily avg 58 µg/L	71 µg/L	(i)(1)
20	8-May-00	B.7.a	Zinc	Daily avg 58 µg/L	63 µg/L	(i)(2)
21	14-May-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	0.11 mg/L	(i)(2)
22	15-May-00	B.7.a	Zinc	Daily avg 58 µg/L	63 µg/L	(i)(2)
23	6-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	110 µg/L	(h)(1)&(i)(2)
24	7-Nov-00	B.3.b.	Coliform (d max)	Sing smpl Max 240 MPN	1600 MPN	(i)(2)
25	13-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	67 µg/L	(i)(2)
26	20-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	76 µg/L	(i)(1)
27	27-Nov-00	B.7.a	Zinc	Daily avg 58 µg/L	67 µg/L	(i)(2)
28	4-Dec-00	B.7.a	Zinc	Daily avg 58 µg/L	62 µg/L	(i)(2)
29	5-Dec-00	B.1.	Chlorine Residual	Inst max 0.0 mg/L	13 mg/L	(i)(2)
30	11-Dec-00	B.7.a	Zinc	Daily avg 58 µg/L	64 µg/L	(i)(2)

Volumes released = 123 million gallons

*Water Code section 13385 (h)(1) refers to the first serious violation² in 6-month period, (i)(1) refers to second and subsequent serious violations, and (i)(2) refers to chronic violations as defined therein.

- The Discharger also failed to comply with the Discharge Prohibitions in Order No. 98-111 during the months between January 1, 2000 and December 31, 2000 by exceeding the Discharge Prohibition A.2. These violations constitute exceedances of the Discharger's

² Serious violation refers to any waste discharge that exceeds the effluent limitations by 20 percent or more for Group II pollutants (toxic pollutants) or by 40 percent or more for a Group I pollutants (conventional pollutants), as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations.

permit. The Discharger violated this Discharge Prohibition on 4 days during the months between January 1, 2000 and December 31, 2000 by discharging untreated wastewater on the following dates and by the corresponding amounts:

Table 2. Sewer System Overflows in 2000

<u>Date</u>	<u>Gallons of overflow</u>
February 13/14, 2000	264,000
May 30, 2000	6,000
December 12, 2000	1,200
TOTAL gallons	271,200 gallons

2. ACL – Circumstances, Extent, and Gravity of the Violations

12. The above tables provide dates on which the violations occurred and the extent of the violations (exceedance concentrations). The Discharger has not been able to determine the source of the zinc violations. However, as discussed in the staff report, "Staff Analysis and Recommendations", dated April 16, 2001, which was prepared in support of this Complaint, one plausible conclusion, based on the Discharger's influent as compared to other treatment plant influents, is that the Discharger's pollution prevention/source reduction and pretreatment programs have not been managed adequately or have not been implemented aggressively enough. The zinc anodes at the bottom of the new secondary clarifier may also be a contributing factor. This problem predates the time period covered in this Complaint. The Discharger began to exceed their zinc limit in November 1999. However, beginning in May 1999, the Discharger's influent concentrations are clearly higher than other similar treatment plant's influent (See Figure 3 in Staff Analysis and Recommendations). The chlorine residual and pH violations were due to operator error related to dosing problems of the sulfur dioxide dechlorination system. While the chlorine residual violations were due to under-dosing of the dechlorinating agent, sulfur dioxide, the pH violations were due to over-dosing of sulfur dioxide. For further discussion of the circumstances by which the above violations occurred, see the staff report.

3. ACL – Water Quality and Public Health Effects of the Violations

13. The water quality and public health effects of the effluent limit violations listed in the tables above are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation is the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that an acceptable source control plan was in place. Continued exemption from this prohibition may be reconsidered if violations of this frequency and magnitude continue to occur.
14. High concentrations of zinc can be acutely toxic to aquatic organisms. The effluent limit in the permit is based on the water quality objective in the Basin Plan for zinc, 58 µg/L.

The Discharger's highest concentration of zinc during 2000 was 140 µg/L and the average for the year was 78 µg/L.

15. The acutely toxic effects of chlorine residual and low pH to aquatic organisms have also been well established. Coliform bacteria are used as indicator species for pathogens (disease causing organisms) in the effluent. Pathogens are harmful to humans as well as fish and wildlife. Sewer overflows can cause exceedances of water quality objectives, particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There are potential public health impacts due to public contact with contaminated water in the areas where sewer overflows occurred.

4. ACL – History of Previous Violations and Enforcement

16. On November 14, 1997 this Board issued an Administrative Civil Liability (ACL) Complaint (Complaint No. 97-126) to the Discharger for 262 violations of effluent limitations and 62 incidents of overflows from the collection system between January 1994 and July 1997. The largest percentages of effluent limit violations for this period were for coliform (31%) and settleable solids (24%) exceedances. On February 6, 1998, the discharger waived an amended ACL, with two supplemental environmental projects in lieu of \$75,000 of the \$83,000 penalty.
17. On February 9, 1999 the Board sent a Notice of Violation (NOV) to the Discharger for effluent limit violations (pH and coliform) and for sewer system overflows that totaled to 25,800 gallons.
18. On April 29, 1999 this Board sent a Notice of Violation (NOV) to the Discharger for sewer system overflows during four days in February 1999 that totaled to 355,680 gallons.
19. On June 9, 2000 the Board sent a Notice of Violation (NOV) to the Discharger for violations of zinc, chlorine residual and coliform bacteria effluent limitations that occurred between January 1, 2000 and April 30, 2000.

5. ACL – Degree of Culpability

20. The Discharger has been given numerous warnings about their large number of violations both before and during the time period covered by this Complaint. As stated above, the Regional Board has sent several Notices of Violation in addition to a fairly recent ACL (February 1998) regarding the Discharger's repeated violations. In a letter dated July 14, 2000 responding to the most recent Notice of Violation, the Discharger attempted to reduce the relevance of the violations and place the culpability on (1) the lower effluent limit that the Discharger received with the reissued permit in 1998, and (2) the increased monitoring performed by the Discharger. However, this increased

monitoring is required of dischargers when violations occur; lower frequency of monitoring is allowed when full and consistent compliance is readily demonstrated. Also, the lower limit established in their reissued permit was based on the 1995 Basin Plan, which other shallow-water dischargers are required to, and generally do, meet. Of the 16 zinc violations reported by all dischargers in the region during the 6 months between January 1, 2000 and June 30, 2000, 13 were from the Discharger's plant. The Discharger's influent zinc concentrations indicate the problem is, at least partially, due to source water or commercial entities in the service area. Other possible causes of the zinc violations are operational procedures (e.g., cleaning tanks and sending wash water to headworks) or the sacrificial anodes on the new clarifier, which became operational in November 1999.

6. ACL – Other Factors that Justice May Require

21. The treatment plant has been within 92% to 98% of its permitted dry weather capacity for the last several years. Increased flows from an increasing number of hook-ups in the community exacerbate the problems with capacity at both the plant and within the collection system. It is typical for dischargers to begin planning for an increase in permitted dry weather capacity when the flows reach 75% capacity to allow time to perform the necessary Anti-degradation Analysis needed to grant a capacity increase. While the Discharger has increased wet weather capacity, there are no near-term plans to perform the Anti-degradation Analysis of the beneficial use impacts from increased effluent. At the same time, the Discharger has not indicated how they intend to limit the number of hook-ups to the collection system from their growing community in order to stay within their permitted dry weather capacity.

PROPOSED CIVIL LIABILITY

Mandatory Minimum Penalties

22. According to monitoring reports submitted and certified by the Discharger, the Discharger's effluent caused seven (7) serious violations during the seven months of discharge between January 1, 2000 and December 31, 2000. On January 10, February 7, March 13, April 17, May 1, November 6, and November 20, 2000, the Discharger exceeded Effluent Limitation B.7.a, zinc, by more than 20% over the daily average limit of 58 µg/L with reported values of 70, 140, 78, 91, 71, 110, and 76 µg/L, respectively. The zinc violations on January 10, 2000 and November 6, 2000 constitute the first serious violations within a six-month period. There were two "first" serious violations, as defined under Section 13385(h)(1), in the time period of this Complaint. Those serious violations occurred on January 10, 2000 and November 6, 2000. Pursuant to Sections 13385(h)(1) and 13385(i)(1), the amount of the mandatory penalty for the above serious violations is \$21,000 or, in lieu of the \$6,000 of the penalty for the two first serious violations for each six-month period, the discharger may spend an equal amount for a supplemental environmental project or to develop a pollution prevention plan.

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

23. According to monitoring reports submitted by the Discharger, the Discharger committed twenty-three (23) chronic violations by exceeding Effluent Limitation B.1, chlorine residual, seven (7) times; Effluent Limitation B.2, pH, two (2) times; Effluent Limitation B.3, total coliform, five (5) times; Effluent Limitation B.5, acute toxicity, one (1) time; and Effluent Limitation B.7.a, zinc daily average by less than 20% over the limit, eight (8) times during the six-months of discharge between January 1, 2000 and December 31, 2000. Penalties are assessed for the fourth and subsequent violations except for serious violations, pursuant to Section 13385(i)(2). Two of the chronic violations in the first six-month period are not finable under Section 13385(i)(2). Since the first serious violation on January 10, 2000 occurred prior to the first three chronic violations, this serious violation is also the first non-finable chronic violation under Water Code Section 13385 (although it is finable as a serious violation). Similarly, in the second six-month period between May and November, the zinc violation on November 6, 2000 occurred prior to the first three chronic violations during that period; thus, this serious violation is also the third non-finable chronic violation for the second six-month period under Water Code Section 13385 (see Table 2 below). Since the second six-month period overlaps with the first six-month period, all of the chronic violations in this period require a \$3,000 fine. Therefore, only two of the 23 chronic are removed from requiring fines and the amount of the mandatory penalty for twenty-one (21) chronic violations is \$63,000.

24. The Table below lists the violations, the dates they occurred, the volumes released, the type of violation (i.e., serious or chronic), and the mandatory minimum penalty for that violation.

Table 3. Sonoma VCSD Violations from January 1, 2000 through December 31, 2000

	Parameter	Date	Volume Released (MG)	Violation Type*	Mandatory fine*
1	Chlorine Residual	1/1/00	0.03	1 st Chronic	
2	Zinc (d avg)	1/10/00	3.066	2 nd Chronic + Serious	**\$3,000
3	Chlorine Residual	1/15/00	0.03	3 rd Chronic	
4	Chlorine Residual	1/20/00	0.04	Chronic	\$3,000
5	Chlorine Residual	1/24/00	0.1	Chronic	\$3,000
6	Coliform (d max)	1/26/00	6.695	Chronic	\$3,000
7	pH (min)	1/31/00	5.056	Chronic	\$3,000
8	pH (min) (bioassay)	2/1/00		Chronic	\$3,000
9	Acute Toxicity (5 day)	2/4/00	22.578	Chronic	\$3,000
10	Zinc (d avg)	2/7/00	4.213	Serious	\$3,000
11	Chlorine Residual	2/13/00	.117	Chronic	\$3,000
12	Coliform (median)	2/16/00	11.43	Chronic	\$3,000
13	Coliform (median)	2/17/00	11.19	Chronic	\$3,000
14	Zinc (d avg)	3/13/00	5.423	Serious	\$3,000
15	Coliform (d max)	4/2/00	3.743	Chronic	\$3,000
16	Zinc (d avg)	4/3/00	3.011	Chronic (<20%)	\$3,000
17	Zinc (d avg)	4/10/00	3.449	Chronic (<20%)	\$3,000
18	Zinc (d avg)	4/17/00	7.658	Serious	\$3,000
19	Zinc (d avg)	5/1/00	3.295	Serious	\$3,000
20	Zinc (d avg)	5/8/00	3.858	Chronic (<20%)	\$3,000

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

	Parameter	Date	Volume Released (MG)	Violation Type*	Mandatory fine*
21	Chlorine Residual	5/14/00	.02	Chronic (1/1-6/30) + 1 st Chronic (5/11-11/6)	\$3,000
22	Zinc (d avg)	5/15/00	4.604	Chronic (1/1-6/30) + 2 nd Chronic (5/12-11/7)	\$3,000
23	Zinc (d avg)	11/6/00	3.864	Serious + 3 rd Chronic	**\$3,000
24	Coliform (d max)	11/7/00	3.62	Chronic	\$3,000
25	Zinc (d avg)	11/13/00	3.933	Chronic (<20%)	\$3,000
26	Zinc (d avg)	11/20/00	3.162	Serious	\$3,000
27	Zinc (d avg)	11/27/00	3.319	Chronic (<20%)	\$3,000
28	Zinc (d avg)	12/4/00	3.111	Chronic (<20%)	\$3,000
29	Chlorine Residual	12/5/00	--	Chronic	\$3,000
30	Zinc (d avg)	12/11/00	3.133	Chronic (<20%)	\$3,000
Total # violations= 30		Total volumes released = 123 million gallons			\$84,000

*Mandatory minimum penalties for chronic and serious violations are defined under Water Code Section 13385 (h) and (i).

**Fines may be suspended if the discharger proposes and implements an acceptable supplemental environmental project or pollution prevention plan.

25. The total amount of the mandatory minimum penalty is **\$84,000** for the period from January 1, 2000 through December 31, 2000.

ACL – Economic Benefit

26. As noted above, the Board is authorized to impose an ACL in addition to the MMPs. If the Board assesses an ACL, the Board is required to recover any assessed economic benefit gained by the Discharger from postponing measures that may have prevented the violations. (See Economic Savings section in the Staff Analysis and Recommendations for a more detailed discussion.) The economic benefit assessed, **\$146,500**, was derived from the following five factors:

- a. Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (**\$13,100**)³. Postponement resulted in continued zinc violations.
- b. Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated and updated annually since January 1995 when the Sonoma County Water Agency became the operating authority for the plant, or at least as of their last ACL in February 1998 (**\$1,400**)⁴. Postponement resulted in decreased efficiency and increasing number of conventional and toxic pollutant violations.

³ Economic Benefit for postponement of pollution prevention program, **\$13,100**, was derived from one-time non-depreciable cost of \$34,000 and annually recurring costs of \$8,000 between January 1, 2000 and May 25, 2001.

⁴ Economic Benefit for postponement of an optimization program, **\$1,400**, was derived from one-time non-depreciable cost of \$30,000 between January 1, 2000 and May 25, 2001.

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

- c. Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's April 29, 1999 Notice of Violation and request for report pursuant to Section 13267 (\$47,400)⁵. Postponement resulted in continued sewer system overflows.
- d. Postponement of repairing and installing new headworks and grit removal chamber as of March 14, 2000, when the old grit removal chamber failed (\$62,200)⁶. Postponement may have contributed to zinc violations by requiring aeration basins to perform removal of grit. Also, Board was not notified before removing a component in treatment process.
- e. Postponement of automatic chlorination and dechlorination equipment (\$22,400)⁷, which would reduce the number of chlorine, pH and coliform violations.

Regional Board staff determined that the above actions should have been taken to attain compliance or avoid violations. Using USEPA's Benefits Model (BEN), staff determined the interest earned by delaying compliance with these actions as the amount of the economic benefit. The total economic benefit gained by the District is \$146,500. The total economic benefit is compared to the mandatory minimum penalty and the greater of the two is the non-discretionary portion of the assessed penalty.

ACL – Maximum Potential Civil Liability on All Violations

- 27. The potential maximum amount of administrative civil liability for each day of violation is ten thousand dollars (\$10,000) plus ten dollars (\$10) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

If this matter is referred to the Attorney General, a maximum liability of \$25,000 per day and \$25 per gallon may be imposed.

ACL – Staff Costs

- 28. The Board incurred staff costs in order to prepare this Complaint and supporting information. Regional Board staff time to investigate the violations and prepare the Complaint and Staff Report totaled 140 hours, at an average cost to the State of \$100 per hour. Thus, the total staff cost for this enforcement action is \$14,000.

⁵ Economic Benefit for postponement of a collection system improvement plan, \$47,400, was derived from one time capital investment of \$473,100 [\$8,100,000 (extrapolated from example city, Benicia) minus \$3,369,000 spent in 1995/1996; sum divided by ten, for 10 years over which sum is allowed to be spent]. Dates for non-compliance and compliance were January 1, 2000 and May 1, 2001, respectively, for 2000 year economic benefit results and January 1, 2001 and May 25, 2001, respectively, for 2001 results.

⁶ Economic Benefit for postponement of installing a new headworks and grit removal chamber, \$62,200, was derived from capital investment costs provided by the Discharger for installing a new grit removal system (\$953,000). Dates for non-compliance and compliance are March 14, 2000 and May 25, 2001.

⁷ Economic Benefit for postponement of installing automatic dosing systems for chlorine and sulfur dioxide, \$22,400, was derived from capital investment costs estimated for the equipment and installation (\$290,000). Dates for non-compliance and compliance were January 1, 2000 and May 25, 2001, respectively.

Proposed Penalty

29. Since the Mandatory Minimum Penalty, \$84,000, is less than the total assessed economic benefit, \$146,500, the proposed penalty in this ACL is based on the non-discretionary total economic benefit described above, plus staff costs. This ACL does not include additional discretionary penalties that consider the required factors. Table 5 below itemizes the economic benefits from each factor and shows the comparison of total MMP with total assessed economic benefit.

Table 5. Itemized Recommended Penalties

<i>Penalty Category</i>	<i>Summation</i>	<i>Assessed Fine</i>
MMP (non-discretionary)	\$ 84,000	
ACL – Economic Benefit (non-discretionary)		
(a) Source Reduction	\$ 13,100	
(b) Plant Optimization	\$ 1,400	
(c) Collection System (SSOs) (discretionary)	\$47,400	
(d) Headworks and Grit Removal	\$62,200	
(e) Automated chlorine/dechlorination	\$22,400	
Total Economic Benefit	\$146,500	\$146,500
Staff Costs		\$ 14,000
Total Penalty		\$ 160,500

30. The Executive Officer of the Regional Board proposes that an Administrative Civil Liability be imposed by the Regional Board under Section 13385 of the Water Code in the amount of \$160,500. This amount is the sum of \$146,500 in economic benefit, and staff costs of \$14,000.

ACL – Ability to Pay

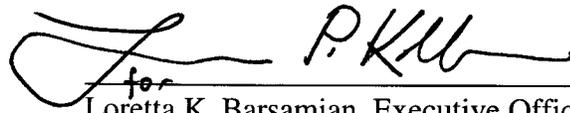
31. The Discharger's ability to pay the proposed ACL is based on the Discharger's 2000-01 Fiscal Year Budget, expenditures and revenues. Gross revenues for the facility during 2000 were approximately \$6 million. The proposed penalty, \$160,500, is approximately 3% of the Discharger's gross revenues for the plant. Based on this information, the Discharger should be able to pay this amount without significant impact on its ability to conduct its responsibilities.

32. Issuance of this Complaint is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.

SONOMA VALLEY COUNTY SANITATION DISTRICT IS HEREBY GIVEN NOTICE THAT:

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

1. The Executive Officer of the Regional Board proposes that the Discharger be assessed Administrative Civil Liability in the amount of 160,500 dollars (\$160,500) that includes 146,500 dollars (\$146,500) in economic benefit and 14,000 dollars (\$14,000) in staff costs.
2. The Regional Board will hold a hearing on July 18, 2001 unless the Discharger agrees to waive the hearing and pay the Administrative Civil Liability of \$160,500 in full.
3. The Discharger may waive the right to a hearing or propose an SEP or PPP in the amount of either \$6,000 or \$74,500. If waived, please check and sign the attached waiver and return it and a check made payable to the State Water Resources Control Board for the full amount of the mandatory penalty and ACL, \$160,500, to the Regional Board's office at 1515 Clay Street, Suite 1400, Oakland, CA, by June 20, 2001.
4. If a hearing is held, the Regional Board will consider whether to affirm, reject, or modify the proposed administrative civil liability and mandatory penalty, or whether to refer the matter to the Attorney General for recovery of civil liability and mandatory penalty.


for
Loretta K. Barsamian, Executive Officer

5/22/01
Date

Attachment:
Appendix A – Citation from Water Code Section 13385

**Administrative Civil Liability and Mandatory Penalty - Complaint No. 01-020A
Sonoma Valley County Sanitation District**

WAIVER

Waiver of the right to a hearing and agree to make payment in full.

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020A. I understand that I am giving up my right to be heard, and to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of or the amount of, civil liability proposed. I further agree to remit payment for the civil liability imposed within thirty (30) days after the waiver is signed.

Waiver of the right to a hearing and agree to propose a PPP or SEP.

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020A, to propose and complete an Executive Officer-approved supplemental environmental project (SEP) or pollution prevention plan (PPP) for the amount of liability suspended of no more than \$68,500 in lieu of a portion of the administrative civil liability (total minus non-SEP allowed portion of MMP (\$78,000) and staff costs (\$14,000)) and the \$6,000 civil liability imposed for the two first serious violations, and to remit payment of the remainder of the total (\$92,000) to the State Cleanup and Abatement Fund account including \$14,000 in staff costs. If the pollution prevention plan or supplemental environmental project is not acceptable to the Executive Officer, I agree to pay the \$6,000 civil liability and the suspended payment of no more than \$68,500 within 30 days of a letter from the Executive Officer denying approval of the proposed project. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to complete a pollution prevention plan or conduct a supplemental environmental project approved by the Executive Officer within a time schedule set by the Executive Officer.

Waiver of the right to a hearing, with \$6,000 for two first serious violations made to either a PPP or SEP.

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020A, to remit payment for the \$154,500 civil liability imposed under Complaint No. 01-020A, and to submit a proposal for supplemental environmental or pollution prevention project in lieu of the \$6,000 civil liability imposed for the first two serious violations, subject to approval of the Executive Officer. If the pollution prevention plan or supplemental environmental project is not acceptable to the Executive Officer, I agree to pay the \$6,000 civil liability within 30 days of a letter from the Executive Officer denying approval of the proposed project. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to complete a pollution prevention plan or conduct a supplemental environmental project approved by the Executive Officer within a time schedule set by the Executive Officer.

Name (print)

Signature

Date

Title/Organization

APPENDIX A
Water Code Section 13385 Citation
Complaint No. 01-020A
ACL/MMP
Sonoma Valley County Sanitation District

California Water Code Section 13385, which authorizes the Regional Board to assess administrative civil liability, states, in part, the following:

“(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the sum of both of the following:

- (1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.
- (2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) multiplied by the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), the term "discharge" includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that 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.

- (h) (1) Notwithstanding any other provision of this division, a mandatory minimum penalty of three thousand dollars (\$3,000) shall be assessed for the first serious violation in any six-month period, except that in lieu of assessing that penalty the state board or the regional board may elect to require the discharger to spend an amount equal to the penalty for a supplemental environmental project in accordance with the enforcement policy of the state board and any applicable guidance document, or to develop a pollution prevention plan.
 - (2) For the purpose of this section, a serious violation means any waste discharge that exceeds the effluent limitations for a Group II pollutant, as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations, by 20 percent or more or for a Group I pollutant, as specified in Appendix A to Section 123.45 of Title 40 of the Code of Federal Regulations, by 40 percent or more.
 - (3) For the purposes of this section, a "supplemental environmental project" means an environmentally beneficial project that a person agrees to undertake, with the approval of the regional board, that would not be undertaken in the absence of an enforcement action under Section 13385.
- (i) Notwithstanding any other provision of this division, a minimum mandatory penalty of three thousand dollars (\$3,000) shall be assessed for each violation, not counting the first violation described in paragraph (1) of subdivision (h) for the purposes of paragraph (1) of this subdivision and not counting the first three violations described in paragraph (2), if either of the following applies:
- (1) The person commits two or more serious violations in any six-month period.
 - (2) The person does any of the following four or more times in any six-month period:
 - (A) Exceeds a waste discharge requirement effluent limitation.
 - (B) Fails to file a report pursuant to Section 13260.
 - (C) Files an incomplete report pursuant to Section 13260.
 - (D) Exceeds a toxicity discharge limitation where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.”

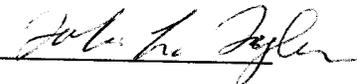
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF ANALYSIS AND RECOMMENDATIONS

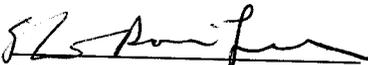
TO: Loretta K. Barsamian
Executive Officer

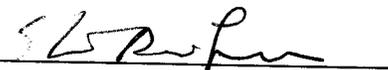
FROM: Tobi L. Tyler
WRCE

DATE: May 22, 2001

SIGNATURE: 

SUBJECT: Sonoma Valley County Sanitation District – Sonoma Wastewater Treatment Plant, Sonoma County, Consideration of Administrative Civil Liability for NPDES Permit Violations, **Complaint No. 01-020A**

CONCUR: 
Shin-Roei Lee
Section Leader


Shin-Roei Lee
Division Chief

Reviewed for Legal
Form and Sufficiency:


Dorothy Dickey
Attorney

This recommendation for Administrative Civil Liability and Mandatory Minimum Penalty assesses penalties for effluent violations of Sonoma Valley County Sanitation District's (Discharger's) NPDES permit, Order No. 98-111, during the period between **January 1, 2000** and **December 31, 2000**. All effluent violations identified are subject to a penalty under Section 13385(c), (e), (h) and (i) of the California Water Code.

In this Order, there are two types of penalties recommended in this Order. The Board is required to impose Mandatory Minimum Penalties (MMP) if it finds that certain violations occurred. In addition, the Board is authorized but not required to impose additional penalties for the same violations. Those additional penalties are called Administrative Civil Liability (ACL). If the Board imposes penalties in the form of an ACL, the Board is required under Section 13385 (e) to recover, at a minimum, the economic benefit amount, if any, or the MMP amount, whichever is greater.

From January 1, 2000 through December 31, 2000, the Discharger violated effluent limitations in its NPDES permit on 30 days in the 7 months of discharge in 2000 (January through May 18 and November through December). During these months there were fifteen (15) zinc daily limit violations, seven (7) chlorine residual, three (3) daily maximum coliform, two (2) moving median coliform, two (2) pH violations, and one (1) acute toxicity violation. These violations are subject to Mandatory Minimum Penalties under California Water Code Section 13385 (h) and (i). The zinc violations consisted of zinc concentrations in the effluent that exceeded 20% of the

**Staff Analysis and Recommendations, Complaint No. 01-020A
Sonoma Valley County Sanitation District**

daily average limit of 58 µg/L every month except December during the discharge season, January through May, November and December. In April and May, two additional samples each month exceeded the zinc daily limit by less than 20%. The Discharger has not found the cause or causes for the zinc violations. Five of the seven chlorine residual violations occurred in January (the other two were in February and May). The Discharger has not determined the cause of the coliform violations. The fish mortalities during the toxicity testing, which ended February 4, could have been due to low pH on February 1, 2000, which in turn was due to high chlorine and sulfur dioxide feed rates and low alkalinity rain infiltration.

Significant¹ sewer overflows occurred on four (4) days between January 1, 2000 and December 31, 2000. These overflows totaled 271,200 gallons of untreated wastewater. An unknown percentage of this untreated wastewater was discharged to waters of the State. These overflows occurred on February 13, 2000, February 14, 2000, May 30, 2000, and December 12, 2000. The quantities of these overflows were 2,400, 5,400, 3,000, 264,000, 6,000, and 1,200 gallons, respectively. The 264,000-gallon spill in February 2000 was due to heavy rainfall and inflow and infiltration (I/I) problems in the collection system and consisted of eight separate spills primarily to Sonoma and Agua Caliente Creeks. These sewer system overflows are violations of Discharge Prohibitions in the Discharger's permit and not violations of the effluent limitations. Therefore, these violations are not subject to Mandatory Minimum Penalties, but are subject to discretionary penalties under Water Code Section 13385 (h) and (i). However, these sewer system overflows are subject to penalties under Section 13385 (a)-(g). Therefore, any economic benefit assessed with regard to overflows must be recovered if the Board imposes the ACL.

A total of 123.3 million gallons of inadequately treated wastewater was discharged at the outfall into Schell Slough, a tributary of San Pablo Bay or other waters of the State, between January 1, 2000 and December 31, 2000. The Discharger's 30 NPDES permit violations during January 2000 through December 2000 released approximately 123 million gallons of inadequately treated water to Schell Slough, while an estimated 271,200 gallons of untreated wastewater from sewer system overflows was discharged to surface areas with an undetermined amount reaching nearby creeks.

The nature of the above releases poses a risk to beneficial uses, public health, and the aquatic biota of the creeks, to which the overflows ran, as well as Schell Slough and San Pablo Bay. The Mandatory Minimum Penalties amount to \$84,000, while the economic benefit amounts to \$146,500. Based on the following analysis and rationale, therefore, I recommend that we seek Administrative Civil Liability of \$160,500. This amount recovers estimated economic benefits of \$146,500 and staff costs of \$14,000. I also recommend we allow submittal of a proposal for a supplemental environmental project or pollution prevention project totaling at least \$6,000 in lieu of Mandatory Minimum Penalties for the first two serious violations within any 180-day period according to Section 13385 (h)(1), but not more than \$74,500².

¹ Significant sewer overflows refer to overflows greater than 1000 gallons.

² \$74,500 includes \$6,000 for first two serious violations plus \$68,500, which is the total penalty minus non-SEP allowed portion of MMP minus staff costs [$\$160,500 - (\$84,000 - \$6,000) - \$14,000 = 68,500$].

Table 1. Recommended Penalties

<i>Penalty Category</i>	<i>Recommended Penalty</i>
Mandatory Minimum Penalty (non-discretionary)	(\$ 84,000)
Economic Benefit (discretionary and non-discretionary)*	\$146,500
Staff Costs	\$ 14,000
Total [(higher of MMP or Economic Benefit) + Staff Costs]	\$160,500

*See Table 5 for Itemized fines within this category

BACKGROUND

The Sonoma Valley County Sanitation District (Discharger) owns and operates the municipal wastewater treatment plant located in Sonoma. The Sonoma County Board of Supervisors transferred operating authority for the treatment plant from the Sonoma Public Works Department to the Sonoma County Water Agency, located in Santa Rosa, on January 1, 1995. The plant treats domestic and light commercial wastewater collected from the cities and unincorporated areas of Sonoma, Glen Ellen, Boyes Hot Springs, and Agua Caliente to a level of secondary treatment. The treated effluent is discharged to Schell Slough during the wet weather season from November 1 through April 30 and is reclaimed for agricultural use during the remainder of the year. Upon request, the Discharger may be allowed to discharge beyond April 30 if circumstances warrant, which was the case in May 2000. The Discharger requested a discharge time extension to Schell Slough in order to perform maintenance and repair work on one of its effluent storage reservoirs. Discharge to Schell Slough ceased on May 18, 2000.

The treatment plant has an average dry weather flow design capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the wet weather flow period. Influent flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins. Treatment consists of screening followed by extended aeration activated sludge treatment, secondary sedimentation, disinfection, and dechlorination. Average wet weather season discharge for 1998 through 2000 was 4.8 mgd. During the dry weather season, disinfected effluent is routed to several storage reservoirs, from which it is pumped to various water reclamation users. The Discharger has a separate permit, Order No. 92-067, for its water reclamation requirements. For the applicable time period of this Complaint, the storage reservoirs began receiving treated effluent on May 18, 2000. This was also the date when discharge to Schell Slough ceased.

NPDES PERMIT PROHIBITIONS AND EFFLUENT LIMITATIONS VIOLATED

Prohibitions and effluent limitations have been established in the Discharger's NPDES permit, Order No. 98-111, under Discharge Prohibition, Section A and Effluent Limitations, Section B. The applicable portions of this section of the permit are as follows:

"A. DISCHARGE PROHIBITIONS

- ...
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

...
B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.

-
5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

-
- 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

...

<u>Constituent</u>	<u>Units</u>	<u>Daily Average [b]</u>	<u>Monthly Average [b]</u>
Zinc [d]	µg/L	58	

...
Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).

- ...
1. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four."

ENFORCEMENT CONSIDERATIONS

As noted above, there are two types of penalties recommended in this Order. The Board is required to impose Mandatory Minimum Penalties (MMP) if it finds that certain violations occurred. In addition, the Board is authorized but not required to impose additional penalties for the same violations. Those additional penalties are called Administrative Civil Liability (ACL). If the Board imposes penalties in the form of an ACL, the Board is required under Section 13385 (e) to recover, at a minimum, the economic benefit amount, if any, or the MMP amount, whichever is greater.

Section 13385(e) of the California Water Code requires the Board to consider several factors when determining the amount of the ACL penalty. These include the nature, circumstances, extent and gravity of the violations, and, with respect to the violator, the ability to pay, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. These factors are discussed below. At a minimum, the ACL must recover any economic benefit for violations that occurred after January 1, 2000.

I. FACTORS THAT MUST BE CONSIDERED IN DETERMINING AMOUNT OF ACL

A. Nature of the Violations

The year 2000 violations consisted of fifteen (15) zinc, seven (7) chlorine residual, five (5) coliform, two (2) pH, and one (1) acute toxicity. These violations are subject to, at least, mandatory penalties under Water Code Section 13385(h) and (i), as well as 13385(c). Table 2 below lists the violations incurred between January 1, 2000 and May 18, 2000, when discharge to Schell Slough was suspended, and November 1, 2000 through December 31, 2000. The table also lists the limit for each pollutant violated and the reported value.

Table 2. Sonoma VCSD Violations from January 1, 2000 through December 31, 2000

	Parameter	Date	Effluent Limit #	Permit limit	Reported value
1	Chlorine Residual	1/1/00	B.1.	0.0 mg/L	0.1 mg/L
2	Zinc (d avg)	1/10/00	B.7.a.	58 µg/L	70 µg/L
3	Chlorine Residual	1/15/00	B.1.	0.0 mg/L	0.1 mg/L
4	Chlorine Residual	1/20/00	B.1.	0.0 mg/L	0.1 mg/L
5	Chlorine Residual	1/24/00	B.1.	0.0 mg/L	0.1 mg/L
6	Coliform (d max)	1/26/00	B.3.b.	240 MPN	1,600 MPN
7	pH (min)	1/31/00	B.2.	6.5	6.4
8	pH (min) (bioassay)	2/1/00	B.2.	6.5	5.9
9	Acute Toxicity (5 day)	2/4/00	B.5.	70%	55%
10	Zinc (d avg)	2/7/00	B.7.a.	58 µg/L	140 µg/L
11	Chlorine Residual	2/13/00	B.1.	0.0 mg/L	1.5 mg/L
12	Coliform (median)	2/16/00	B.3.a.	23 MPN	27 MPN
13	Coliform (median)	2/17/00	B.3.a.	23 MPN	27 MPN
14	Zinc (d avg)	3/13/00	B.7.a.	58 µg/L	78 µg/L
15	Coliform (d max)	4/2/00	B.3.b.	240 MPN	1,600 MPN
16	Zinc (d avg)	4/3/00	B.7.a.	58 µg/L	63 µg/L

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	Parameter	Date	Effluent Limit #	Permit limit	Reported value
17	Zinc (d avg)	4/10/00	B.7.a	58 µg/L	61 µg/L
18	Zinc (d avg)	4/17/00	B.7.a	58 µg/L	91 µg/L
19	Zinc (d avg)	5/1/00	B.7.a	58 µg/L	71 µg/L
20	Zinc (d avg)	5/8/00	B.7.a	58 µg/L	63 µg/L
21	Chlorine Residual	5/14/00	B.1.	0.0 mg/L	0.11 mg/L
22	Zinc (d avg)	5/15/00	B.7.a	58 µg/L	63 µg/L
23	Zinc (d avg)	11/6/00	B.7.a	58 µg/L	110 µg/L
24	Coliform (d max)	11/7/00	B.3.b.	240 MPN	1,600 MPN
25	Zinc (d avg)	11/13/00	B.7.a	58 µg/L	67 µg/L
26	Zinc (d avg)	11/20/00	B.7.a	58 µg/L	76 µg/L
27	Zinc (d avg)	11/27/00	B.7.a	58 µg/L	67 µg/L
28	Zinc (d avg)	12/4/00	B.7.a	58 µg/L	62 µg/L
29	Chlorine Residual	12/5/00	B.1.	0.0 mg/L	13.0 mg/L
30	Zinc (d avg)	12/11/00	B.7.a	58 µg/L	64 µg/L

The total amount of inadequately treated wastewater over this period was 123 million gallons during the six and one-half months of discharge in 2000.

The mandatory minimum penalty under Water Code Section 13385(h) and (i) is \$84,000. Since there were two six month periods during which first time serious violations could be counted, \$6,000 of the total mandatory penalty of \$84,000 can be suspended, according to Section 13385(h)(1), if the discharger proposes and implements an acceptable supplemental environmental project or pollution prevention plan.

From January 1, 2000 through December 31, 2000, the Discharger also violated the discharge prohibition that prohibits bypass or overflow of untreated or partially treated wastewater to waters of the State on four (4) days. The 4 significant sewer system overflow events, which totaled 271,200 gallons, occurred on the following dates with the corresponding gallons of overflow:

Table 3. Sewer System Overflows

Date	Gallons of overflow
February 13/14, 2000	264,000
May 30, 2000	6,000
December 12, 2000	1,200
TOTAL gallons	271,200 gallons

B. Effects of Water Quality

The water quality effects of the effluent limit violations listed in Tables 2 and 3 are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation can be the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that acceptable source control

plans were in place, which is a prerequisite to allowing a shallow-water discharge exemption. Continued exemption from this prohibition may be questionable in the future if violations of this frequency and magnitude continue to occur.

Zinc

The most disconcerting of the above violations are the zinc violations. Although the amount of zinc that is biologically available depends on the chelating capacity of the effluent and receiving waters, high concentrations of zinc can be acutely toxic to aquatic organisms. This is reflected in the fact that the Basin Plan water quality objectives (Table 3-3 and 3-4) for zinc for chronic and acute values (58 µg/L and 170 µg/L, respectively) are listed under the 24-hour average, rather than the 4-day average, for chronic and instantaneous maximum, rather than the 1-hour average for acute. The Basin Plan's Table 4-3 lists effluent limitations for selected toxic pollutants discharged to surface waters. The limit for shallow water discharges is 58 µg/L. The maximum concentration found in the Discharger's effluent, 140 µg/L, was over twice this limit, and every month of discharge in the first half of 2000 had a serious zinc violation, meaning at least 20% over this limit.

Also disconcerting is the fact that zinc violations have increased. There were three (3) zinc violations (one serious) in the eight months of discharge between November 1998 and December 1999, whereas there were fifteen (15) zinc violations in the 7 months of discharge in 2000. The Discharger responded to exceedances of their permit limit correctly by increasing sampling frequency from monthly to weekly. Their permit requires increased sampling frequency following a violation in effluent limitations. However, the Discharger noted in their letter of response to the Regional Board's June 9, 2000 Notice of Violation (NOV) (see Prior History section of this report) that this increase in sampling frequency was one of the reasons why they were seeing increases in zinc exceedances. It is apparent from this response that the Discharger does not understand the purpose of effluent limitations or the seriousness of the exceedances.

Chlorine

The acutely toxic effects of chlorine residuals to aquatic organisms have also been well established. Studies of toxic effects of a pollutant usually distinguish between acute and chronic toxicity. Acute toxicity refers to the death of a test organism after a relatively short toxicant exposure time while chronic toxicity refers to lethal or sublethal effects due to long-term toxicant exposure. The article entitled "Site-specific evaluation of power plant chlorination", by Mattice and Zittel, Journal WPCF (Vol. 48, No. 10), dated October 1976, contains dose duration curves for marine (saltwater) and freshwater species as indicators of both acute and chronic toxicity. The duration curves reveal that exposure to as little as 0.1 mg/l of chlorine residual can result in acute toxicity for marine, estuarine or freshwater species. Seven (7) chlorine residual violations occurred in the six months of discharge in 2000.

pH

Mathematically, pH is defined as the negative logarithm of the hydrogen ion concentration in a water sample. Due to the logarithmic nature of pH, the measured value of 5.9 on February 1, 2000 represents a hydrogen ion concentration that is about four times greater than the permitted value of 6.5. Since discharges to Schell Slough from the Sonoma wastewater treatment plant

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receive little dilution, the excess chlorine residuals and the pH violations may have posed a significant risk to the aquatic biota of Schell Slough. There were two (2) pH violations during the seven months of discharge between January 1, 2000 and December 31, 2000. However, the compliance monitoring results show that the effluent is typically running at the low end of the 6.5 to 8.5 limit due to one or more of the following reasons: (1) low alkalinity of the source water, (2) over feeding of sulfur dioxide, and/or (3) aeration in the extended aeration basins.

Coliform

The coliform violations caused some beneficial use impairment since coliform is primarily a human water contact recreation problem and Sonoma Creek and San Pablo Bay both include designations for REC-1 (water contact recreation) and REC-2 (non-contact water recreation) beneficial uses. Although Schell Slough is not listed in the Basin Plan's Table 2-6 and is fairly remote and inaccessible for water contact recreational use, it is located between Sonoma Creek and San Pablo Bay and water quality violations could affect beneficial uses. The number of coliform violations decreased from 27 in the eight months of discharge between November 1998 and December 1999 to five (5) in the 7 months between January through December 2000. These reductions are probably due to the capital improvements made during that time, i.e., the new chlorine contact chamber and the new secondary clarifier.

Sewer System Overflows

The sewer system overflows totaling 264,000 gallons on February 13 and 14, 2000 were very considerable in size. Although these overflows were related to heavy rainfall induced inflow and infiltration, the cumulative water quality impacts on Sonoma, Agua Caliente, and Fryer Creeks, as well as others, are significant. Sewer overflows can cause exceedances of water quality objectives, particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There is potential for contact with contaminated water in the areas where sewer overflows occurred. The Board sent a Notice of Violation that required increased measures to control the District's sewer system overflows. These measures included a comprehensive rehabilitation of the sewer system to reduce infiltration and inflow of water, and construction of relief sewers parallel to, or as replacements of, existing trunk sewers, thus making it possible to convey peak flows to the treatment facilities. The District has completed Phase II of a three-phase Sewer System Overflow Prevention Study. Phase III will include a capital improvement plan and is due to the Regional Board on December 1, 2001.

C. Degree of Culpability

The Discharger is responsible at all times for ensuring proper operation and maintenance of the treatment plant and collection system and for meeting the purpose and intent of the NPDES permit requirements for discharge. It appears that most of the violations noted in this analysis could have been avoided with more timely facility upgrades, plant optimization, more aggressive pollution prevention and pretreatment programs, and greater oversight of plant operations and maintenance through staff training. Although the Discharger has made a number of capital improvements to the plant, such as two new clarifiers and a new chlorine contact tank, these

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improvements should have been implemented sooner. Furthermore, as the inadequacies of the pollution prevention, source reduction control, and pretreatment programs became apparent with increasing violations, these programs, which are required under the District's permit, should have been thoroughly reassessed and improvements made on a more timely basis.

Chlorine Residual

The chlorine residual violations in January and May 2000 were due to under-dosing of sulfur dioxide, which in turn is partly due to lack of or inadequate instrumentation and partly to human error. Sulfur dioxide dosing is done manually, which is prone to operator error. Automated technology has been available for several years and the manual controls should have been replaced sooner. On December 27, 2000, the District completed the automation of the plant effluent meter inlet valve, which causes the effluent flow to automatically and immediately shut off whenever the dechlorinated effluent analyzer detects any chlorine residual or when a power failure occurs. Prior to this, plant operators responded to dechlorination analyzer indications of chlorine residual spikes by diverting plant discharge to storage for re-treatment and manually increasing sulfur dioxide dosage (usually within 10 minutes of the spike). A few of the reported levels of chlorine residual were higher than those noted in the above table because, while effluent was being rerouted back to be combined with the influent, the operator performed analyzer flushing and maintenance, which is necessary to keep the analyzers functioning properly. However, since the effluent was rerouted and no discharge occurred during this time, Board staff did not consider these incidents as violations.

The chlorine residual violation on February 13, 2000 was a result of the slow start-up time on the emergency generator following a power failure. Prior to year 2000, the Discharger violated the 0.0 mg/L chlorine residual limit seven (7) times between January and April 1999. The Discharger stated in its 1999 Annual Report that the District "will complete the installation of flow paced and residual trimmed dechlorination control" ... and are "researching chlorine and sulfite analyzers in an effort to identify and install the best available technology for solving this problem". An automatic dosing system is scheduled to be implemented when the filters are added to the treatment process, which is expected within the next one to 1½ years. The plant released about 335,000 gallons of water with chlorine residuals of 0.1 to 1.5 mg/l between January and May 2000. This ACL evaluates the Discharger's economic benefit from delaying the installation of this automated dechlorination system.

Zinc

The Discharger has not yet determined the cause for the zinc violations. However, the high zinc in the influent as well as effluent, especially when compared to other dischargers with the same source water, appears to point to unidentified sources within the community, either from industry, commercial or residential sources. The high zinc concentrations may also be due to a combination of factors, such as changes in treatment processes (new clarifiers) and/or addition of orthophosphate to the water distribution system. The Sonoma County Water Agency instituted orthophosphate fairly recently for copper corrosion control. The Agency states, however, that it is not zinc orthophosphate that it is using. Also, since this Agency supplies water to Novato and Petaluma, the water in these communities would have been affected as well. Since influent concentrations in these communities are generally lower, this indicates that there are probably

significant sources in the community. From the Discharger's influent and effluent data (presented below), it appears likely that there are significant sources of zinc in the community that have not been identified. Whether this source is industrial users or others is not known.

The Discharger proposed several possibilities as the source of the zinc in their response to the Board's Notice of Violation, dated June 9, 2000. The Discharger's investigative report, submitted July 15, 2000, concluded that (1) zinc was a very common substance present in many residential and commercial wastewaters, (2) that zinc levels have not changed significantly in the last five years, and (3) that the increases in zinc violations may be due to increased monitoring (weekly versus monthly sampling) and a lower limit in the permit (58 µg/L in existing permit versus 86 µg/L in the previous permit), but are "not likely" a result of changes in the treatment process. The "change in treatment process" refers to the installation in November 1999 of a new secondary clarifier, which has sacrificial anodes for corrosion prevention containing approximately two percent zinc. The report went on to state that the Discharger "will monitor some of its industrial users for zinc concentrations by the end of this year", assess whether the anodes are a significant source of zinc once the second clarifier without the anodes is on-line, and initiate a treatment plant optimization study beginning in September 2000, which involves evaluation of metals removal rates in its treatment system during dry and wet weather conditions.

Below are two graphs of Sonoma's zinc concentrations. The first graph shows influent and effluent concentrations beginning in January 1999, which is when the Discharger started to sample the influent for metals. The second graph shows the zinc effluent concentrations during the past 7 years approximately, and the permit limits during that time period, which changed from 86 to 58 µg/L in late 1998.

Figure 1.

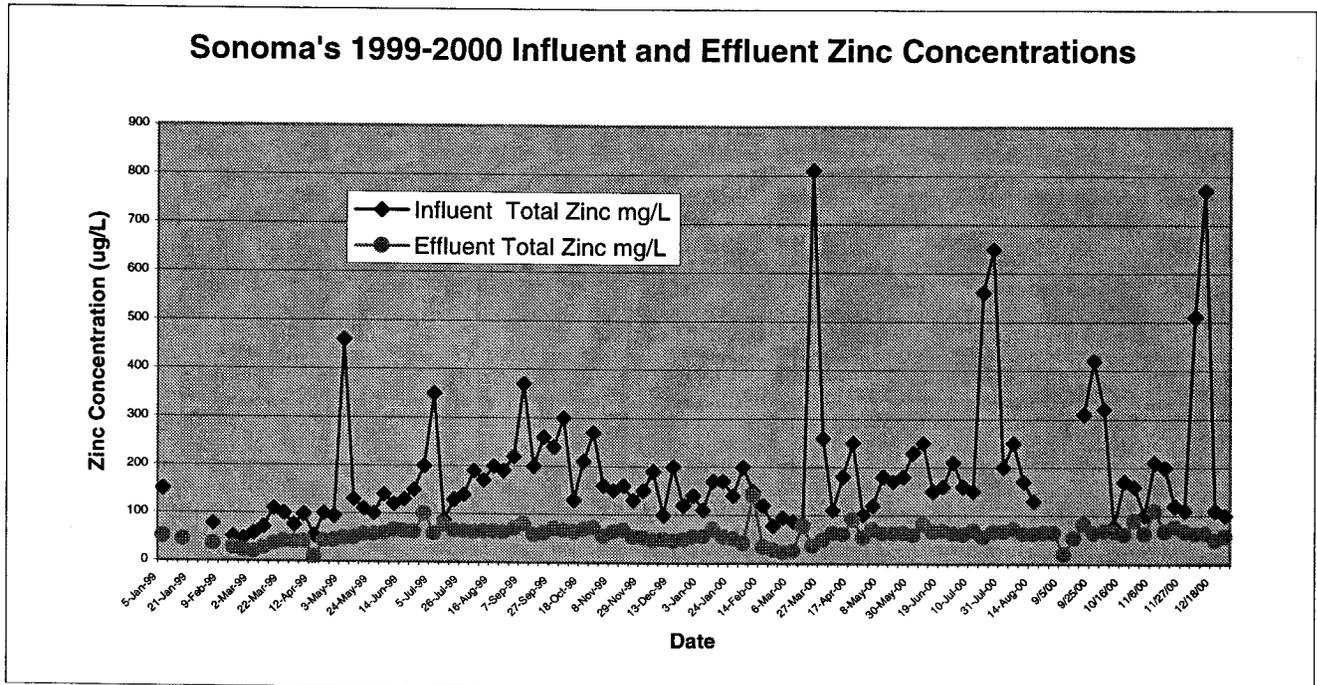
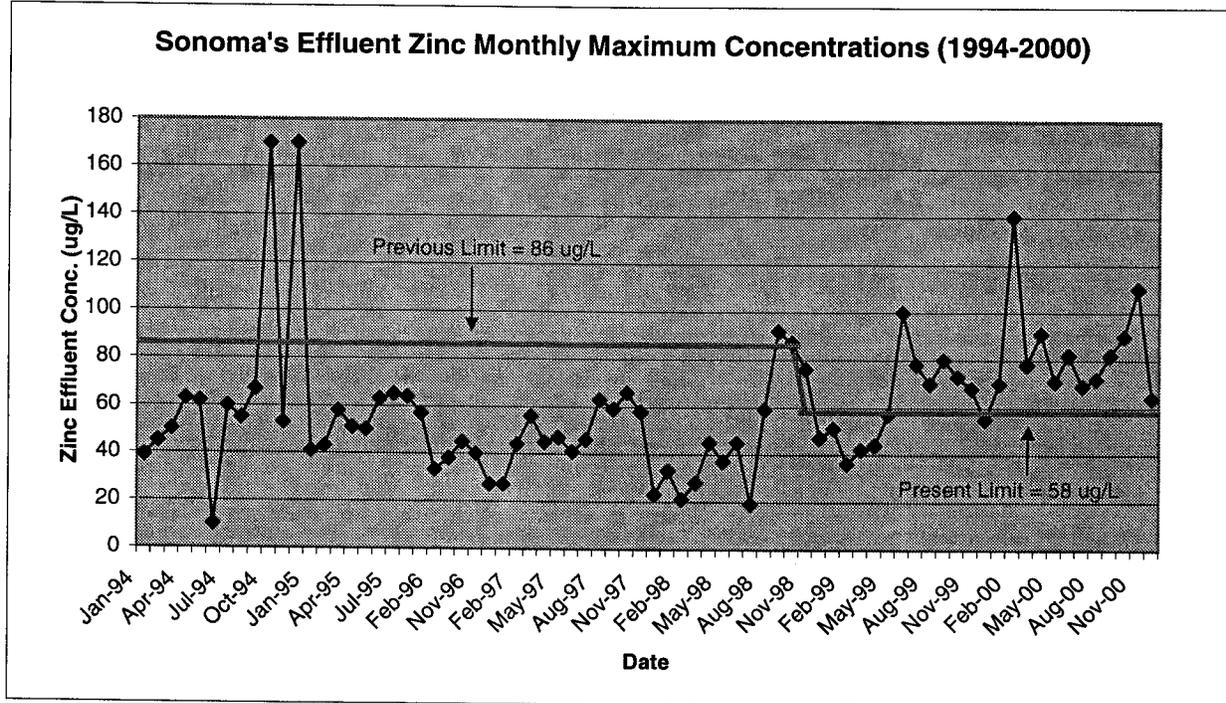


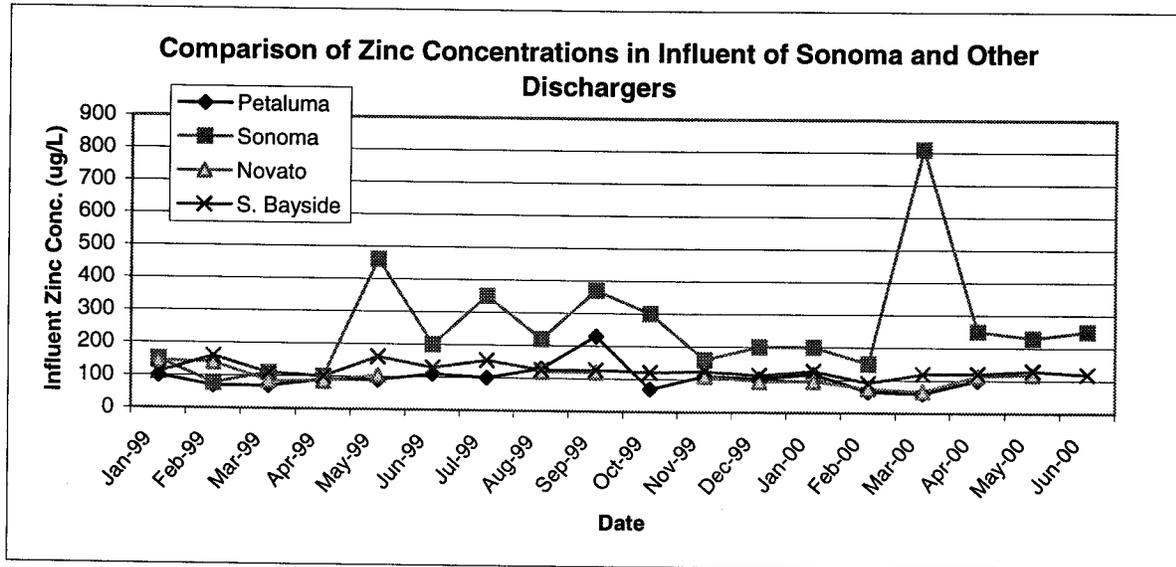
Figure 2.



Because the data show that the Discharger had exceedances of their prior permit limit of 86 $\mu\text{g/L}$ as well as their current permit limit of 58 $\mu\text{g/L}$, the Discharger could and should have initiated a source control program at least upon reissuance of their current permit, if not before. Therefore, the Discharger achieved an economic benefit from not implementing these programs at that time.

The Discharger's influent concentrations of zinc are higher than in any other treatment plant in the region. A few of these other plants are shown in the next graph. The first three all receive the same source water, which is distributed by Sonoma County Water Agency (the Discharger) and is primarily from the Russian River. Petaluma and Novato's influent zinc concentrations are significantly lower than Sonoma's and, except for an increase in Petaluma's zinc concentration in September 1999, are very close in value to each other. South Bayside Authority's zinc concentrations are shown here for comparison with regard to other source water. No other treatment plant in the Region had influent concentrations as high as Sonoma according to the Regional Board's Electronic Reporting System. Zinc concentrations from Petaluma, Sonoma, Novato, and South Bayside Authority's influent are shown in Figure 3.

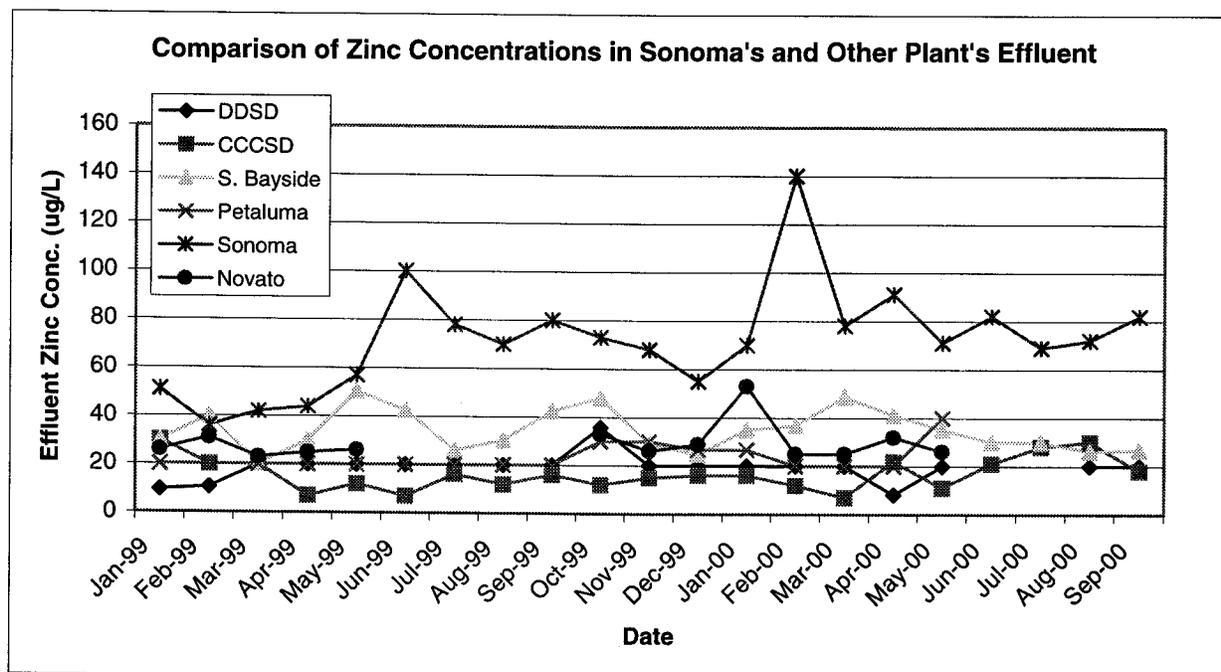
Figure 3.



The Plant Operator stated that the high level of zinc found in the influent in March may have been a result of cleaning out the chlorine contact tank and sending this wastewater back to the headworks for retreatment. If this is the case, then future maintenance operations of this sort must be changed (possibly by just sending the effluent temporarily to the equalization basins for dilution with other influent before sending it back through the headworks). In any case, a full review of these sorts of cleaning operations needs to be performed and operational changes made in order to maximize performance and minimize violations.

Board staff also compared zinc concentrations in the effluent of other treatment plants, particularly those with similar treatment processes. The graph below illustrates zinc concentrations from six treatment plants, including the Discharger's; these are Delta Diablo Sanitation District (DDSD), Central Contra Costa Sanitary District (CCCSD), South Bayside System Authority (S. Bayside), Petaluma, and Novato. Except for Petaluma, which has oxidation ponds, the treatment processes are similar to Sonoma's secondary process; i.e. activated sludge. Other facilities are getting significantly better removal rates (including those without pond systems) as shown by the very few violations of zinc by other dischargers in the region (13 of the 16 zinc violations in the region from January to December 2000 were the Discharger's). Although deep water dischargers have a higher effluent limitation for zinc due to a dilution credit granted for this pollutant, the following graph shows that even without this credit, effluent zinc concentrations are generally lower than Sonoma's. The following graph shows the daily maximum zinc concentrations in effluents from both deep water dischargers who have a 10:1 dilution factored into their limit (DDSD, CCCSD, and S. Bayside) and shallow water dischargers with no dilution credit (Petaluma, Sonoma, and Novato).

Figure 4.



The Discharger's effluent concentrations are clearly higher than any of the other dischargers compared, irrespective of permit limits. In addition to the type of treatment processes and source water, these other dischargers were selected for their relative size.

Although capital improvement projects are ongoing, they are significantly overdue. At a minimum, continuous treatment plant optimization should have occurred in a more expedient manner. Without implementing either upgrades or plant optimization until this year, the Discharger should have at least begun a more aggressive source reduction program than has been in place up until now. Although the 1999 annual report states that "the industrial waste department is aggressive in implementing source control", the department's actions have obviously not proven to be very effective. Therefore, the District, i.e. Sonoma County Water Agency management, should be evaluating the activities of the industrial waste department with a great deal more scrutiny in order to increase the program's effectiveness.

The District's grit removal system failed on March 14, 2000 and was not been brought back into service. The reason given was that it would have cost the District \$5,000 for the repairs, but the mechanical staff "had little confidence that those repairs would last for long". The chief operator stated that he decided to forego the repairs since (1) the plant accomplishes "complete grit removal" in the aeration tanks and (2) the District was planning to put a new grit removal system into service in about a year from the failure date. This dependence on the aeration basins for grit removal could, however, be another possible contributing factor to the increases in zinc concentrations considering the fact that the District has difficulties with low pH, which would tend to dissolve metals that may be present in the grit. Also, the grit removal system was part of the District's treatment system and removal of any part of the treatment process requires Regional Board staff approval, which the District did not pursue. In fact, the District did not

even report the failure of the grit removal system. This ACL evaluates the economic benefit the Discharger has gained from not replacing the headworks and grit removal sooner.

Acute Toxicity and pH

The acute toxicity violation appears to have resulted from low pH, probably the result of overfeeding with sulfur dioxide. The plant operator stated that it was necessary to overfeed sulfur dioxide to prevent continued chlorine residuals. However, he pointed out that the low pHs may have also been a result of the fine-bubble diffusers in the extended aeration system increasing the levels of carbon dioxide and consequently bicarbonate in the water. For whatever reason, the resulting low pH is the likely cause of the 55% survival of Three-spine Stickleback. The Discharger did not begin another acute toxicity test until 10 days after the completion date of the failed test, February 4, 2000. A bioassay test was performed on another fish species, the Fathead Minnow, during the same time period as the failed test on the Three-spine Stickleback (January 31 to February 4, 2000), which resulted in 100% survival. However, in the future if toxicity resumes, and especially if the Discharger runs only one species, the Discharger must obtain more conclusive results by running another bioassay immediately following a failed bioassay. The permit requires immediate bioassay retesting after a failed test³.

Coliform, Settleable Solids, and Oil and Grease

The Discharger has also not determined the cause of the total coliform violations in January and April. The coliform violations in February were explained by high flows. Settleable solids and oil and grease violations in 1999 were a result of the old secondary rectangular clarifiers sloughing accumulated solids from the skimmer. In November 1999, the first new circular clarifier replaced these clarifiers. The second new clarifier went on-line in September 2000.

D. History of Violations and Enforcement

The Regional Board imposed an Administrative Civil Liability (ACL) in the amount of \$83,000 against the Discharger on February 9, 1998, for 242 violations of effluent limitations and 738,000 gallons of collection system (sewer) overflows from January 1994 through July 1997. The effluent limit violations consisted primarily of exceeding coliform limits (31%) and settleable solids limits (24%). Other violations during the 3.5 year period included exceeding limits for copper, chlorinated pesticides and PAHs, chlorine residual, oil and grease, pH, mercury, TSS, arsenic, and lead.

These violations were due, in part, to deferred maintenance and replacement by the previous operating authority, the Public Works Department. After the Sonoma County Board of Supervisors transferred operating authority to the Sonoma County Water Agency (Agency) on January 1, 1995, the Agency developed a capital replacement program requiring \$40-\$50 million dollars over a ten year period, of which \$30 million was designated for collection system replacement and rehabilitation. The 10-year capital improvement plan included replacement of the chlorine contact chamber, secondary clarifiers, extended aeration system, chlorination/dechlorination equipment, and monitoring and control equipment. The plan also

³ "If a violation of acute toxicity requirements occurs, bioassay testing shall continue back to back until compliance is demonstrated." Self-Monitoring Program, Part B, footnote 7 to Table 1.

included expanding effluent storage and reclamation reservoirs. The new chlorine contact tank was put into service in February 1999. As stated earlier, the first and second of three circular clarifiers were put into service in November 1999 and late September 2000, respectively. The Discharger has had numerous problems with the aeration system in the extended air activated sludge secondary treatment process. The air diffuser equipment that the Discharger replaced in 1998 was replaced in October 2000 under warranty due to failures in the system.

Regional Board staff sent the Discharger a Notice of Violation (NOV) letter on April 29, 1999 for violations of their NPDES permit related to collection system overflows totaling 355,680 gallons during the month of February 1999. Pursuant to Section 13267 of the California Water Code, the Discharger was required to conduct a sewer system overflow prevention study which included the feasibility of eliminating overflows up to a certain storm event (1, 5 or 20 year storm event). The sewer system overflow prevention study is scheduled to be complete December 2001. During the period covered by this Complaint, January 1, 2000 through December 30, 2000, the Discharger reported four (4) overflows of significant volume (greater than 1,000 gallons). These overflows are listed in Table 3 and total 271,200 gallons of untreated wastewater.

Board staff issued another notice of violation (NOV) letter to the Discharger on June 9, 2000 for the zinc, chlorine residual, and coliform violations during the period between January 1, 2000 and May 18, 2000. These violations have been noted above and are listed in Table 2.

E. Other Factors Justice May Require

The Discharger's increasing number of customers (hook-ups), while the plant is within 92-98% of their current dry weather capacity, is another consideration that needs to be taken into account. The Discharger currently has a dry weather treatment capacity limit of 3.0 million gallons per day (MGD). The average of three dry summer months (July through September) daily flow for 1998, 1999, and 2000 were 2.94, 2.75, and 2.85 MGD, respectively. Although the Discharger's wet weather capacity has been increased from 8 to 12 MGD with new secondary clarifiers, their dry weather capacity has not been adequately addressed from an anti-degradation standpoint.

F. Economic Benefits to the Discharger

The violations in Tables 2 and 3 probably could have been avoided or reduced in frequency if the Discharger had replaced and/or upgraded its equipment in a more timely fashion, improved plant maintenance and operations, and provided better training to its operators and technicians. The Discharger's economic savings amounts to the interest or investment income earned from capital that would have otherwise been spent on plant improvements, and additional staffing needs necessary for compliance with its NPDES permit. To estimate economic benefits to the District from these violations, Board staff used the USEPA's Benefits (BEN) model, data supplied by the District and judgment based on similar facilities when District data was in doubt or unavailable.

For violations that occurred before January 1, 2000, the Regional Board must consider economic benefits. For violations that occurred on or after January 1, 2000, the Regional Board must

recover any economic benefit the Discharger derived from the acts that constituted violations if penalties other than Mandatory Minimum Penalties are assessed. Regional Board staff's estimate of the economic benefit gained by the Discharger from postponing measures after January 1, 2000 amounts to **\$146,500**. This assessment comes from the following five factors:

1. Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (**\$13,100**). Dates used in BEN model: January 1, 2000 through May 25, 2001 (since a satisfactory source control program for zinc has not yet been implemented). Effect of postponement: continued zinc violations.
2. Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated in January 1995 when the Sonoma County Water Agency became the operating authority for the plant (**\$1,400**). Dates used in model: January 1, 2000 through May 25, 2001. Effect of postponement: decreased efficiency and increases in overall number of violations.
3. Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's Notice of Violation and request for report pursuant to Section 13267 (**\$47,400**). The economic benefit was based on that total cost estimated to complete work on the collection system minus what had been spent as of January 1, 2000. That sum (\$4.7 million) was then divided by ten to account for the time over which these expenditures are expected to be made. Dates used in model: January 1, 2000 through May 25, 2001 for 2000 expenditures (\$36,613) and January 1, 2001 through May 25, 2001 (\$10,764) for 2001 expenditures. Effect of postponement: continued sewer system overflows.
4. Postponement of headworks and grit removal replacement based on the cost of replacing the system as of the grit chamber failure on March 14, 2000. (**\$62,200**) Dates used in model: March 14, 2000 through May 25, 2001. Effect of not anticipating and installing equipment: possible contributing factor to zinc violations, impact on pumping equipment, diffusers and other aerating equipment, and generally more maintenance requirements, as well as potential contributing factor to zinc violations.
5. Postponement of replacing the manual SO₂ dose feed to an automated dechlorination control system and replacing step-feed chlorine dosage to a chlorine demand-compound loop system (**\$22,400**). Dates used in model: January 1, 2000 through May 25, 2001. Effect of not installing this equipment: increased number of coliform, pH and chlorine residual violations.

Source Reduction Program

The cost savings gained by the Discharger from not implementing a source reduction program for zinc when the permit was reissued with a lower limit of 58 µg/L (previously 86 µg/L) was estimated by the interest on the source reduction program that should have been initiated in November 1998. Staff used USEPA's BENEFITS (BEN) model to calculate the economic benefit gained by the Discharger by using the cost of a source reduction program for a similar

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metal, such as copper. For comparison purposes, the cost of determining pollutant sources and developing a pollution prevention plan for copper, which was required by the 1998 NPDES permit, was approximately \$34,000. The ongoing costs of implementing the pollution prevention plan are estimated at \$8,000 per year. Using \$34,000 in on-time non-depreciable expenditures and \$8,000 in annually recurring costs, the benefit gained by not developing and implementing the pollution prevention plan for zinc between January 1, 2000 and May 25, 2001 is estimated at **\$13,100**.

Plant Optimization

The cost of conducting a plant optimization study was approximately \$30,000 and should have been done when Sonoma County Water Agency first took over operating the plant in 1995. Using the \$30,000 as a one-time non-depreciable expenditure, the benefit gained by not conducting a plant optimization study by January 1, 2000, is estimated at **\$1,400** using USEPA's BEN model. The non-compliance and compliance dates used in the model were January 1, 2000 and May 25, 2001, respectively.

I/I Collection System Study

The third economic savings component came from the postponement of an inflow and infiltration study and capital improvement project specifically targeted to improve the collection system and prevent sewer system overflows. The Discharger should have started the study when they received the ACL on February 18, 1998, but instead began the sewer system work in June 1999 after receiving the Board's Notice of Violation. During the time period of this Complaint, it was estimated that \$47,400 in economic benefit was derived based upon estimates from a project at a similar-size community that has recently undergone upgrades to their collection system.

The total cost for the similar community with its 120 miles of collection pipes was \$12,800,000. By comparison, the Discharger's collection system has 76 miles of collection system pipeline, which is 63.3% of the example community. Therefore, the capital improvement costs for the Discharger's collection system are estimated to cost approximately \$8.1 million. The Discharger spent \$3.369 million on collection system improvements between 1995 and 1996, so Regional Board staff subtracted this amount from the \$8.1 million. This resulted in an amount of \$4,731,000. Since the Discharger would not be expected to spend \$4.7 million in one year, the \$4.731 million was divided by ten and the resulting \$473,100 used in the USEPA's BEN model to determine economic benefit for not having implemented the study earlier. The economic benefit gained in the first year after January 1, 2000, \$36,613, was assessed using the noncompliance and compliance dates of January 1, 2000 and May 25, 2001, respectively, and \$473,100 as a capital investment. The economic benefit gained during 2001, \$10,764, was assessed using January 1, 2001 and May 25, 2001 as non-compliance and compliance dates, respectively, and \$473,100 as the capital investment. The economic savings that results from the sum of these amounts, \$36,613 and \$10,764, is **\$47,400**.

Headworks and Grit Chamber

The fourth component of the economic analysis is the postponement of the headworks and grit removal replacement. The grit chamber failed on March 14, 2000. The new headworks project is expected to be completed by the end of May 2001. The District should have anticipated the

headworks system failure before March 14, 2000 and should have replaced it sooner than 14 months after its failure. Postponement of this project could be linked to higher metals in the effluent due to reliance on the aeration basins for grit removal. Grit removal via the aeration basins, combined with the low pH wastewater, could be contributing to the zinc violations. The assessed economic benefit of \$62,200 was derived from project's cost data provided by the District. The grit chamber replacement costs were \$953,000. . Using noncompliance and compliance dates of March 14, 2000, when the grit chamber failed, and May 25, 2001 as the compliance date resulted in a savings of **\$62,200**.

Automated Chlorination/Dechlorination

The fifth component to the economic benefit is the lack of automatic chlorination and dechlorination. Automated feed systems for chlorination and dechlorination, which has been available and has been installed in most other plants for many years, would reduce the number of coliform and chlorine residual violations and, in the long run, probably save the District money by reducing the quantity of chemicals used. A chlorine demand-compound loop and automated dechlorination control systems have been available and should have been installed several years ago. If a noncompliance date of January 1, 2000 is used with a compliance date of May 25, 2001 and a total cost of \$290,000 for the upgrade is used as the one-time capital investment, the economic benefit result is **\$22,400**.

Thus, the total economic benefit gained by the Discharger for postponing a source reduction control program (\$13,100), treatment plant optimization program (\$1,400), Inflow/Infiltration reduction program for the collection system (\$47,400), headworks/grit chamber (\$62,200), and automated chlorination/dechlorination (\$22,400) is **\$146,500**.

G. Ability To Pay

A review of Sonoma County Water Agency's financial statement regarding the Sonoma treatment plant indicates that gross revenue sources during 1999 were \$5.8 million. Gross revenues for 2000 are expected to exceed those of 1999 by \$232,330. The proposed monetary ACL penalty of \$160,500 is about 3% of the Discharger's gross revenue sources for this facility. This amount, \$160,500, is within the Discharger's ability to pay based on the above information.

II. MANDATORY MINIMUM PENALTIES

Table 4 below, like Table 2, lists the violations incurred between January 1, 2000 and May 18, 2000, when discharge to Schell Slough was suspended, and November 1, 2000 through December 31, 2000. This table also lists the volumes released during the violations, and mandatory minimum penalties required under Water Code Section 13385 (h) and (i).

Water Code Section 13385 (h)(1) provides that a supplemental environmental project (SEP) or pollution prevention plan (PPP) may be assessed for the first serious violation within any six-month (or 180 days). The serious violations, occurred on January 10, February 7, March 13, April 17, May 1, November 6, and November 20, 2000 when the District exceeded Effluent Limitation B.7.a, zinc, by more than 20% over the daily average limit of 58 µg/L with reported

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values of 70, 140, 78, 91, 71, 110, and 76 µg/L, respectively. Since the first serious violation on January 10, 2000 occurred prior to the first three chronic violations, this serious violation is also the first non-finable chronic violation under Water Code Section 13385. The other chronic violations consisted of exceeding Effluent Limitation B.1, chlorine residual, seven (7) times; Effluent Limitation B.2, pH, two (2) times; Effluent Limitation B.3, total coliform, five (5) times; Effluent Limitation B.5, acute toxicity, one (1) time; and Effluent Limitation B.7.a, zinc daily average by less than 20% over the limit, eight (8) times. Similarly, in the second six-month period between May and November, the zinc violation on November 6, 2000 occurred prior to the first three chronic violations during that period; thus, this serious violation is also the third non-finable chronic violation under Water Code Section 13385. Since assessment of penalties for the first three chronic violations is not mandatory, two of the chronic violations are not counted in the total penalty. However, a total of twenty-eight (28) violations are subject to a mandatory penalty under Section 13385(h) and (i) of the California Water Code.

Table 4. Sonoma VCSD Violations from January 1, 2000 through December 31, 2000

	Parameter	Date	Volume Released (MG)	Comment*	Mandatory fine*
1	Chlorine Residual	1/1/00	0.03	1 st Chronic	
2	Zinc (d avg)	1/10/00	3.066	2 nd Chronic + Serious	**\$3,000
3	Chlorine Residual	1/15/00	0.03	3 rd Chronic	
4	Chlorine Residual	1/20/00	0.04	Chronic	\$3,000
5	Chlorine Residual	1/24/00	0.1	Chronic	\$3,000
6	Coliform (d max)	1/26/00	6.695	Chronic	\$3,000
7	pH (min)	1/31/00	5.056	Chronic	\$3,000
8	pH (min) (bioassay)	2/1/00		Chronic	\$3,000
9	Acute Toxicity (5 day)	2/4/00	22.578	Chronic	\$3,000
10	Zinc (d avg)	2/7/00	4.213	Serious	\$3,000
11	Chlorine Residual	2/13/00	.117	Chronic	\$3,000
12	Coliform (median)	2/16/00	11.43	Chronic	\$3,000
13	Coliform (median)	2/17/00	11.19	Chronic	\$3,000
14	Zinc (d avg)	3/13/00	5.423	Serious	\$3,000
15	Coliform (d max)	4/2/00	3.743	Chronic	\$3,000
16	Zinc (d avg)	4/3/00	3.011	Chronic (<20%)	\$3,000
17	Zinc (d avg)	4/10/00	3.449	Chronic (<20%)	\$3,000
18	Zinc (d avg)	4/17/00	7.658	Serious	\$3,000
19	Zinc (d avg)	5/1/00	3.295	Serious	\$3,000
20	Zinc (d avg)	5/8/00	3.858	Chronic (<20%)	\$3,000
21	Chlorine Residual	5/14/00	.02	Chronic (1/1-6/30) + 1 st Chronic (5/11-11/6)	\$3,000
22	Zinc (d avg)	5/15/00	4.604	Chronic (1/1-6/30) + 2 nd Chronic (5/12-11/7)	\$3,000
23	Zinc (d avg)	11/6/00	3.864	Serious + 3 rd Chronic	**\$3,000
24	Coliform (d max)	11/7/00	3.62	Chronic	\$3,000
25	Zinc (d avg)	11/13/00	3.933	Chronic (<20%)	\$3,000
26	Zinc (d avg)	11/20/00	3.162	Serious	\$3,000
27	Zinc (d avg)	11/27/00	3.319	Chronic (<20%)	\$3,000
28	Zinc (d avg)	12/4/00	3.111	Chronic (<20%)	\$3,000

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	Parameter	Date	Volume Released (MG)	Comment*	Mandatory fine*
29	Chlorine Residual	12/5/00	--	Chronic	\$3,000
30	Zinc (d avg)	12/11/00	3.133	Chronic (<20%)	\$3,000
Total # violations= 30		Total volumes released = 123 million gallons			\$84,000

*Mandatory minimum penalties for chronic and serious violations are defined under Water Code Section 13385 (h) and (i).

**Fines may be suspended if the discharger proposes and implements an acceptable supplemental environmental project or pollution prevention plan.

Since the total amount of economic benefit, \$146,500, is greater than the mandatory minimum penalty of \$84,000, the economic benefit overrides the mandatory minimum penalty.

III. STAFF COSTS

Regional Board staff time to investigate the violations and prepare the Complaint and Staff Report totaled 140 hours, at an average cost to the State of \$100 per hour. Thus, the total staff cost for this enforcement action is \$14,000.

IV. SUMMARY

The sum of the mandatory minimum penalties is \$84,000. The sum of the economic benefit is **\$146,500** (sum of \$13,100, \$1,400, \$47,400, \$62,200, and \$22,400). The staff costs are \$14,000. This is summarized in Table 5 below.

Table 5. Itemization of Recommended Penalties

<i>Penalty Category</i>	<i>Summation</i>	<i>Assessed Fine</i>
MMP (non-discretionary)	\$ 84,000	
ACL - Economic Benefit (non-discretionary)		
(a) Source Reduction	\$ 13,100	
(b) Plant Optimization	\$ 1,400	
(c) Collection System (SSOs)	\$47,400	
(d) Headworks and Grit Removal	\$62,200	
(e) Automated chlorine/dechlorination	\$22,400	
Total Economic Benefit	\$146,500	\$146,500
Staff Costs		\$ 14,000
Total Recommended Penalty		\$160,500

As noted above, if the Board imposes both ACL and MMPs, it must recover, at a minimum, the economic benefit amount or the MMP amount whichever is greater. Since the total amount of the economic benefit is greater than the mandatory minimum penalty of \$84,000, the minimum administrative civil liability assessed is the amount of the economic benefit, \$146,500, plus the staff costs, \$14,000. This results in a sum of **\$160,500**.

V. MAXIMUM PENALTY

The California Water Code provides several enforcement remedies for discharges in violation of Board-issued NPDES permits:

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1. Impose Administrative Civil Liability pursuant to Section 13385
2. Refer to the Attorney General to have a superior court impose civil liability pursuant to Section 13385

Section 13385 sets a maximum liability of \$10,000/day and \$10/gallon for the discharge volume that is not cleaned up, or is not susceptible to cleanup, and that exceeds 1,000 gallons. If this matter is referred to the Attorney General, a liability of \$25,000/day and \$25/gallon can be imposed.

RECOMMENDATIONS

In consideration of the facts in this case and prior Board actions, I recommend that the maximum liability be reduced to account for the Discharger's efforts to upgrade the treatment facility and their responsiveness with regard to our requests for information. The recommended civil liability is **\$160,500** against Sonoma Valley County Sanitation District for its 34 NPDES permit violations and 123.3 million gallons of inadequately treated wastewater from January 1, 2000 through December 31, 2000. The proposed liability recovers economic benefits of \$146,500 and \$14,000 in staff costs to prepare the Complaint and staff report.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

COMPLAINT NO. 01-020B

ADMINISTRATIVE CIVIL LIABILITY

**IN THE MATTER OF
SONOMA VALLEY COUNTY SANITATION DISTRICT
SONOMA COUNTY**

This Complaint to assess Administrative Civil Liability pursuant to Water Code section 13385 (c) and (e) is issued to Sonoma Valley County Sanitation District (hereafter Discharger) based on a finding of violations of Waste Discharge Requirements Order No. 98-111 (NPDES No. CA0037800). The period covered by this Complaint is **November 1, 1998** through **December 31, 1999**. All effluent violations are subject to a penalty under Section 13385(c) of the California Water Code. Effluent violations identified from January 2000 through December 2000, which are also subject to mandatory minimum penalties under Section 13385 (h) and (i) of the California Water Code, are covered under a separate Complaint.

The Executive Officer finds the following:

1. On October 21, 1998, the Regional Water Quality Control Board, San Francisco Bay Region, (Regional Board) adopted Waste Discharge Requirements (Order No. 98-111), for Sonoma Valley County Sanitation District (Discharger), to regulate discharges of waste from the District's wastewater treatment facility.
2. The Discharger owns and operates a treatment plant near the town of Sonoma, in Sonoma County, which treats domestic, commercial and industrial wastewater from the greater Sonoma area with a population of approximately 35,000. In 1995, the Sonoma County Board of Supervisors transferred operating authority of the treatment plant from the Sonoma County Public Works Department to the Sonoma County Water Agency (SCWA), which operates the plant at issue and several smaller treatment plants regulated by the North Coast Regional Water Quality Control Board, as well as providing drinking water to several communities in Sonoma and Marin counties.
3. The Discharger filed a petition with the State Board to review Order 98-111 on November 16, 1998. On February 2, 2000, the State Board dismissed the petitions of both the Discharger and environmental groups, who also petitioned. The Discharger is currently challenging the permit in court on the basis that the permit limits for mercury, copper, dieldrin, lindane, tributyltin, cyanide, and PAHs create an undue burden on the Discharger. Despite the fact that the discharger has contested these limits in court, they legally remain in effect. It should be noted that the Discharger has been in full compliance with these contested limits since October 1998. This enforcement action is brought against a number of conventional pollutant limits and zinc limits, which are not

subject to the pending legal challenge. This enforcement action is also brought without regard to the pending legal challenge.

4. The treatment plant has an average dry weather flow permitted capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the peak wet weather flow periods. Discharge is prohibited in the dry season months from May through October. During the wet season an average of 4.85 mgd is treated and discharged to Schell Slough, a tributary to San Pablo Bay. Peak flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins for later treatment and discharge. For the period covered by this Complaint (November 1, 1998 through December 31, 1999), discharge to Schell Slough ceased between April 30, 1999 and November 1, 1999.
5. The treatment plant has no primary treatment, and preliminary treatment at the headworks consists of screening. The extended aeration activated sludge process, followed by sedimentation, disinfection, and dechlorination, provides secondary treatment. The Discharger undertook improvements to the treatment plant to increase its wet weather capacity beginning in 1997. These improvements included completion of a new chlorine contact tank, increased aeration in the extended aeration tanks and construction of two new circular secondary clarifiers. The first of these clarifiers went on-line in November 1999. In mid-January 2001, an automatic shut-off valve was installed to shut off discharge to the Slough and divert to equalization basins when chlorine residuals are detected or a power failure occurs.
6. Waste Discharge Requirements Order No. 98-111 states, in part:

“A. DISCHARGE PROHIBITIONS

- ...
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.
- ...

B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Settleable Matter	ml/L-hr	0.1			0.2
Oil & Grease	mg/L	10		20	
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.

....
 5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

....
 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

Constituent	Units	Daily Average [b]	Monthly Average [b]
Zinc [d]	µg/L	58	

Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
-
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- d. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four."

ALLEGATIONS AND CONSIDERATION OF FACTORS

Administrative Civil Liability

7. California Water Code Section 13385 (prior to amendments that became effective on January 1, 2000) authorizes the Regional Board to assess administrative civil liability. A copy of the statute, prior to the January 1, 2000 amendments, is attached as Appendix A.
8. Factors that the Board may consider in determining the amount of the liability are described below. For violations that occurred prior to January 1, 2000, the Regional Board is authorized, but not required, to impose Administrative Liability. In determining the amount of that liability, Section 13385(e) (see Appendix A) of the California Water Code requires the Board to take into account the following factors:
 - (1) Nature of the violations,
 - (2) Circumstances, extent and gravity of the violations,
 - (3) Degree of culpability,
 - (4) Prior history of violations,
 - (5) Economic benefit or savings,
 - (6) Other factors justice may require, and
 - (7) Ability to pay.

1. Nature of the Violations

9. Effluent violations identified from November 1, 1998 through December 31, 1999 are subject to penalties under Water Code Section 13385(c). The violations listed in Table 1 below are subject to discretionary administrative civil liability. The Discharger failed to comply with Order No. 98-111 during the eight months of discharge between November 1, 1998 and December 31, 1999 by exceeding the Effluent Limitations on 82 days. There were fourteen (14) moving median coliform, thirteen (13) daily maximum coliform, twelve (12) pH, seven (7) chlorine residual, four (4) settleable solids, three (3) zinc, and twenty-nine (29) oil and grease violations. These violations are listed in Table 1 below on the following dates and by the following reported values:

TABLE 1. Violations between November 1, 1998 and December 31, 1999.

	Date	Eff. Lim. #	Parameter	Permit Limit	Reported Value	Comment (1)
1	1-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	1,600 MPN/100 ml	
2	4-Nov-98	B.2.	pH	Minimum 6.5	6.4	
3	6-Nov-98	B.7.a	Zinc (d average)	58 µg/L	76 µg/L	
4	15-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	920 MPN/100 ml	
5	16-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	0.3 ml/L/hr	
6	17-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	1.2 ml/L/hr	
7	19-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	1.2 ml/L/hr	
8	19-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	540 MPN/100 ml	
9	22-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
10	23-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	1,600 MPN/100 ml	
11	24-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	1.2 ml/L/hr	
12	24-Nov-98	B.2.	pH	Minimum 6.5	6.4	

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	Date	Eff. Lim. #	Parameter	Permit Limit	Reported Value	Comment (1)
13	25-Nov-98	B.2.	pH	Minimum 6.5	6.3	
14	28-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
15	29-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	920 MPN/100 ml	
16	30-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	340 MPN/100 ml	
17	6-Dec-98	B.2.	pH	Minimum 6.5	6.2	
18	7-Dec-98	B.2.	pH	Minimum 6.5	6.4	
19	9-Dec-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
20	13-Dec-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
34	11/19/98-12/2/98	B.3.a.	Coliform (median)	Max 23 MPN	27-170 MPN/100 ml	14 days
35	29-Dec-98	B.2.	pH	Minimum 6.5	6.2	
36	19-Jan-99	B.1.	Chlorine Residual	0.0 mg/L	0.3 mg/L	
37	24-Jan-99	B.2.	pH	Minimum 6.5	6.1	
38	24-Jan-99	B.1.	Chlorine Residual	0.0 mg/L	0.6 mg/L	
39	3-Feb-99	B.1.	Oil & Grease (max)	20 mg/L	70 mg/L	
40	6-Feb-99	B.1.	Chlorine Residual	0.0 mg/L	0.6 mg/L	
41	7-Feb-99	B.2.	pH	Minimum 6.5	6.3	
42	14-Feb-99	B.1.	Chlorine Residual	0.0 mg/L	0.3 mg/L	
70	28-Feb-99	B.1.	Oil & Grease (avg)	10 mg/L	70 mg/L	28 days
71	2-Mar-99	B.1.	Chlorine Residual	0.0 mg/L	0.6 mg/L	
72	11-Mar-99	B.1.	Chlorine Residual	0.0 mg/L	4.4 mg/L	
73	13-Apr-99	B.1.	Chlorine Residual	0.0 mg/L	0.2 mg/L	
74	8-Nov-99	B.7.a	Zinc (d average)	58 µg/L	65 µg/L	
75	8-Nov-99	B.3.b.	Coliform (d max)	Max 240 MPN	300 MPN/100 ml	
76	15-Nov-99	B.7.a	Zinc (d average)	58 µg/L	68 µg/L	
77	16-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	6.3	
78	17-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	5.6	
79	18-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	6.1	
80	19-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	6.0	
81	24-Nov-99	B.3.b.	Coliform (d max)	Max 240 MPN	1600 MPN/100 ml	
82	23-Dec-99	B.3.b.	Coliform (d max)	Max 240 MPN	500 MPN/100 ml	
Total Number of days of violation = 82 days Total Number of Gallons Discharged = 374 million gallons						

(1) See Finding 24 for definition.

10. The Discharger also failed to comply with the Discharge Prohibitions in Order No. 98-111 during the months between November 1, 1998 and December 31, 1999 by exceeding the Discharge Prohibition A.2. The Discharger violated this Discharge Prohibition on 9 days during the months between November 1, 1998 and December 31, 1999 by discharging untreated wastewater on the following dates and by the corresponding amounts:

Date	Gallons of overflow
November 22, 1998	1,000
November 30, 1998	3,000
February 6 and 9, 1999	355,700
April 9, 1999	2,400
June 17, 1999	5,400
September 11, 1999	3,000
TOTAL gallons	370,500 gallons

2. Circumstances, Extent, and Gravity

11. The above tables provide dates on which the violations occurred and the extent of the violations (exceedance concentrations). A possible cause of the twenty-seven (27) coliform violations in eight months of discharge has not been explained or examined by the Discharger. However, as of November 1999, when the first of the new clarifiers was put on-line in, the coliform violations have been reduced from 27 to 5 in the seven months of discharge in 2000. The Discharger has not been able to determine the source of the 3 zinc violations in 1998 and 1999. However, based on the Discharger's influent as compared to other treatment plant influents, the Discharger's pollution prevention/source reduction and pretreatment programs have not been managed adequately or have not been implemented aggressively enough. This is seen in 2000 by the increase in zinc violations to fifteen. The zinc anodes at the bottom of the new secondary clarifier may also be a contributing factor. However, beginning in May 1999, the Discharger's influent concentrations are clearly higher than other similar treatment plant's influent (See Figure 3 in Staff Analysis and Recommendations for ACL/MMP for the post-January 2000 violations). The chlorine residual and pH violations were due to operator error related to dosing problems of the sulfur dioxide dechlorination system. While the chlorine residual violations were due to under-dosing of the dechlorinating agent, sulfur dioxide, the pH violations were due to over-dosing of sulfur dioxide. For further discussion of the circumstances by which the above violations occurred, see the staff report.

3. Water Quality and Public Health Effects

12. The water quality and public health effects of the effluent limit violations listed in the tables above are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation is the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that an acceptable source control plan was in place. Continued exemption from this prohibition may be reconsidered if violations of this frequency and magnitude continue to occur.
13. High concentrations of zinc can be acutely toxic to aquatic organisms. This is reflected in the fact that the Basin Plan water quality objectives (Table 3-3 and 3-4) for zinc for chronic and acute values (58 µg/L and 170 µg/L, respectively) are listed under shorter averaging periods. The chronic value is listed under 24-hour average, rather than the 4-day average, and the acute value is listed under instantaneous maximum, rather than the 1-hour average. The Basin Plan's Table 4-3 lists effluent limitations for selected toxic pollutants discharged to surface waters. The effluent limit in the permit is based on the water quality objective in the Basin Plan for zinc, 58 µg/L.
14. The acutely toxic effects of chlorine residual and low pH to aquatic organisms have also been well established. Coliform bacteria are used as indicator species for pathogens (disease causing organisms) in the effluent. Pathogens are harmful to humans as well as fish and wildlife. Sewer overflows can cause exceedances of water quality objectives,

particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There are potential public health impacts due to public contact with contaminated water in the areas where sewer overflows occurred.

4. History of Prior Violations and Enforcement

15. On November 14, 1997 this Board issued an Administrative Civil Liability (ACL) Complaint (Complaint No. 97-126) to the Discharger for 262 violations of effluent limitations and 62 incidents of overflows from the collection system between January 1994 and July 1997. The largest percentages of effluent limit violations for this period were for coliform (31%) and settleable solids (24%) exceedances. On February 6, 1998, the discharger waived an amended ACL, with two supplemental environmental projects in lieu of \$75,000 of the \$83,000 penalty.
16. On February 9, 1999 the Board sent a Notice of Violation (NOV) to the Discharger for effluent limit violations (pH and coliform) and for sewer system overflows that totaled to 25,800 gallons.
17. On April 29, 1999 the Board sent a Notice of Violation (NOV) to the Discharger for sewer system overflows during four days in February 1999 that totaled to 355,680 gallons.

5. Degree of Culpability

18. As stated above, the Regional Board has sent several Notices of Violation in addition to a fairly recent ACL (February 1998) regarding the Discharger's repeated violations. In the most recent Notice of Violation, the Discharger attempted to reduce the relevance of the violations and place the culpability on (1) the lower effluent limit that the Discharger received with the reissued permit in 1998, and (2) the increased monitoring performed by the Discharger. However, this increased monitoring is required of dischargers when violations occur. Also, the lower limit established in their reissued permit was based on the 1995 Basin Plan, which other shallow-water dischargers are required to, and generally do, meet. The Discharger's influent zinc concentrations indicate the problem is, at least partially, due to commercial entities in the service area, in which case they need to increase their required pretreatment and source identification/reduction efforts. Other possible causes of the zinc violations are operational procedures (e.g., cleaning tanks and sending wash water to headworks) or the sacrificial anodes on the new clarifier, which became operational in November 1999.

6. Economic Benefits

19. In determining the amount of civil liability for violations prior to January 1, 2000, the Regional Board must consider economic benefit derived from violations prior to January 1, 2000; however, the Board is not mandated to recover those benefits for violations that occurred during that time period. Estimating economic savings amounts to calculating the avoided costs as well as the interest or investment income earned from capital that should have otherwise been spent on plant improvements, and additional staffing needs

necessary for compliance with its NPDES permit. Regional Board staff estimated the economic benefit gained by the Discharger from postponement of measures that should have prevented the violations in this ACL. These measures include a more effective pollution prevention or source control and industrial waste (pretreatment) programs, initiation and regular updates of a treatment plant optimization program, capital improvements based on a study to reduce sewer system overflows, and automating the chlorination and dechlorination control systems.

20. The proposed penalty includes an assessment of the total economic benefit gained by the Discharger from postponing measures that may have prevented the violations. (See Economic Savings section in the Staff Analysis and Recommendations for a more detailed discussion.) The economic benefit, **\$82,900**, was derived from the following four factors:
- a. Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (**\$12,000**)¹. Effects of postponement: zinc violations.
 - b. Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated and updated annually since January 1995 when the Sonoma County Water Agency became the operating authority for the plant, or at least as of their last ACL in February 1998 (**\$2,600**)². Effects of postponement: decreased efficiency and increasing number of conventional and toxic pollutant violations.
 - c. Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's April 29, 1999 Notice of Violation and request for report pursuant to Section 13267 (**\$31,100**)³. Effects of postponement: continuation of sewer system overflows.
 - d. Postponement of automatic chlorination and dechlorination equipment (**\$37,200**)⁴, which would reduce the number chlorine, pH and coliform violations. Dates used in model for non-compliance and compliance were March 1, 1998 and December 31, 1999.

¹ Economic Benefit for postponement of pollution prevention program, **\$12,000**, was derived from one-time non-depreciable cost of \$34,000 and annually recurring costs of \$8,000 between November 1, 1998 and December 31, 1999.

² Economic Benefit for postponement of an optimization program, **\$2,600**, was derived from one-time non-depreciable cost of \$30,000 between March 1, 1998 and December 31, 1999.

³ Economic Benefit for postponement of a collection system improvement plan, **\$31,100**, was derived from one time capital investment of \$47,310 [**\$8,100,000** (extrapolated from example city, Benicia) minus \$3,369,000 spent in 1995/1996 divided by ten, for 10 years over which the sum is allowed to be spent] and one-time non-depreciable cost of \$290,000. Dates for non-compliance and compliance were March 1, 1998 and December 31, 1999, respectively, for economic benefit (since the collection system project should have begun after the last ACL in February and the assessed \$4.4 million had not been spent as of these dates).

⁴ Economic Benefit for postponement of installing automatic dosing systems for chlorine and sulfur dioxide, **\$37,200**, was derived from cost estimates for the equipment and installation (\$290,000). Dates for non-compliance and compliance were March 1, 1998 and December 31, 1999, respectively.

Regional Board staff determined that the above actions could have been taken to attain compliance or avoid violations. Using USEPA's Benefits Model (BEN), staff determined the interest earned by delaying compliance with these actions as the amount of the economic benefit. The total economic benefit gained by the District is **\$82,900**.

7. Other Factors that Justice May Require

21. The treatment plant has been within 92% to 98% of its permitted dry weather capacity for the last several years. Increased flows from an increasing number of hook-ups in the community exacerbate the problems with capacity at both the plant and within the collection system. It is typical for dischargers to begin planning for an increase in permitted dry weather capacity when the flows reach 75% capacity to allow time to perform the necessary Anti-degradation Analysis needed to grant a capacity increase. While the Discharger has increased wet weather capacity, there are no near-term plans to perform the Anti-degradation Analysis of the beneficial use impacts from increased effluent. At the same time, the Discharger has not indicated how they intend to limit the number of hook-ups to the collection system from their growing community in order to stay within their permitted dry weather capacity.

Ability to Pay

22. The Discharger's ability to pay the proposed civil liability is based on the Discharger's 2000-01 Fiscal Year Budget. The proposed monetary penalty is compared to the Discharger's gross revenue sources for this facility. Based on the above information, the Discharger is able to pay the proposed penalty without significant impact on its ability to fulfill its responsibilities.

Staff Costs

23. The Board incurred staff costs of \$5,000 in order to prepare this Complaint and supporting information.

PROPOSED CIVIL LIABILITY

Maximum Potential Civil Liability on All Violations

24. The potential maximum amount of administrative civil liability for each day of violation is ten thousand dollars (\$10,000) plus ten dollars (\$10) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

If this matter is referred to the Attorney General, a maximum liability of \$25,000 per day and \$25 per gallon may be imposed.

Consideration of Factors

25. In determining the amount of any civil liability pursuant to Water Code Section 13385 (c), the Board must take into account the nature, circumstances, extent, and gravity of the violation, whether the Discharger has the ability to pay, whether the Discharger has any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require. The same factors, and the accounting of those factors, apply to violations after January 1, 2000 that applied

to violations prior to January 1, 2000. For those violations that occurred after January 1, 2000, however, the Board is required, rather than authorized, to recover the economic benefits of the violations. Violations that occurred after January 1, 2000 are covered under a separate ACL. Staff recommends a penalty that is less than the maximum potential liability, but one that takes into account all of the above factors, which are examined in the Findings of this Complaint as well as in the Staff Analysis and Recommendations.

26. Due to the Discharger's prior history of violations, degree of culpability, and seriousness of the ongoing and unresolved zinc violations, an administrative civil liability of **\$100,500** is assessed for the eighty-two (82) violations noted in Table 1 (\$82,000 at \$1,000 per violation) and for sewer system overflows between November 1, 1998 and December 31, 1999 totaling 370,500 gallons at \$0.05 per gallon (\$18,500).

Ability to Pay

27. In consideration of the Discharger's ability to pay, this Complaint eliminates the \$100,500 in assessed fines based on the eighty-two (82) violations noted in Table 1 and sewer system overflows totaling 370,500 gallons. Thus the total economic benefit total is reduced from \$188,400 to \$87,900, as seen below in Table 2. Furthermore, due to the Discharger's relatively small size (3 mgd) and future plans to install filtration, this proposed penalty will be allowed to be used toward a zinc source identification and reduction study and installation of on-line, compound-loop automatic chlorination and dechlorination equipment, provided that this amount will be spent on this addition to the treatment system by May 22, 2002.

Table 2. Itemized Initial and Final Penalties

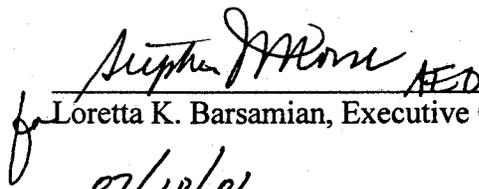
<i>Penalty Category</i>	<i>Initial Findings</i>	<i>Reduction</i>	<i>Final Findings</i>
Economic Benefit (discretionary)			
1) Source Reduction	\$ 12,000	\$ 12,000	
2) Plant Optimization	\$ 2,600	\$ 1,700	
3) Inflow/Infiltration Collection System	\$ 31,100	\$ 31,100	
4) Chlorination/Dechlorination Automation	\$ 37,200	\$ 37,200	
Economic Benefit Sum	\$ 82,900	\$ 82,900	\$ 82,900
Administrative Penalty (discretionary)			
1) Effluent limit violations (\$1,000/ violation)	\$ 82,000	\$ 0	
2) Sewer system overflows (\$0.05/ gallon)	\$ 18,500	\$ 0	
Administrative Penalty Sum	\$100,500	\$ 0	\$ 0
Staff Costs	\$ 5,000	\$ 5,000	\$ 5,000
Total	\$188,400	-\$100,500	\$87,900

28. The Executive Officer of the Regional Board proposes that an Administrative Civil Liability be imposed by the Regional Board under Section 13385 of the Water Code in the amount of **\$87,900**. This amount is the sum of \$82,900 in economic benefit and staff costs of \$5,000.

29. Issuance of this Complaint is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.

SONOMA VALLEY COUNTY SANITATION DISTRICT IS HEREBY GIVEN NOTICE THAT:

1. The Executive Officer of the Regional Board proposes that the Discharger be assessed Administrative Civil Liability in the amount of 87,900 dollars (\$87,900), that includes 82,900 dollars (\$82,900) in economic benefit and 5,000 dollars (\$5,000) in staff costs.
2. The Discharger has signed the waiver, thus waiving the right to a hearing, has paid \$5,000 to the State Water Resources Control Board on June 20, 2001 for staff costs associated with this Complaint, and has proposed two projects: (1) an intensive District-wide zinc source identification and reduction study in the amount of \$30,000, and (2) a supplemental environmental project (SEP) in the amount of \$52,900. The zinc study and SEP, which are described in Attachment B of this Complaint, are acceptable to the Executive Officer. A detailed proposal of the projects shall be submitted to the Executive Officer for approval by August 15, 2001.
3. Board staff recommends that \$82,900 be suspended pending completion of the following proposed projects: (1) zinc source identification and reduction study and (2) a water recycling feasibility study. Both of these projects shall include quarterly progress reports. The final reports for both projects shall be submitted to the Board within 60 days of project completion. The projects must be completed by September 1, 2002. Any money not used by that date must be submitted to the Regional Board and made payable to the State Cleanup and Abatement Account or directed toward an alternative project acceptable to the Executive Officer.



Loretta K. Barsamian, Executive Officer

07/10/01

Date

Attachments:

Attachment A – Citation from Water Code Section 13385 (prior to January 1, 2000 amendments).

Attachment B – Zinc Source Identification and Reduction Study and the Supplemental Environmental Project (SEP), Water Recycling Feasibility Study

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Administrative Civil Liability, Complaint No. 01-020B
Sonoma Valley County Sanitation District

WAIVER

Waiver of the right to a hearing and agree to make payment in full.
By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020B. I understand that I am giving up my right to be heard, and to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, civil liability proposed. I further agree to remit payment for the civil liability imposed within thirty (30) days after the waiver is signed.

Waiver of the right to a hearing and agree to propose implementing a zinc study and agree to propose a PPP or SEP.
By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020B and to propose and complete two projects for the amount of liability suspended of \$82,900 in lieu of the administrative civil liability. These projects are an Executive Officer-approved source identification and reduction study for zinc and an Executive Officer-approved supplemental environmental project (SEP). I have remitted payment of the remainder of the total for staff costs (\$5,000) to the State Cleanup and Abatement Fund. If the proposed source identification/reduction study and SEP are not acceptable to the Executive Officer, I agree to pay the suspended payment of \$82,900 within 30 days of a letter from the Executive Officer denying approval of the proposed project. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to complete the zinc study and SEP approved by the Executive Officer within a time schedule approved by the Executive Officer.

RAUDY D. POOLE
Name (print)

[Signature]
Signature

7/10/01
Date

SONOMA COUNTY WATER AGENCY
Title/Organization

ATTACHMENT A
Water Code Section 13385 Citation
(Prior to January 1, 2000 Amendments)
Complaint No. 01-020B
Administrative Civil Liability
Sonoma Valley County Sanitation District

California Water Code Section 13385 (prior to amendments that became effective on January 1, 2000) authorizes the Regional Board to assess administrative civil liability and states, in part, the following:

“(a) Any person who violates any of the following shall be liable civilly in accordance with subdivisions (b), (c), (d), (e), and (f):

- (1) Section 13375 or 13376.
- (2) Any waste discharge requirements or dredged and fill material permit.
- (3) Any requirements established pursuant to Section 13383.
- (4) Any order or prohibition issued pursuant to Section 13243 or Article 1 (commencing with Section 13300) of Chapter 5, if the activity subject to the order or prohibition is subject to regulation under this chapter.
- (5) Any requirements of Section 301, 302, 306, 307, 308, 318, or 405 of the Federal Water Pollution Control Act, as amended.
- (6) Any requirement imposed in a pretreatment program approved pursuant to waste discharge requirements issued under Section 13377 or approved pursuant to a permit issued by the administrator.

(b) Civil liability may be imposed by the superior court in an amount not to exceed the sum of both of the following:

- (1) Twenty-five thousand dollars (\$25,000) for each day in which the violation occurs.
- (2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed twenty-five dollars (\$25) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose the liability.

(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the sum of both of the following:

- (1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.
- (2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), the term "discharge" includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require.”

ATTACHMENT B-1
Description of Zinc Source Identification and Reduction Study
Complaint No. 01-020B
Administrative Civil Liability
Sonoma Valley County Sanitation District

Objective: An outline of Sonoma Valley County Sanitation District's (District) zinc source identification and reduction plan. The District approach will be to (1) identify zinc sources and develop a source monitoring program, (2) collection system sampling and (3) optimizing a unit operation. The goal of task 2 and 3 is to identify potential zinc reductions in the District's service area and within the treatment plant.

Estimated Cost: \$30,000.00

Task 1 - Initial Zinc Identification Analysis

- Literature Review
- Zinc source identification
- Analysis of municipal well's zinc concentration
 - Coordinate with Sonoma Ecology Center to compile zinc concentrations of municipal wells that are serviced by Sonoma Valley County Sanitation District's Treatment Plant, from readily available existing sources.
 - Objective is to quantify the contribution of zinc from municipal wells.
- Develop a zinc source monitoring program
 - Based on the literature review, source identification and municipal wells' zinc concentration, develop a source monitoring program.

Task 2 - Implementation of Source Monitoring Program (Collection System Sampling)

- 24 hour discrete sampling for zinc and flow of the influent
 - Objective is to profile the zinc concentration during a 24-hour period. Based on the profile, possibly, isolate the largest contributor of zinc, i.e., is the largest contributor from the business sector or from the residential sector.
- After analysis from the influent's discrete sampling, define sampling sites and frequency.
 - Within this task, the sampling sites and frequency will be continuously be revised and refined.
- Sampling of septic haulers' zinc concentration.

Task 3 - Optimizing treatment plant's unit operation analysis

- Bench top testing of precipitation of zinc with pH control in the secondary clarifiers
 - Establish a relationship between pH and zinc precipitation
- Sludge analysis of secondary clarifier

ATTACHMENT B-2
Description of Supplemental Environmental Project
Complaint No. 01-020B
Administrative Civil Liability
Sonoma Valley County Sanitation District

Project Title: North Bay Discharge Elimination Project

Project Proponents: North Bay Watershed Association

Project Director: Randy Raines, NBWA Executive Director

Estimated Cost: \$52,900

Project Description: The project will examine the potential regional recycling projects aimed at improving water quality in the North Bay through reduced wastewater discharges in conjunction with non-point source management measures. The project will also outline methods to reduce pollutant loading to the North Bay in lieu of non-point source management measures that may be difficult to implement due to technical feasibility or project costs. The project will examine potential uses for recycled water including vineyard irrigation, landscape irrigation, environmental enhancement project (such as wetland enhancement) and possible salt pond restoration.

The tasks will involve the following components:

1. Develop background information
 - a. History of Recycling Activities in the North Bay
 - b. Need for Additional Recycling
 - c. Study Area
2. Define Project Driving Forces
 - a. Water Quality Issues
 - Discharge management
 - TMDLs
 - b. Water supply issues
 - North Bay water demand (current and future)
 - North Bay water supply sources
 - Future water supply sources

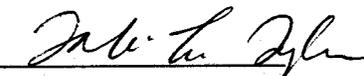
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF ANALYSIS AND RECOMMENDATIONS (AMENDED)

TO: Loretta K. Barsamian
Executive Officer

FROM: Tobi L. Tyler
WRCE

DATE: July 10, 2001

SIGNATURE: 

SUBJECT: Sonoma Valley County Sanitation District – Sonoma Wastewater Treatment Plant, Sonoma County, Consideration of Administrative Civil Liability for NPDES Permit Violations, **Complaint No. 01-020B**

CONCUR: 
Shin-Roei Lee
Section Leader


Shin-Roei Lee
Division Chief

Reviewed for Legal
Form and Sufficiency:


Dorothy Dickey
Attorney

This recommendation for Administrative Civil Liability assesses penalties for effluent violations of Sonoma Valley County Sanitation District's (Discharger's) NPDES permit, Order No. 98-111, during the period between November 1, 1998 and December 31, 1999. All effluent violations identified are subject to a penalty under Section 13385(c) of the California Water Code. From **November 1, 1998** through **December 31, 1999**, the Discharger violated effluent limitations in its NPDES permit on 82 days in the eight months of discharge. Between November 1998 through December 1999 there were fourteen (14) moving median coliform, thirteen (13) daily maximum coliform, twelve (12) pH, seven (7) chlorine residual, four (4) settleable solids, three (3) zinc, and twenty-nine (29) oil and grease violations.

A total of 374 million gallons of inadequately treated water was discharged at the outfall into Schell Slough, a tributary of San Pablo Bay, between November 1, 1998 and December 31, 1999. In addition, during the time period of this Complaint, sewer system overflows totaling an estimated 370,500 gallons of untreated wastewater discharged to surface areas with an undetermined amount reaching nearby creeks. These significant¹ sewer overflows occurred on nine (9) days between November 1, 1998 and December 31, 1999. An unknown percentage of this untreated wastewater was discharged to waters of the State. In November 1998, there were two sewer system overflow events into Fryer Creek: a 1,000-gallon overflow on November 22 and a 3,000-gallon overflow on November 30, 1998. In 1999, there were a series of overflows during a 4-day period between February 6 and 9, 1999 that amounted to approximately 355,680

¹ Significant sewer overflows refer to overflows greater than 1000 gallons.

gallons of overflow. The Regional Board sent a Notice of Violation (NOV) to the Discharger for the February overflows on April 29, 1999. After the 355,680 gallons of overflow in February 1999, the Discharger reported three additional significant sewer system overflows in 1999. These overflows occurred on April 9, 1999, June 17, 1999, and September 11, 1999. The quantities of these overflows were 2,400, 5,400, and 3,000, respectively.

The nature of the above releases poses a risk to beneficial uses, public health, and the aquatic biota of the creeks to which the overflows ran as well as Schell Slough and San Pablo Bay. Based on the following analysis and rationale, I recommend that the Board impose Administrative Civil Liability of **\$87,900**. This amount recovers estimated economic benefits of **\$82,900** and staff costs of **\$5,000**. I also recommend we allow submittal of a proposal for a supplemental environmental project or pollution prevention project totaling not more than **\$82,900** or a proposal to implement a zinc source identification and reduction study and install automated compound-loop chlorination and dechlorination equipment in lieu of the administrative civil liability.

BACKGROUND

The Sonoma Valley County Sanitation District (Discharger) owns and operates the municipal wastewater treatment plant located in Sonoma. The Sonoma County Board of Supervisors transferred operating authority for the treatment plant from the Sonoma Public Works Department to the Sonoma County Water Agency, located in Santa Rosa, on January 1, 1995. The plant treats domestic and light commercial wastewater collected from the cities and unincorporated areas of Sonoma, Glen Ellen, Boyes Hot Springs, and Agua Caliente to a secondary treatment level. The treated effluent is discharged to Schell Slough during the wet weather season from November 1 through April 30 and is reclaimed for agricultural use during the remainder of the year. Upon request, the Discharger may be allowed to discharge beyond April 30 if circumstances warrant. The Discharger requested a discharge time extension to Schell Slough in order to perform maintenance and repair work on one of its effluent storage reservoirs.

The treatment plant has an average dry weather flow design capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the wet weather flow period. Influent flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins. Treatment consists of screening followed by extended aeration activated sludge treatment, secondary sedimentation, disinfection, and dechlorination. Average wet weather season discharge for 1998 through 1999 was 4.9 mgd. During the dry weather season, disinfected effluent is routed to several storage reservoirs, from which it is pumped to various water reclamation users. The Discharger has a separate permit, Order No. 92-067, for its water reclamation requirements. For the applicable time period of this Complaint, the storage reservoirs began receiving treated effluent on April 30, 1999. This is also the date when discharge to Schell Slough ceased.

NPDES PERMIT PROHIBITIONS AND EFFLUENT LIMITATIONS VIOLATED

Prohibitions and effluent limitations have been established in the Discharger's NPDES permit, Order No. 98-111, under Discharge Prohibitions, Section A, and Effluent Limitations, Section B. The applicable portions of this section of the permit are as follows:

"A. DISCHARGE PROHIBITIONS

...

2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

...

B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Settleable Matter	ml/L-hr	0.1			0.2
Oil & Grease	mg/L	10		20	
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.

....

5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

....

- 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

Constituent	Units	Daily Average [b]	Monthly Average [b]
Zinc [d]	µg/L	58	

Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).

...

- (1) Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four."

ENFORCEMENT CONSIDERATIONS

Section 13385(e) of the California Water Code requires the Board to consider several factors when issuing Administrative Civil Liability (ACL). These include the nature, circumstances, extent and gravity of the violations, and, with respect to the violator, the ability to pay, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. The law was amended effective January 1, 2000. Those changes apply to violations that occur on or after that date. The Discharger has violations to its permit both before and after that date. Because the method of assessing penalties for violations prior to January 1, 2000 differ from those assessed after that date, two Complaints have been sent to the Discharger, one for violations that occurred before January 1, 2000 and one for violations that occurred after January 1, 2000. This Complaint concerns the violations that occurred before January 1, 2000.

Factors that the Board may consider in determining the amount of the liability are described below. For violations that occurred prior to January 1, 2000, the Regional Board is authorized, but not required, to impose Administrative Liability. In determining the amount of that liability, the Regional Board is required to take into account the following factors:

- (1) Nature of the violations,
- (2) Circumstances, extent and gravity of the violations,
- (3) Degree of culpability,
- (4) Prior history of violations,
- (5) Economic benefit or savings,
- (6) Other factors justice may require, and
- (7) Ability to pay.

Factors for Consideration

1. Nature of the Violations

From November 1998 to December 31, 1999, there were eighty-two (82) violations that consisted of fourteen (14) moving median coliform, thirteen (13) daily maximum coliform, twelve (12) pH, seven (7) chlorine residual, four (4) settleable matter, three (3) zinc, and twenty-

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nine (29) oil and grease exceedances. These violations are shown in the following table along with dates, reported values, and estimated volumes released.

Table 1. Sonoma VCSD Violations from November 1, 1998 through December 31, 1999

Vln #	Parameter	Permit Limit	Date	Reported Value	Volume (MG)	Comment
1	Coliform (d max)	240 MPN/100 ml	11/1/98	1,600 MPN/100 ml	1.77	
2	pH	6.5	11/4/98	6.4	--	
3	Zinc (d average)	58 µg/L	11/6/98	76 µg/L	5.92	Significant t*
4	Coliform (d max)	240 MPN/100 ml	11/15/98	920 MPN/100 ml	2.99	
5	Settleable Solids	<0.2 ml/L/hr	11/16/98	0.3 ml/L/hr	4.11	
6	Settleable Solids	<0.2 ml/L/hr	11/17/98	1.2 ml/L/hr	2.94	Significant t*
7	Settleable Solids	<0.2 ml/L/hr	11/19/98	1.2 ml/L/hr	2.78	Significant t*
8	Coliform (d max)	240 MPN/100 ml	11/19/98	540 MPN/100 ml	--	
9	Coliform (d max)	240 MPN/100 ml	11/22/98	350 MPN/100 ml	3.29	
10	Coliform (d max)	240 MPN/100 ml	11/23/98	1,600 MPN/100 ml	1.0	
11	Settleable Solids	<0.2 ml/L/hr	11/24/98	1.2 ml/L/hr	4.63	Significant t*
12	pH	6.5	11/24/98	6.4	--	
13	pH	6.5	11/25/98	6.3	--	
14	Coliform (d max)	240 MPN/100 ml	11/28/98	350 MPN/100 ml	3.11	
15	Coliform (d max)	240 MPN/100 ml	11/29/98	920 MPN/100 ml	5.77	
16	Coliform (d max)	240 MPN/100 ml	11/30/98	340 MPN/100 ml	8.06	
17	pH	6.5	12/6/98	6.2	--	
18	pH	6.5	12/7/98	6.4	--	
19	Coliform (d max)	240 MPN/100 ml	12/9/98	350 MPN/100 ml	3.94	
20	Coliform (d max)	240 MPN/100 ml	12/13/98	350 MPN/100 ml	3.89	
34	Coliform (median)	23 MPN/100 ml	11/19/98- 12/2/98	27-170 MPN/100 ml	46.33	14 days
35	pH	6.5	12/29/98	6.2	--	
36	Chlorine Residual	0.0 mg/L	1/19/99	0.3 mg/L	--	
37	pH	6.5	1/24/99	6.1	--	
38	Chlorine Residual	0.0 mg/L	1/24/99	0.6 mg/L	--	
39	Oil & Grease (max)	20 mg/L	2/3/99	70 mg/L	4.37	
40	Chlorine Residual	0.0 mg/L	2/6/99	0.6 mg/L	--	
41	pH	6.5	2/7/99	6.3	--	
42	Chlorine Residual	0.0 mg/L	2/14/99	0.3 mg/L	--	
70	Oil & Grease (avg)	10 mg/L	2/28/99	70 mg/L	243	28 days
71	Chlorine Residual	0.0 mg/L	3/2/99	0.6 mg/L	--	
72	Chlorine Residual	0.0 mg/L	3/11/99	4.4 mg/L	--	
73	Chlorine Residual	0.0 mg/L	4/13/99	0.2 mg/L	--	
74	Zinc (d average)	58 µg/L	11/8/99	65 µg/L	4.26	
75	Coliform (d max)	240 MPN/100 ml	11/8/99	300 MPN/100 ml	--	
76	Zinc (d average)	58 µg/L	11/15/99	68 µg/L	2.95	
77	pH (from bioassay)	6.5	11/16/99	6.3	3.47	
78	pH (from bioassay)	6.5	11/17/99	5.6	2.9	
79	pH (from bioassay)	6.5	11/18/99	6.1	3.0	
80	pH (from bioassay)	6.5	11/19/99	6.0	4.2	

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Vln #	Parameter	Permit Limit	Date	Reported Value	Volume (MG)	Comment
81	Coliform (d max)	240 MPN/100 ml	11/24/99	1600 MPN/100 ml	2.5	
82	Coliform (d max)	240 MPN/100 ml	12/23/99	500 MPN/100 ml	2.84	
82 = Total # violations				Total Volume released = 374 million gallons		

* Based upon Category I or Category II violations as defined in 40 CFR Section 123.45, Appendix A.

Four (4) of the above eighty-two (82) violations in 1998-99 are either Category I or Category II violations as defined in 40 CFR Section 123.45, Appendix A, by exceeding the limit by 40% or 20%, respectively. The 28 days of violations for the monthly average oil and grease limit of 10 mg/L was from a single monthly sample on February 3, 1999 of 70 mg/L. Under USEPA guidance in determining violations for monthly average limits for ACLs, each day in the month is counted as a violation. The discharger had the opportunity to resample the remaining 25 days in February (to calculate a more representative average) and did not do so. The total amount of inadequately treated wastewater was 374 million gallons during the eight months of discharge from November 1, 1998 to December 31, 1999.

From November 1, 1998 through December 31, 1999, the Discharger violated the discharge prohibition that prohibits bypass or overflow of untreated or partially treated wastewater to waters of the State on nine (9) days. The 9 significant sewer system overflow events, which totaled 370,500 gallons, occurred on the following dates:

Table 2. Sewer System Overflows

Date	Gallons of overflow
November 22, 1998	1,000
November 30, 1998	3,000
February 6 through 9, 1999	355,700
April 9, 1999	2,400
June 17, 1999	5,400
September 11, 1999	3,000
TOTAL gallons	370,500 gallons

2. Effects on Water Quality

The water quality effects of the effluent limit violations listed in Tables 1 and 2 are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation can be the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that acceptable source control plans were in place, which is a prerequisite to allowing a shallow-water discharge exemption. Continued exemption from this prohibition may be questionable in the future if violations of this frequency and magnitude continue to occur.

Zinc

The Discharger's exceedance of their zinc limit appears to begin in late 1998. Three (3) exceedances of the zinc limit occurred in the eight months of discharge between November 1, 1998 and December 31, 1999. High concentrations of zinc can be acutely toxic to aquatic organisms. This is reflected in the fact that the Basin Plan water quality objectives (Table 3-3 and 3-4) for zinc for chronic and acute values (58 µg/L and 170 µg/L, respectively) are listed under the 24-hour average, rather than the 4-day average, for chronic and instantaneous maximum, rather than the 1-hour average for acute. The Basin Plan's Table 4-3 lists effluent limitations for selected toxic pollutants discharged to surface waters. The limit for shallow water discharges is 58 µg/L.

Chlorine

Seven (7) chlorine residual violations occurred between January and April 1999. The acutely toxic effects of chlorine residuals to aquatic organisms have also been well established. Studies of toxic effects of a pollutant usually distinguish between acute and chronic toxicity. Acute toxicity refers to the death of a test organism after a relatively short toxicant exposure time while chronic toxicity refers to lethal or sublethal effects due to long-term toxicant exposure. The article entitled "Site-specific evaluation of power plant chlorination", by Mattice and Zittel, Journal WPCF (Vol. 48, No. 10), dated October 1976, contains dose duration curves for marine (saltwater) and freshwater species as indicators of both acute and chronic toxicity. The duration curves reveal that exposure to as little as 0.1 mg/l of chlorine residual can result in acute toxicity for marine, estuarine or freshwater species.

pH

Mathematically, pH is defined as the negative logarithm of the hydrogen ion concentration in a water sample. Due to the logarithmic nature of pH, the measured value of 5.9 on February 1, 2000 represents a hydrogen ion concentration that is about four times greater than the permitted value of 6.5. Since discharges to Schell Slough from the Sonoma wastewater treatment plant receive little dilution, the excess chlorine residuals and the pH violations may have posed a significant risk to the aquatic biota of Schell Slough. The number of pH violations has decreased from twelve (12) during the eight months of discharge between November 1998 and December 1999 to two (2) during the 7 months of 2000. However, the compliance monitoring results show that the effluent is typically running at the low end of the 6.5 to 8.5 limit due to one or more of the following reasons: (1) low alkalinity of the source water, (2) over feeding of sulfur dioxide, and/or (3) aeration in the extended aeration basins.

Coliform

The coliform violations caused some beneficial use impairment since coliform is primarily a human water contact recreation problem and Sonoma Creek and San Pablo Bay both include designations for REC-1 (water contact recreation) and REC-2 (non-contact water recreation) beneficial uses. Although Schell Slough is not listed in the Basin Plan's Table 2-6 and is fairly remote and inaccessible for water contact recreational use, it is located between Sonoma Creek and San Pablo Bay and water quality violations could affect beneficial uses. Twenty-seven (27) coliform violations occurred in the eight months of discharge between November 1998 and December 1999 (five (5) occurred in the 7 months between January 1, 2000 and December 31, 2000).

Sewer System Overflows

The sewer system overflows totaling 356,000 gallons on February 6 through 9, 1999 were very considerable in size. Although these overflows were related to heavy rainfall induced inflow and infiltration, the cumulative water quality impacts on Sonoma, Agua Caliente, and Fryer Creeks, as well as others, are significant. Sewer overflows can cause exceedances of water quality objectives, particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There is potential for contact with contaminated water in the areas where sewer overflows occurred. The Board sent a Notice of Violation on April 29, 1999 that required increased measures to control the District's sewer system overflows. These measures included a comprehensive rehabilitation of the sewer system to reduce infiltration and inflow of water, and construction of relief sewers parallel to, or as replacements of, existing trunk sewers, thus making it possible to convey peak flows to the treatment facilities. The District has completed Phase II of a three-phase Sewer System Overflow Prevention Study. Phase III will include a capital improvement plan and is due to the Regional Board on December 1, 2001.

3. Degree of Culpability

The Discharger is responsible at all times for ensuring proper operation and maintenance of the treatment plant and collection system and for meeting the purpose and intent of the NPDES permit requirements for discharge. It appears that most of the violations noted in this analysis could have been avoided with more timely facility upgrades, plant optimization, more aggressive pollution prevention and pretreatment programs, and greater oversight of plant operations and maintenance through staff training. Although the Discharger has made a number of capital improvements to the plant, such as two new clarifiers and a new chlorine contact tank, these improvements should have been implemented sooner.

Chlorine Residual

Chlorine residual violations occurred in January through April 1999 (2 in January, 2 in February, 2 in March, and 1 in April). Sulfur dioxide dosing for chlorine removal is done manually, which is prone to operator error. Automated technology has been available for several years and the manual controls should have been replaced sooner. The Discharger violated the 0.0 mg/L chlorine residual limit seven (7) times between January and April 1999. The Discharger stated in its 1999 Annual Report that the District "will complete the installation of flow paced and residual trimmed dechlorination control" ... and are "researching chlorine and sulfite analyzers in an effort to identify and install the best available technology for solving this problem". An automatic dosing system is scheduled to be implemented when the filters are added to the treatment process, which is expected within the next one to 1½ years. The plant released about 335,000 gallons of water with chlorine residuals of 0.1 to 1.5 mg/l between January and May 2000. This ACL evaluates the Discharger's economic benefit from delaying the installation of this automated dechlorination system.

Zinc

The Discharger has not determined the cause for the zinc violations, which began in late 1998 and increased in 2000. However, the high zinc in the influent as well as effluent, especially when compared to other dischargers with the same source water, appears to point to unidentified sources within the community, either from industry, commercial or residential sources. The Discharger has received a separate ACL/MMP for year 2000 violations.

pH

Violations of pH occurred throughout the time period of this Complaint (3 in November 1998, 3 in December 1998, one each in January and February 1999, and 4 in November 1999). The Discharger's low pH is probably the result of overfeeding with sulfur dioxide to prevent continued chlorine residuals. These violations, however, have also been explained to be a result of the fine-bubble diffusers in the extended aeration system increasing the levels of carbon dioxide and consequently bicarbonate in the water. The Plant operates routinely on the lower end of its pH limit of 6.5 to 8.5. Therefore, automatic feed equipment is a high necessity and should have been installed several years ago.

Coliform, Settleable Solids, and Oil and Grease

A majority of the coliform violations occurred in November 1998: 20 of the total 27 violations occurred in that month. The four settleable solids violations also occurred in November 1998. These violations were a result of the old secondary rectangular clarifiers sloughing accumulated solids from the skimmer. In November 1999, the first new circular clarifier replaced these clarifiers. As stated earlier in this document, the 28 days of violations for the monthly average oil and grease limit was from a single monthly sample on February 3, 1999. Under USEPA guidance in determining violations for monthly average limits, each day in the month is counted as a violation. The discharger had the opportunity to resample and did not do so.

4. History of Violations and Enforcement

The Discharger has been subject to previous enforcement by the Regional Board for violations of its prior permit. The Regional Board imposed an Administrative Civil Liability (ACL) in the amount of \$83,000 against the Discharger on February 9, 1998, for 242 violations of effluent limitations and 738,000 gallons of collection system (sewer) overflows from January 1994 through July 1997. The effluent limit violations consisted primarily of exceeding coliform limits (31%) and settleable solids limits (24%). Other violations during the 3.5 year period included exceeding limits for copper, chlorinated pesticides and PAHs, chlorine residual, oil and grease, pH, mercury, TSS, arsenic, and lead.

These violations were due, in part, to deferred maintenance and replacement by the previous operating authority, the Public Works Department. After the Sonoma County Board of Supervisors transferred operating authority to the Sonoma County Water Agency (Agency) on January 1, 1995, the Agency developed a capital replacement program requiring \$40-\$50 million dollars over a ten year period, of which \$30 million was designated for collection system replacement and rehabilitation. The 10-year capital improvement plan included replacement of the chlorine contact chamber, secondary clarifiers, extended aeration system,

chlorination/dechlorination equipment, and monitoring and control equipment. The plan also included expanding effluent storage and reclamation reservoirs. The new chlorine contact tank was put into service in February 1999. As stated earlier, the first of three circular clarifiers was put into service in November 1999. The Discharger has had numerous problems with the aeration system in the extended air activated sludge secondary treatment process.

Regional Board staff sent the Discharger a Notice of Violation (NOV) letter on April 29, 1999 for violations of their NPDES permit related to collection system overflows totaling 355,680 gallons during the month of February 1999 (Table 2). Pursuant to Section 13267 of the California Water Code, the Discharger was required to conduct a sewer system overflow prevention study which included the feasibility of eliminating overflows up to a certain storm event (1, 5 or 20 year storm event). During the period covered by this Complaint, November 1, 1998 through December 31, 1999, the Discharger reported nine (9) overflows of significant volume (greater than 1,000 gallons). These overflows are listed in Table 2. This Complaint includes all of the overflow incidents, which total 370,500 gallons of untreated wastewater. The sewer system overflow prevention study is scheduled to be complete December 2001.

5. Other Factors Justice May Require

The Discharger's increasing number of customers (hook-ups), while the plant is within 92-98% of their current dry weather capacity, is another consideration that needs to be taken into account. The Discharger currently has a dry weather treatment capacity limit of 3.0 million gallons per day (MGD). The average of three dry summer months (July through September) daily flow for 1998, 1999, and 2000 were 2.94, 2.75, and 2.85 MGD, respectively. Although the Discharger has increased their wet weather capacity from 8 to 12 MGD with new secondary clarifiers, their dry weather capacity has not been adequately addressed from an anti-degradation standpoint.

6. Administrative Civil Liability

Considering all of the factors above, an administrative penalty of **\$100,500** is recommended in this Complaint. This amount was determined by a sum of \$1,000 for each of the 82 violations between November 1, 1998 and December 31, 1999 (\$82,000) and approximately five cents per gallon of overflows for the 370,500 gallons in excess of 1,000 gallons that occurred between November 1, 1998 and December 31, 1999 (\$18,500). The \$82,000 for effluent limit violations and \$18,500 for sewer system overflows total **\$100,500**.

7. Economic Benefit

The Discharger has realized substantial economic benefits from postponing measures that would have prevented the violations at issue in this Complaint. The violations in Table 1 and 2 probably could have been avoided or reduced in frequency if the Discharger had replaced and/or upgraded its equipment in a more timely fashion, improved plant maintenance and operations, and provided better training to its operators and technicians. The Discharger's economic savings amounts to the interest or investment income earned from capital that would have otherwise been spent on plant improvements necessary for compliance with its NPDES permit. To estimate

economic benefits to the District from these violations, Board staff used the USEPA's Benefits (BEN) model, data supplied by the District and judgment based on similar facilities when District data was in doubt or unavailable.

For violations that occurred before January 1, 2000, the Regional Board is authorized, but not required, to recover any economic benefit the Discharger derived from the acts that constituted violations. Regional Board staff estimated the economic benefit gained by the Discharger from postponing measures that would have prevented the violations prior to January 1, 2000 to be \$82,900. This assessment comes from the following four factors:

- (1) Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 $\mu\text{g/L}$, but at least by no later than the permit reissuance date, October 21, 1998, (\$12,000). Dates used in BEN model: November 1, 1998 through December 31, 1999.
- (2) Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated in January 1995 when the Sonoma County Water Agency became the operating authority for the plant (\$2,600). Dates used in model: March 1, 1998 (after the last ACL) through December 31, 1999. Effect of postponement: decreased efficiency and increases in overall number of violations.
- (3) Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's Notice of Violation and request for report pursuant to Section 13267 (\$31,100). The economic benefit was based on that total cost estimated to complete work on the collection system minus what had been spent as of January 1, 2000. Dates used in model: March 1, 1998 through December 31, 1999. Effect of postponement: continued sewer system overflows.
- (4) Postponement of replacing the manual SO_2 dose feed to an automated dechlorination control system and replacing step-feed chlorine dosage to a chlorine demand-compound loop system (\$37,200). Dates used in model: March 1, 1998 through December 31, 1999. Effect of not installing this equipment: increased number of coliform, pH and chlorine residual violations.

The cost savings gained by the Discharger from not implementing a source reduction program for zinc when the permit was reissued with a lower limit of 58 $\mu\text{g/L}$ (previously 86 $\mu\text{g/L}$) was estimated by the interest on the source reduction program that should have been initiated in November 1998. Staff used USEPA's BENEFITS (BEN) model to calculate the economic benefit gained by the Discharger by using the cost of a source reduction program for a similar metal, such as copper. For comparison purposes, the cost of determining pollutant sources and developing a pollution prevention plan for copper, which was required by the 1998 NPDES permit, was approximately \$34,000. The ongoing costs of implementing the pollution prevention plan are estimated at \$8,000 per year. The economic benefit gained by the end of 1999 for not developing and implementing a pollution prevention plan for zinc in 1998 is estimated at \$12,000 using USEPA's BEN model.

The cost of conducting a plant optimization study was approximately \$30,000 and should have been done when Sonoma County Water Agency first took over operations of the District's plant in 1995. However, because the District received an ACL in February of 1998, the assessment of this factor is based on March 1, 1998. The benefit gained for not conducting a plant optimization study beginning in March 1, 1998 was estimated at **\$2,600** using USEPA's BEN model. Compliance date used in model was December 31, 1999.

The third economic savings component is the postponement of an inflow and infiltration study and capital improvement project specifically targeted to improve the collection system and prevent sewer system overflows. It is estimated that \$800,000 in economic benefit was derived based upon estimates from a project at a similar-size community that has recently undergone upgrades to their collection system. The total cost for the similar community with its 120 miles of collection pipes was \$12,800,000. The Inflow/Infiltration Correction Program study was \$456,000. By comparison, the Discharger's collection system has 76 miles of collection system pipeline, which is 63.3% of the example community. Therefore, the capital improvement costs for the Discharger's collection system are estimated to cost approximately \$8.1 million and the one-time non-depreciable cost for the study would be approximately \$290,000. Since the Discharger spent \$3.369 million on collection system improvements between 1995 and 1996, Regional Board staff subtracted this amount from the \$8.1 million, then divided the result (\$4,731,000) by ten to account for the allowance of spending this over a 10 year period. This amount (\$473,100) was then used in the USEPA's BEN model to determine economic benefit for not having implemented the study earlier than the Discharger did. The Discharger should have started the study when they received the ACL on February 18, 1998, but instead began the sewer system work in June 1999 after receiving the Board's Notice of Violation. The noncompliance and compliance dates used in the analysis were March 1, 1998 and December 31, 1999, respectively, for economic benefit. The economic savings gained from this factor is **\$31,100**.

The fourth component to the economic benefit is the lack of automatic chlorination and dechlorination. Automated feed systems for chlorination and dechlorination, which has been available and has been installed in most other plants for many years, would reduce the number of coliform and chlorine residual violations and, in the long run, probably save the District money by reducing the quantity of chemicals used. A chlorine demand-compound loop and automated dechlorination control systems have been available and should have been installed several years ago. The estimated costs for the equipment and installation were \$290,000. The noncompliance and compliance dates used in the analysis were March 1, 1998 through December 31, 1999, respectively. The economic savings gained by the end of 1999 from this factor is **37,200**.

Thus, the total economic benefit gained by the Discharger prior to January 1, 2000 by postponing programs for source reduction control, treatment plant optimization, and inflow/infiltration reduction, and postponing installation of an automated chlorination/dechlorination is **\$82,900**.

8. Staff Costs

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Regional Board staff time to investigate the violations and prepare the Complaint and Staff Report totaled 10 hours, at an average cost to the State of \$100 per hour. Thus, the total staff cost for this enforcement action is \$5,000.

9. Ability to Pay

A review of Sonoma County Water Agency's financial statement regarding the Sonoma treatment plant indicates that gross revenue sources during 1999 were \$5.8 million. Gross revenues for 2000 are expected to exceed those of 1999 by \$232,330. Considering the accompanying ACL/MMP for post-January 1, 2000 violations, the total sum of this recommended penalty, \$188,400, is most likely outside the range of the Discharger's ability to pay without significant impact on its ability to conduct its responsibilities. Therefore, a reduction in the total fine by the amount assessed from "factors to be considered" (the nature, circumstances, extent and gravity of the violations, degree of culpability, and prior history of violations) is recommended, thus reducing the fine from \$188,400 to \$87,900. The sum of the fine is, therefore, the sum of the economic benefit, \$82,900 (sum of \$12,000, \$2,600, \$31,100 and \$37,200), and staff costs, \$5,000. The total recommended penalty is **\$87,900**. The proposed monetary penalty of \$87,900 is within the Discharger's ability to without significant impact on its ability to conduct its responsibilities.

The table below itemizes both the initial and proposed fines within each penalty category.

<i>Penalty Category</i>	<i>Initial Findings</i>	<i>Reduction</i>	<i>Final Findings</i>
Economic Benefit (discretionary)			
1) Source Reduction	\$ 12,000	\$ 12,000	
2) Plant Optimization	\$ 2,600	\$ 1,700	
3) Inflow/Infiltration Collection System	\$31,100	\$ 31,100	
4) Chlorination/Dechlorination Automation	\$ 37,200	\$ 37,200	
Economic Benefit Sum	\$82,900	\$82,900	\$82,900
Administrative Penalty (discretionary)			
1) Effluent limit violations (\$1,000/ violation)	\$ 82,000	\$ 0	
2) Sewer system overflows (\$0.05/ gallon)	\$ 18,500	\$ 0	
Administrative Penalty Sum	\$ 100,500	\$ 0	\$ 0
Staff Costs	\$ 5,000	\$ 5,000	\$ 5,000
Total	\$188,400	-\$100,500	\$87,900

10. Maximum Penalty

The California Water Code provides several enforcement remedies for discharges in violation of Board-issued NPDES permits:

- (1) Impose Administrative Civil Liability pursuant to Section 13385
- (2) Refer to the Attorney General to have a superior court impose civil liability pursuant to Section 13385

Section 13385 sets a maximum liability of \$10,000/day and \$10/gallon for the discharge volume that is not cleaned up, or is not susceptible to cleanup, and that exceeds 1,000 gallons. If this

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matter is referred to the Attorney General, a liability of \$25,000/day and \$25/gallon can be imposed.

RECOMMENDATIONS

In consideration of the facts in this case and prior Board actions, I recommend that the maximum liability be reduced to account for the Discharger's efforts to upgrade the treatment facility and their responsiveness with regard to our requests for information. The recommended civil liability is **\$87,900** against Sonoma Valley County Sanitation District for its 91 NPDES permit violations, and 373.3 million gallons of inadequately treated wastewater from November 1998 through December 1999. The proposed liability recovers economic benefits of \$82,900 and \$5,000 in staff costs to prepare the Complaint and staff report.

On June 20, 2001, the District sent payment of \$5,000 for staff costs to the State Water Resources Control Board. The District has submitted a proposal for a source-identification and reduction study for zinc and a supplemental environmental project (SEP) in lieu of the remaining portion of the fine, \$82,900. With funding from the District via this Complaint, the North Bay Watershed Association will perform a region-wide water recycling feasibility study. Board staff recommends that \$82,900 be suspended pending completion of these proposed projects.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

COMPLAINT NO. 01-020B

ADMINISTRATIVE CIVIL LIABILITY

**IN THE MATTER OF
SONOMA VALLEY COUNTY SANITATION DISTRICT
SONOMA COUNTY**

This Complaint to assess Administrative Civil Liability pursuant to Water Code section 13385 (c) and (e) is issued to Sonoma Valley County Sanitation District (hereafter Discharger) based on a finding of violations of Waste Discharge Requirements Order No. 98-111 (NPDES No. CA0037800). The period covered by this Complaint is **November 1, 1998** through **December 31, 1999**. All effluent violations are subject to a penalty under Section 13385(c) of the California Water Code. Effluent violations identified from January 2000 through December 2000, which are also subject to mandatory minimum penalties under Section 13385 (h) and (i) of the California Water Code, are covered under a separate Complaint.

The Executive Officer finds the following:

1. On October 21, 1998, the Regional Water Quality Control Board, San Francisco Bay Region, (Regional Board) adopted Waste Discharge Requirements (Order No. 98-111), for Sonoma Valley County Sanitation District (Discharger), to regulate discharges of waste from the District's wastewater treatment facility.
2. The Discharger owns and operates a treatment plant near the town of Sonoma, in Sonoma County, which treats domestic, commercial and industrial wastewater from the greater Sonoma area with a population of approximately 35,000. In 1995, the Sonoma County Board of Supervisors transferred operating authority of the treatment plant from the Sonoma County Public Works Department to the Sonoma County Water Agency (SCWA), which operates the plant at issue and several smaller treatment plants regulated by the North Coast Regional Water Quality Control Board, as well as providing drinking water to several communities in Sonoma and Marin counties.
3. The Discharger filed a petition with the State Board to review Order 98-111 on November 16, 1998. On February 2, 2000, the State Board dismissed the petitions of both the Discharger and environmental groups, who also petitioned. The Discharger is currently challenging the permit in court on the basis that the permit limits for mercury, copper, dieldrin, lindane, tributyltin, cyanide, and PAHs create an undue burden on the Discharger. Despite the fact that the discharger has contested these limits in court, they legally remain in effect. It should be noted that the Discharger has been in full compliance with these contested limits since October 1998. This enforcement action is brought against a number of conventional pollutant limits and zinc limits, which are not

subject to the pending legal challenge. This enforcement action is also brought without regard to the pending legal challenge.

4. The treatment plant has an average dry weather flow permitted capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the peak wet weather flow periods. Discharge is prohibited in the dry season months from May through October. During the wet season an average of 4.85 mgd is treated and discharged to Schell Slough, a tributary to San Pablo Bay. Peak flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins to be treated or, if the plant is threatened, blended with secondary effluent and discharged. For the period covered by this Complaint (November 1, 1998 through December 31, 1999), discharge to Schell Slough ceased between April 30, 1999 and November 1, 1999.
5. The treatment plant has no primary treatment, and preliminary treatment at the headworks consists of screening. The extended aeration activated sludge process, followed by sedimentation, disinfection, and dechlorination, provides secondary treatment. The Discharger undertook improvements to the treatment plant to increase its wet weather capacity beginning in 1999. These improvements included completion of a new chlorine contact tank, increased aeration in the extended aeration tanks and ongoing construction of three new circular secondary clarifiers. The first of these clarifiers went on-line in November 1999. In mid-January 2001, an automatic shut-off valve was installed to shut off discharge to the Slough and divert to equalization basins when chlorine residuals are detected or a power failure occurs.
6. Waste Discharge Requirements Order No. 98-111 states, in part:

“A. DISCHARGE PROHIBITIONS

...

2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

...

B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the Discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Settleable Matter	ml/L- hr	0.1			0.2
Oil & Grease	mg/L	10		20	
Chlorine Residual ¹	mg/L	--	--	--	0.0

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¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.

....
5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

....
7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

Constituent	Units	Daily Average [b]	Monthly Average [b]
Zinc [d]	µg/L	58	

Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
-
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- d. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.”

ALLEGATIONS AND CONSIDERATION OF FACTORS

Administrative Civil Liability

7. California Water Code Section 13385 (prior to amendments that became effective on January 1, 2000) authorizes the Regional Board to assess administrative civil liability. A copy of the statute, prior to the January 1, 2000 amendments, is attached as Appendix A.
8. Factors that the Board may consider in determining the amount of the liability are described below. For violations that occurred prior to January 1, 2000, the Regional Board is authorized, but not required, to impose Administrative Liability. In determining the amount of that liability, Section 13385(e) (see Appendix A) of the California Water Code requires the Board to take into account the following factors:
 - (1) Nature of the violations,
 - (2) Circumstances, extent and gravity of the violations,
 - (3) Degree of culpability,
 - (4) Prior history of violations,
 - (5) Economic benefit or savings,
 - (6) Other factors justice may require, and
 - (7) Ability to pay.

1. Nature of the Violations

9. Effluent violations identified from November 1, 1998 through December 31, 1999 are subject to penalties under Water Code Section 13385(c). The violations listed in Table 1 below are subject to discretionary administrative civil liability. The Discharger failed to comply with Order No. 98-111 during the eight months of discharge between November 1, 1998 and December 31, 1999 by exceeding the Effluent Limitations on 82 days. There were fourteen (14) moving median coliform, thirteen (13) daily maximum coliform, twelve (12) pH, seven (7) chlorine residual, four (4) settleable solids, three (3) zinc, and twenty-nine (29) oil and grease violations. These violations are listed in Table 1 below on the following dates and by the following reported values:

TABLE 1. Violations between November 1, 1998 and December 31, 1999.

	Date	Eff. Lim. #	Parameter	Permit Limit	Reported Value	Comment (1)
1	1-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	1,600 MPN/100 ml	
2	4-Nov-98	B.2.	pH	Minimum 6.5	6.4	
3	6-Nov-98	B.7.a	Zinc (d average)	58 µg/L	76 µg/L	
4	15-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	920 MPN/100 ml	
5	16-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	0.3 ml/L/hr	
6	17-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	1.2 ml/L/hr	
7	19-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	1.2 ml/L/hr	
8	19-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	540 MPN/100 ml	
9	22-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
10	23-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	1,600 MPN/100 ml	
11	24-Nov-98	B.1.	Settleable Solids	<0.2 ml/L/hr	1.2 ml/L/hr	
12	24-Nov-98	B.2.	pH	Minimum 6.5	6.4	

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	Date	Eff. Lim. #	Parameter	Permit Limit	Reported Value	Comment (1)
13	25-Nov-98	B.2.	pH	Minimum 6.5	6.3	
14	28-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
15	29-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	920 MPN/100 ml	
16	30-Nov-98	B.3.b.	Coliform (d max)	Max 240 MPN	340 MPN/100 ml	
17	6-Dec-98	B.2.	pH	Minimum 6.5	6.2	
18	7-Dec-98	B.2.	pH	Minimum 6.5	6.4	
19	9-Dec-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
20	13-Dec-98	B.3.b.	Coliform (d max)	Max 240 MPN	350 MPN/100 ml	
34	11/19/98-12/2/98	B.3.a.	Coliform (median)	Max 23 MPN	27-170 MPN/100 ml	14 days
35	29-Dec-98	B.2.	pH	Minimum 6.5	6.2	
36	19-Jan-99	B.1.	Chlorine Residual	0.0 mg/L	0.3 mg/L	
37	24-Jan-99	B.2.	pH	Minimum 6.5	6.1	
38	24-Jan-99	B.1.	Chlorine Residual	0.0 mg/L	0.6 mg/L	
39	3-Feb-99	B.1.	Oil & Grease (max)	20 mg/L	70 mg/L	
40	6-Feb-99	B.1.	Chlorine Residual	0.0 mg/L	0.6 mg/L	
41	7-Feb-99	B.2.	pH	Minimum 6.5	6.3	
42	14-Feb-99	B.1.	Chlorine Residual	0.0 mg/L	0.3 mg/L	
70	28-Feb-99	B.1.	Oil & Grease (avg)	10 mg/L	70 mg/L	28 days
71	2-Mar-99	B.1.	Chlorine Residual	0.0 mg/L	0.6 mg/L	
72	11-Mar-99	B.1.	Chlorine Residual	0.0 mg/L	4.4 mg/L	
73	13-Apr-99	B.1.	Chlorine Residual	0.0 mg/L	0.2 mg/L	
74	8-Nov-99	B.7.a	Zinc (d average)	58 µg/L	65 µg/L	
75	8-Nov-99	B.3.b.	Coliform (d max)	Max 240 MPN	300 MPN/100 ml	
76	15-Nov-99	B.7.a	Zinc (d average)	58 µg/L	68 µg/L	
77	16-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	6.3	
78	17-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	5.6	
79	18-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	6.1	
80	19-Nov-99	B.2.	pH (from bioassay)	Minimum 6.5	6.0	
81	24-Nov-99	B.3.b.	Coliform (d max)	Max 240 MPN	1600 MPN/100 ml	
82	23-Dec-99	B.3.b.	Coliform (d max)	Max 240 MPN	500 MPN/100 ml	
Total Number of days of violation = 82 days Total Number of Gallons Discharged = 374 million gallons						

(1) See Finding 24 for definition.

10. The Discharger also failed to comply with the Discharge Prohibitions in Order No. 98-111 during the months between November 1, 1998 and December 31, 1999 by exceeding the Discharge Prohibition A.2. The Discharger violated this Discharge Prohibition on 9 days during the months between November 1, 1998 and December 31, 1999 by discharging untreated wastewater on the following dates and by the corresponding amounts:

Date	Gallons of overflow
November 22, 1998	1,000
November 30, 1998	3,000
February 6 and 9, 1999	355,700
April 9, 1999	2,400
June 17, 1999	5,400
September 11, 1999	3,000
TOTAL gallons	370,500 gallons

2. Circumstances, Extent, and Gravity

11. The above tables provide dates on which the violations occurred and the extent of the violations (exceedance concentrations). A possible cause of the twenty-seven (27) coliform violations in eight months of discharge has not been explained or examined by the Discharger. However, as of November 1999, when the first of the new clarifiers was put on-line in, the coliform violations have been reduced from 27 to 5 in the seven months of discharge in 2000. The Discharger has not been able to determine the source of the 3 zinc violations in 1998 and 1999. However, based on the Discharger's influent as compared to other treatment plant influents, the Discharger's pollution prevention/source reduction and pretreatment programs have not been managed adequately or have not been implemented aggressively enough. This is seen in 2000 by the increase in zinc violations to fifteen. The zinc anodes at the bottom of the new secondary clarifier may also be a contributing factor. However, beginning in May 1999, the Discharger's influent concentrations are clearly higher than other similar treatment plant's influent (See Figure 3 in Staff Analysis and Recommendations for ACL/MMP for the post-January 2000 violations). The chlorine residual and pH violations were due to operator error related to dosing problems of the sulfur dioxide dechlorination system. While the chlorine residual violations were due to under-dosing of the dechlorinating agent, sulfur dioxide, the pH violations were due to over-dosing of sulfur dioxide. For further discussion of the circumstances by which the above violations occurred, see the staff report.

3. Water Quality and Public Health Effects

12. The water quality and public health effects of the effluent limit violations listed in the tables above are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation is the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that an acceptable source control plan was in place. Continued exemption from this prohibition may be reconsidered if violations of this frequency and magnitude continue to occur.
13. High concentrations of zinc can be acutely toxic to aquatic organisms. This is reflected in the fact that the Basin Plan water quality objectives (Table 3-3 and 3-4) for zinc for chronic and acute values (58 µg/L and 170 µg/L, respectively) are listed under shorter averaging periods. The chronic value is listed under 24-hour average, rather than the 4-day average, and the acute value is listed under instantaneous maximum, rather than the 1-hour average. The Basin Plan's Table 4-3 lists effluent limitations for selected toxic pollutants discharged to surface waters. The effluent limit in the permit is based on the water quality objective in the Basin Plan for zinc, 58 µg/L.
14. The acutely toxic effects of chlorine residual and low pH to aquatic organisms have also been well established. Coliform bacteria are used as indicator species for pathogens (disease causing organisms) in the effluent. Pathogens are harmful to humans as well as fish and wildlife. Sewer overflows can cause exceedances of water quality objectives,

particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There are potential public health impacts due to public contact with contaminated water in the areas where sewer overflows occurred.

4. History of Prior Violations and Enforcement

15. On November 14, 1997 this Board issued an Administrative Civil Liability (ACL) Complaint (Complaint No. 97-126) to the Discharger for 262 violations of effluent limitations and 62 incidents of overflows from the collection system between January 1994 and July 1997. The largest percentages of effluent limit violations for this period were for coliform (31%) and settleable solids (24%) exceedances. On February 6, 1998, the discharger waived an amended ACL, with two supplemental environmental projects in lieu of \$75,000 of the \$83,000 penalty.
16. On February 9, 1999 the Board sent a Notice of Violation (NOV) to the Discharger for effluent limit violations (pH and coliform) and for sewer system overflows that totaled to 25,800 gallons.
17. On April 29, 1999 the Board sent a Notice of Violation (NOV) to the Discharger for sewer system overflows during four days in February 1999 that totaled to 355,680 gallons.

5. Degree of Culpability

18. As stated above, the Regional Board has sent several Notices of Violation in addition to a fairly recent ACL (February 1998) regarding the Discharger's repeated violations. In the most recent Notice of Violation, the Discharger attempted to reduce the relevance of the violations and place the culpability on (1) the lower effluent limit that the Discharger received with the reissued permit in 1998, and (2) the increased monitoring performed by the Discharger. However, this increased monitoring is required of dischargers when violations occur. Also, the lower limit established in their reissued permit was based on the 1995 Basin Plan, which other shallow-water dischargers are required to, and generally do, meet. The Discharger's influent zinc concentrations indicate the problem is, at least partially, due to commercial entities in the service area, in which case they need to increase their required pretreatment and source identification/reduction efforts. Other possible causes of the zinc violations are operational procedures (e.g., cleaning tanks and sending wash water to headworks) or the sacrificial anodes on the new clarifier, which became operational in November 1999.

6. Economic Benefits

19. In determining the amount of civil liability for violations prior to January 1, 2000, the Regional Board must consider economic benefit derived from violations prior to January 1, 2000; however, the Board is not mandated to recover those benefits for violations that occurred during that time period. Estimating economic savings amounts to calculating the avoided costs as well as the interest or investment income earned from capital that should have otherwise been spent on plant improvements, and additional staffing needs

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necessary for compliance with its NPDES permit. Regional Board staff estimated the economic benefit gained by the Discharger from postponement of measures that should have prevented the violations in this ACL. These measures include a more effective pollution prevention or source control and industrial waste (pretreatment) programs, initiation and regular updates of a treatment plant optimization program, capital improvements based on a study to reduce sewer system overflows, and automating the chlorination and dechlorination control systems.

20. The proposed penalty includes an assessment of the total economic benefit gained by the Discharger from postponing measures that may have prevented the violations. (See Economic Savings section in the Staff Analysis and Recommendations for a more detailed discussion.) The economic benefit, **\$82,900**, was derived from the following four factors:
- a. Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (**\$12,000**)¹. Effects of postponement: zinc violations.
 - b. Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated and updated annually since January 1995 when the Sonoma County Water Agency became the operating authority for the plant, or at least as of their last ACL in February 1998 (**\$2,600**)². Effects of postponement: decreased efficiency and increasing number of conventional and toxic pollutant violations.
 - c. Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's April 29, 1999 Notice of Violation and request for report pursuant to Section 13267 (**\$31,100**)³. Effects of postponement: continuation of sewer system overflows.
 - d. Postponement of automatic chlorination and dechlorination equipment (**\$37,200**)⁴, which would reduce the number chlorine, pH and coliform violations. Dates used in model for non-compliance and compliance were March 1, 1998 and December 31, 1999.

¹ Economic Benefit for postponement of pollution prevention program, **\$12,000**, was derived from one-time non-depreciable cost of \$34,000 and annually recurring costs of \$8,000 between November 1, 1998 and December 31, 1999.

² Economic Benefit for postponement of an optimization program, **\$2,600**, was derived from one-time non-depreciable cost of \$30,000 between March 1, 1998 and December 31, 1999.

³ Economic Benefit for postponement of a collection system improvement plan, **\$31,100**, was derived from one time capital investment of \$47,310 [\$8,100,000 (extrapolated from example city, Benicia) minus \$3,369,000 spent in 1995/1996 divided by ten, for 10 years over which the sum is allowed to be spent] and one-time non-depreciable cost of \$290,000. Dates for non-compliance and compliance were March 1, 1998 and December 31, 1999, respectively, for economic benefit (since the collection system project should have begun after the last ACL in February and the assessed \$4.4 million had not been spent as of these dates).

⁴ Economic Benefit for postponement of installing automatic dosing systems for chlorine and sulfur dioxide, **\$37,200**, was derived from cost estimates for the equipment and installation (\$290,000). Dates for non-compliance and compliance were March 1, 1998 and December 31, 1999, respectively.

Regional Board staff determined that the above actions could have been taken to attain compliance or avoid violations. Using USEPA's Benefits Model (BEN), staff determined the interest earned by delaying compliance with these actions as the amount of the economic benefit. The total economic benefit gained by the District is **\$82,900**.

7. Other Factors that Justice May Require

21. The treatment plant has been within 92% to 98% of its permitted dry weather capacity for the last several years. Increased flows from an increasing number of hook-ups in the community exacerbate the problems with capacity at both the plant and within the collection system. It is typical for dischargers to begin planning for an increase in permitted dry weather capacity when the flows reach 75% capacity to allow time to perform the necessary Anti-degradation Analysis needed to grant a capacity increase. While the Discharger has increased wet weather capacity, there are no near-term plans to perform the Anti-degradation Analysis of the beneficial use impacts from increased effluent. At the same time, the Discharger has not indicated how they intend to limit the number of hook-ups to the collection system from their growing community in order to stay within their permitted dry weather capacity.

Ability to Pay

22. The Discharger's ability to pay the proposed civil liability is based on the Discharger's 2000-01 Fiscal Year Budget. The proposed monetary penalty is compared to the Discharger's gross revenue sources for this facility. Based on the above information, the Discharger is able to pay the proposed penalty without significant impact on its ability to fulfill its responsibilities.

Staff Costs

23. The Board incurred staff costs of \$5,000 in order to prepare this Complaint and supporting information.

PROPOSED CIVIL LIABILITY

Maximum Potential Civil Liability on All Violations

24. The potential maximum amount of administrative civil liability for each day of violation is ten thousand dollars (\$10,000) plus ten dollars (\$10) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

If this matter is referred to the Attorney General, a maximum liability of \$25,000 per day and \$25 per gallon may be imposed.

Consideration of Factors

25. In determining the amount of any civil liability pursuant to Water Code Section 13385 (c), the Board must take into account the nature, circumstances, extent, and gravity of the violation, whether the Discharger has the ability to pay, whether the Discharger has any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require. The same factors, and the accounting of those factors, apply to violations after January 1, 2000 that applied

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Sonoma Valley County Sanitation District**

to violations prior to January 1, 2000. For those violations that occurred after January 1, 2000, however, the Board is required, rather than authorized, to recover the economic benefits of the violations. Violations that occurred after January 1, 2000 are covered under a separate ACL. Staff recommends a penalty that is less than the maximum potential liability, but one that takes into account all of the above factors, which are examined in the Findings of this Complaint as well as in the Staff Analysis and Recommendations.

26. Due to the Discharger's prior history of violations, degree of culpability, and seriousness of the ongoing and unresolved zinc violations, an administrative civil liability of **\$100,500** is assessed for the eighty-two (82) violations noted in Table 1 (\$82,000 at \$1,000 per violation) and for sewer system overflows between November 1, 1998 and December 31, 1999 totaling 370,500 gallons at \$0.05 per gallon (\$18,500).

Ability to Pay

27. In consideration of the Discharger's ability to pay, this Complaint eliminates the \$100,500 in assessed fines based on the eighty-two (82) violations noted in Table 1 and sewer system overflows totaling 370,500 gallons. Thus the total economic benefit total is reduced from \$188,400 to \$87,900, as seen below in Table 2. Furthermore, due to the Discharger's relatively small size (3 mgd) and future plans to install filtration, this proposed penalty will be allowed to be used toward a zinc source identification and reduction study and installation of on-line, compound-loop automatic chlorination and dechlorination equipment, provided that this amount will be spent on this addition to the treatment system by May 22, 2002.

Table 2. Itemized Initial and Final Penalties

<i>Penalty Category</i>	<i>Initial Findings</i>	<i>Reduction</i>	<i>Final Findings</i>
Economic Benefit (discretionary)			
1) Source Reduction	\$ 12,000	\$ 12,000	
2) Plant Optimization	\$ 2,600	\$ 1,700	
3) Inflow/Infiltration Collection System	\$ 31,100	\$ 31,100	
4) Chlorination/Dechlorination Automation	\$ 37,200	\$ 37,200	
Economic Benefit Sum	\$ 82,900	\$ 82,900	\$ 82,900
Administrative Penalty (discretionary)			
1) Effluent limit violations (\$1,000/ violation)	\$ 82,000	\$ 0	
2) Sewer system overflows (\$0.05/ gallon)	\$ 18,500	\$ 0	
Administrative Penalty Sum	\$100,500	\$ 0	\$ 0
Staff Costs	\$ 5,000	\$ 5,000	\$ 5,000
Total	\$188,400	-\$100,500	\$87,900

28. The Executive Officer of the Regional Board proposes that an Administrative Civil Liability be imposed by the Regional Board under Section 13385 of the Water Code in the amount of **\$87,900**. This amount is the sum of \$82,900 in economic benefit and staff costs of \$5,000.

**Administrative Civil Liability, Complaint No. 01-020B
Sonoma Valley County Sanitation District**

29. Issuance of this Complaint is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 15321(a)(2), Title 14, California Code of Regulations.

SONOMA VALLEY COUNTY SANITATION DISTRICT IS HEREBY GIVEN NOTICE THAT:

1. The Executive Officer of the Regional Board proposes that the Discharger be assessed Administrative Civil Liability in the amount of 87,900 dollars (\$87,900), that includes 82,900 dollars (\$82,900) in economic benefit and 5,000 dollars (\$5,000) in staff costs.
2. The Regional Board shall hold a hearing on July 18, 2001 unless the Discharger agrees to waive the hearing and either pay the Administrative Civil Liability of \$87,900 in full.
3. In lieu of paying the fine, the Discharger may waive the hearing and agree to spend a portion of this amount on a comprehensive source identification and reduction study for zinc and the rest towards compound-loop type of automated chlorination/dechlorination equipment. If the Discharger wishes to agree to these conditions, it must submit a proposal to the Regional Board within 30 days of signing the waiver. If the submitted proposal for implementing a zinc study and installing automation equipment is not acceptable to the Executive Officer, the Discharger has 30 days from receipt of notice of submittal rejection to make a payment for the full amount of \$82,900 to the State Cleanup and Abatement Account. Implementation of the zinc study and installation of the automatic equipment must be completed by August 1, 2002.
4. In lieu of paying the fine or spending the amount on upgrades, the Discharger may waive the hearing and complete a pollution prevention plan (PPP) or conduct a supplemental environmental project (SEP) approved by the Executive Officer. The amount of the SEP or PPP shall be no more than \$82,900 and the remainder (\$5,000) shall be sent to the State Cleanup and Abatement Account. If the Discharger wishes to propose a PPP or SEP, it must submit a proposal to the Regional Board within 30 days of signing the waiver. If the proposed PPP or SEP is not acceptable to the Executive Officer, the Discharger has 30 days from receipt of notice of submittal rejection to make a payment for the full amount of \$82,900 to the State Cleanup and Abatement Account. The PPP or SEP must be completed by August 1, 2002. Any money not used by the date specified by the Executive Officer must be submitted to the Regional Board and made payable to the State Cleanup and Abatement Account. Regular reports on the PPP or SEP shall be provided to the Board according to a proposed and approved time schedule. The final report on the PPP or SEP shall be submitted to the Board within 60 days of project completion.
5. If you wish to waive the hearing, please check and sign the attached waiver and return it and a check made payable to the State Water Resources Control Board for the full amount of the ACL, \$87,900, to the Regional Board's office at 1515 Clay Street, Suite 1400, Oakland, CA, by July 20, 2001.

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6. If a hearing is held, the Regional Board will consider whether to affirm, reject, or modify the proposed administrative civil liability, or whether to refer the matter to the Attorney General for recovery of civil liability.



Loretta K. Barsamian, Executive Officer

5/24/01

Date

Attachment:

Appendix A – Citation from Water Code Section 13385 (prior to January 1, 2000 amendments).

WAIVER

Waiver of the right to a hearing and agree to make payment in full.

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020B. I understand that I am giving up my right to be heard, and to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, civil liability proposed. I further agree to remit payment for the civil liability imposed within thirty (30) days after the waiver is signed.

Waiver of the right to a hearing and agree to propose implementing a zinc study and installing automatic chlorination and dechlorination equipment.

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020B, to propose and complete an Executive Officer-approved source identification and reduction study for zinc and install automated compound-loop chlorination and dechlorination equipment for the amount of liability suspended of \$82,900 in lieu of the administrative civil liability, and to remit payment of the remainder of the total (\$5,000) to the State Cleanup and Abatement Fund. If the proposed source identification/reduction study and treatment plant upgrades are not acceptable to the Executive Officer, I agree to pay the suspended payment of \$82,900 within 30 days of a letter from the Executive Officer denying approval of the proposed project. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to complete the zinc study and plant upgrades approved by the Executive Officer within a time schedule approved by the Executive Officer.

Waiver of the right to a hearing and agree to propose a PPP or SEP.

By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 01-020B, to propose and complete an Executive Officer-approved supplemental environmental project (SEP) or pollution prevention project (PPP) for the amount of liability suspended of \$82,900 in lieu of the administrative civil liability, and to remit payment of the remainder of the total (\$5,000) to the State Cleanup and Abatement Fund. If the pollution prevention plan or supplemental environmental project is not acceptable to the Executive Officer, I agree to pay the suspended payment of \$82,900 within 30 days of a letter from the Executive Officer denying approval of the proposed project. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to complete a pollution prevention plan or conduct a supplemental environmental project approved by the Executive Officer within a time schedule approved by the Executive Officer.

Name (print)

Signature

Date

Title/Organization

APPENDIX A
Water Code Section 13385 Citation
(Prior to January 1, 2000 Amendments)
Complaint No. 01-020B
Administrative Civil Liability
Sonoma Valley County Sanitation District

California Water Code Section 13385 (prior to amendments that became effective on January 1, 2000) authorizes the Regional Board to assess administrative civil liability and states, in part, the following:

“(a) Any person who violates any of the following shall be liable civilly in accordance with subdivisions (b), (c), (d), (e), and (f):

- (1) Section 13375 or 13376.
- (2) Any waste discharge requirements or dredged and fill material permit.
- (3) Any requirements established pursuant to Section 13383.
- (4) Any order or prohibition issued pursuant to Section 13243 or Article 1 (commencing with Section 13300) of Chapter 5, if the activity subject to the order or prohibition is subject to regulation under this chapter.
- (5) Any requirements of Section 301, 302, 306, 307, 308, 318, or 405 of the Federal Water Pollution Control Act, as amended.
- (6) Any requirement imposed in a pretreatment program approved pursuant to waste discharge requirements issued under Section 13377 or approved pursuant to a permit issued by the administrator.

(b) Civil liability may be imposed by the superior court in an amount not to exceed the sum of both of the following:

- (1) Twenty-five thousand dollars (\$25,000) for each day in which the violation occurs.
- (2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed twenty-five dollars (\$25) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

The Attorney General, upon request of a regional board or the state board, shall petition the superior court to impose the liability.

(c) Civil liability may be imposed administratively by the state board or a regional board pursuant to Article 2.5 (commencing with Section 13323) of Chapter 5 in an amount not to exceed the sum of both of the following:

- (1) Ten thousand dollars (\$10,000) for each day in which the violation occurs.
- (2) Where there is a discharge, any portion of which is not susceptible to cleanup or is not cleaned up, and the volume discharged but not cleaned up exceeds 1,000 gallons, an additional liability not to exceed ten dollars (\$10) times the number of gallons by which the volume discharged but not cleaned up exceeds 1,000 gallons.

(d) For purposes of subdivisions (b) and (c), the term "discharge" includes any discharge to navigable waters of the United States, any introduction of pollutants into a publicly owned treatment works, or any use or disposal of sewage sludge.

(e) In determining the amount of any liability imposed under this section, the regional board, the state board, or the superior court, as the case may be, shall take into account the nature, circumstances, extent, and gravity of the violation, and, with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require.”

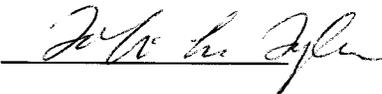
**REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

STAFF ANALYSIS AND RECOMMENDATIONS

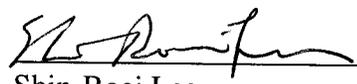
TO: Loretta K. Barsamian
Executive Officer

FROM: Tobi L. Tyler
WRCE

DATE: May 22, 2001

SIGNATURE: 

SUBJECT: Sonoma Valley County Sanitation District – Sonoma Wastewater Treatment Plant, Sonoma County, Consideration of Administrative Civil Liability for NPDES Permit Violations, **Complaint No. 01-020B**

CONCUR: 

Shin-Roei Lee
Section Leader



Shin-Roei Lee
Division Chief

Reviewed for Legal
Form and Sufficiency:


Dorothy Dickey
Attorney

This recommendation for Administrative Civil Liability assesses penalties for effluent violations of Sonoma Valley County Sanitation District's (Discharger's) NPDES permit, Order No. 98-111, during the period between November 1, 1998 and December 31, 1999. All effluent violations identified are subject to a penalty under Section 13385(c) of the California Water Code. From **November 1, 1998** through **December 31, 1999**, the Discharger violated effluent limitations in its NPDES permit on 82 days in the eight months of discharge. Between November 1998 through December 1999 there were fourteen (14) moving median coliform, thirteen (13) daily maximum coliform, twelve (12) pH, seven (7) chlorine residual, four (4) settleable solids, three (3) zinc, and twenty-nine (29) oil and grease violations.

A total of 374 million gallons of inadequately treated water was discharged at the outfall into Schell Slough, a tributary of San Pablo Bay, between November 1, 1998 and December 31, 1999. In addition, during the time period of this Complaint, sewer system overflows totaling an estimated 370,500 gallons of untreated wastewater discharged to surface areas with an undetermined amount reaching nearby creeks. These significant¹ sewer overflows occurred on nine (9) days between November 1, 1998 and December 31, 1999. An unknown percentage of this untreated wastewater was discharged to waters of the State. In November 1998, there were two sewer system overflow events into Fryer Creek: a 1,000-gallon overflow on November 22 and a 3,000-gallon overflow on November 30, 1998. In 1999, there were a series of overflows during a 4-day period between February 6 and 9, 1999 that amounted to approximately 355,680

¹ Significant sewer overflows refer to overflows greater than 1000 gallons.

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gallons of overflow. The Regional Board sent a Notice of Violation (NOV) to the Discharger for the February overflows on April 29, 1999. After the 355,680 gallons of overflow in February 1999, the Discharger reported three additional significant sewer system overflows in 1999. These overflows occurred on April 9, 1999, June 17, 1999, and September 11, 1999. The quantities of these overflows were 2,400, 5,400, and 3,000, respectively.

The nature of the above releases poses a risk to beneficial uses, public health, and the aquatic biota of the creeks to which the overflows ran as well as Schell Slough and San Pablo Bay. Based on the following analysis and rationale, I recommend that the Board impose Administrative Civil Liability of **\$87,900**. This amount recovers estimated economic benefits of **\$82,900** and staff costs of **\$5,000**. I also recommend we allow submittal of a proposal for a supplemental environmental project or pollution prevention project totaling not more than \$82,900 or a proposal to implement a zinc source identification and reduction study and install automated compound-loop chlorination and dechlorination equipment in lieu of the administrative civil liability.

BACKGROUND

The Sonoma Valley County Sanitation District (Discharger) owns and operates the municipal wastewater treatment plant located in Sonoma. The Sonoma County Board of Supervisors transferred operating authority for the treatment plant from the Sonoma Public Works Department to the Sonoma County Water Agency, located in Santa Rosa, on January 1, 1995. The plant treats domestic and light commercial wastewater collected from the cities and unincorporated areas of Sonoma, Glen Ellen, Boyes Hot Springs, and Agua Caliente to a secondary treatment level. The treated effluent is discharged to Schell Slough during the wet weather season from November 1 through April 30 and is reclaimed for agricultural use during the remainder of the year. Upon request, the Discharger may be allowed to discharge beyond April 30 if circumstances warrant. The Discharger requested a discharge time extension to Schell Slough in order to perform maintenance and repair work on one of its effluent storage reservoirs.

The treatment plant has an average dry weather flow design capacity of 3.0 million gallons per day (mgd) and can treat up to 12.0 mgd during the wet weather flow period. Influent flows higher than 12.0 mgd are bypassed to the 35 million gallon equalization basins. Treatment consists of screening followed by extended aeration activated sludge treatment, secondary sedimentation, disinfection, and dechlorination. Average wet weather season discharge for 1998 through 1999 was 4.9 mgd. During the dry weather season, disinfected effluent is routed to several storage reservoirs, from which it is pumped to various water reclamation users. The Discharger has a separate permit, Order No. 92-067, for its water reclamation requirements. For the applicable time period of this Complaint, the storage reservoirs began receiving treated effluent on April 30, 1999. This is also the date when discharge to Schell Slough ceased.

NPDES PERMIT PROHIBITIONS AND EFFLUENT LIMITATIONS VIOLATED

Prohibitions and effluent limitations have been established in the Discharger's NPDES permit, Order No. 98-111, under Discharge Prohibitions, Section A, and Effluent Limitations, Section B. The applicable portions of this section of the permit are as follows:

"A. DISCHARGE PROHIBITIONS

- ...
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited except as allowed by Standard Provision A.12.

B. EFFLUENT LIMITATIONS

1. The term "effluent" in the following limitations means the fully treated wastewater effluent from the discharger's wastewater treatment facility, as discharged to the Schell Slough. The effluent discharged to the Schell Slough during the wet weather period shall not exceed the following limits:

Conventional Pollutants Effluent Limitations

<i>Constituent</i>	<i>Units</i>	<i>Monthly Average</i>	<i>Weekly Average</i>	<i>Daily Maximum</i>	<i>Instantaneous Maximum</i>
Settleable Matter	m/L-hr	0.1			0.2
Oil & Grease	mg/L	10		20	
Chlorine Residual ¹	mg/L	--	--	--	0.0

¹ Requirement defined as below the limit of detection in standard test methods defined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater*.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. Coliform Bacteria: The treated wastewater, at some point in the treatment process prior to discharge, shall meet the following limits of bacteriological quality:
 - a. The moving median value for the MPN of total coliform bacteria in any seven consecutive samples shall not exceed 23 MPN/100 mL; and
 - b. Any single sample shall not exceed 240 MPN/100 mL.

-
5. Acute Toxicity: Representative samples of the effluent shall meet the following limits for acute toxicity: (see Provisions of this Order for more information)

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit if one or more of the past ten or less bioassay tests show less than 70 percent survival.

-
- 7.a. Toxic Substances Effluent Limitations: The discharge of effluent containing constituents in excess of the following limitations is prohibited [a]:

Constituent	Units	Daily Average [b]	Monthly Average [b]
Zinc [d]	µg/L	58	

Footnotes (apply to both 7.a. and 7.b.):

- a. All analyses shall be performed using current USEPA Methods, as specified in USEPA Water/Wastewater Methods (EPA-600 Series), except that mercury analyses may be performed using USEPA Method 1631. Metal limits are expressed as total recoverable metals.
 - b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- ...
- (1) Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four."

ENFORCEMENT CONSIDERATIONS

Section 13385(e) of the California Water Code requires the Board to consider several factors when issuing Administrative Civil Liability (ACL). These include the nature, circumstances, extent and gravity of the violations, and, with respect to the violator, the ability to pay, degree of culpability, prior history of violations, economic benefit or savings, and other factors justice may require. The law was amended effective January 1, 2000. Those changes apply to violations that occur on or after that date. The Discharger has violations to its permit both before and after that date. Because the method of assessing penalties for violations prior to January 1, 2000 differ from those assessed after that date, two Complaints have been sent to the Discharger, one for violations that occurred before January 1, 2000 and one for violations that occurred after January 1, 2000. This Complaint concerns the violations that occurred before January 1, 2000.

Factors that the Board may consider in determining the amount of the liability are described below. For violations that occurred prior to January 1, 2000, the Regional Board is authorized, but not required, to impose Administrative Liability. In determining the amount of that liability, the Regional Board is required to take into account the following factors:

- (1) Nature of the violations,
- (2) Circumstances, extent and gravity of the violations,
- (3) Degree of culpability,
- (4) Prior history of violations,
- (5) Economic benefit or savings,
- (6) Other factors justice may require, and
- (7) Ability to pay.

Factors for Consideration

1. Nature of the Violations

From November 1998 to December 31, 1999, there were eighty-two (82) violations that consisted of fourteen (14) moving median coliform, thirteen (13) daily maximum coliform, twelve (12) pH, seven (7) chlorine residual, four (4) settleable matter, three (3) zinc, and twenty-

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 Sonoma Valley County Sanitation District

nine (29) oil and grease exceedances. These violations are shown in the following table along with dates, reported values, and estimated volumes released.

Table 1. Sonoma VCSD Violations from November 1, 1998 through December 31, 1999

Vln #	Parameter	Permit Limit	Date	Reported Value	Volume (MG)	Comment
1	Coliform (d max)	240 MPN/100 ml	11/1/98	1,600 MPN/100 ml	1.77	
2	pH	6.5	11/4/98	6.4	--	
3	Zinc (d average)	58 µg/L	11/6/98	76 µg/L	5.92	Significant t*
4	Coliform (d max)	240 MPN/100 ml	11/15/98	920 MPN/100 ml	2.99	
5	Settleable Solids	<0.2 ml/L/hr	11/16/98	0.3 ml/L/hr	4.11	
6	Settleable Solids	<0.2 ml/L/hr	11/17/98	1.2 ml/L/hr	2.94	Significant t*
7	Settleable Solids	<0.2 ml/L/hr	11/19/98	1.2 ml/L/hr	2.78	Significant t*
8	Coliform (d max)	240 MPN/100 ml	11/19/98	540 MPN/100 ml	--	
9	Coliform (d max)	240 MPN/100 ml	11/22/98	350 MPN/100 ml	3.29	
10	Coliform (d max)	240 MPN/100 ml	11/23/98	1,600 MPN/100 ml	1.0	
11	Settleable Solids	<0.2 ml/L/hr	11/24/98	1.2 ml/L/hr	4.63	Significant t*
12	pH	6.5	11/24/98	6.4	--	
13	pH	6.5	11/25/98	6.3	--	
14	Coliform (d max)	240 MPN/100 ml	11/28/98	350 MPN/100 ml	3.11	
15	Coliform (d max)	240 MPN/100 ml	11/29/98	920 MPN/100 ml	5.77	
16	Coliform (d max)	240 MPN/100 ml	11/30/98	340 MPN/100 ml	8.06	
17	pH	6.5	12/6/98	6.2	--	
18	pH	6.5	12/7/98	6.4	--	
19	Coliform (d max)	240 MPN/100 ml	12/9/98	350 MPN/100 ml	3.94	
20	Coliform (d max)	240 MPN/100 ml	12/13/98	350 MPN/100 ml	3.89	
34	Coliform (median)	23 MPN/100 ml	11/19/98- 12/2/98	27-170 MPN/100 ml	46.33	14 days
35	pH	6.5	12/29/98	6.2	--	
36	Chlorine Residual	0.0 mg/L	1/19/99	0.3 mg/L	--	
37	pH	6.5	1/24/99	6.1	--	
38	Chlorine Residual	0.0 mg/L	1/24/99	0.6 mg/L	--	
39	Oil & Grease (max)	20 mg/L	2/3/99	70 mg/L	4.37	
40	Chlorine Residual	0.0 mg/L	2/6/99	0.6 mg/L	--	
41	pH	6.5	2/7/99	6.3	--	
42	Chlorine Residual	0.0 mg/L	2/14/99	0.3 mg/L	--	
70	Oil & Grease (avg)	10 mg/L	2/28/99	70 mg/L	243	28 days
71	Chlorine Residual	0.0 mg/L	3/2/99	0.6 mg/L	--	
72	Chlorine Residual	0.0 mg/L	3/11/99	4.4 mg/L	--	
73	Chlorine Residual	0.0 mg/L	4/13/99	0.2 mg/L	--	
74	Zinc (d average)	58 µg/L	11/8/99	65 µg/L	4.26	
75	Coliform (d max)	240 MPN/100 ml	11/8/99	300 MPN/100 ml	--	
76	Zinc (d average)	58 µg/L	11/15/99	68 µg/L	2.95	
77	pH (from bioassay)	6.5	11/16/99	6.3	3.47	
78	pH (from bioassay)	6.5	11/17/99	5.6	2.9	
79	pH (from bioassay)	6.5	11/18/99	6.1	3.0	
80	pH (from bioassay)	6.5	11/19/99	6.0	4.2	

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Vln #	Parameter	Permit Limit	Date	Reported Value	Volume (MG)	Comment
81	Coliform (d max)	240 MPN/100 ml	11/24/99	1600 MPN/100 ml	2.5	
82	Coliform (d max)	240 MPN/100 ml	12/23/99	500 MPN/100 ml	2.84	
82 = Total # violations				Total Volume released = 374 million gallons		

* Based upon Category I or Category II violations as defined in 40 CFR Section 123.45, Appendix A.

Four (4) of the above eighty-two (82) violations in 1998-99 are either Category I or Category II violations as defined in 40 CFR Section 123.45, Appendix A, by exceeding the limit by 40% or 20%, respectively. The 28 days of violations for the monthly average oil and grease limit of 10 mg/L was from a single monthly sample on February 3, 1999 of 70 mg/L. Under USEPA guidance in determining violations for monthly average limits for ACLs, each day in the month is counted as a violation. The discharger had the opportunity to resample the remaining 25 days in February (to calculate a more representative average) and did not do so. The total amount of inadequately treated wastewater was 374 million gallons during the eight months of discharge from November 1, 1998 to December 31, 1999.

From November 1, 1998 through December 31, 1999, the Discharger violated the discharge prohibition that prohibits bypass or overflow of untreated or partially treated wastewater to waters of the State on nine (9) days. The 9 significant sewer system overflow events, which totaled 370,500 gallons, occurred on the following dates:

Table 2. Sewer System Overflows

Date	Gallons of overflow
November 22, 1998	1,000
November 30, 1998	3,000
February 6 through 9, 1999	355,700
April 9, 1999	2,400
June 17, 1999	5,400
September 11, 1999	3,000
TOTAL gallons	370,500 gallons

2. Effects on Water Quality

The water quality effects of the effluent limit violations listed in Tables 1 and 2 are of concern because of the shallow water nature of the discharge point. The receiving waters at the dead-end tidal Schell Slough have limited dilution capability even in winter. This type of limited-dilution discharge situation can be the most detrimental to the aquatic environment. The Discharger's permit, Order No. 98-111, grants a seasonally-restricted discharge to the shallow water, dead-end tidal Schell Slough. This exemption from the Basin Plan's shallow-water discharge prohibition was granted because the Discharger had previously demonstrated that acceptable source control plans were in place, which is a prerequisite to allowing a shallow-water discharge exemption. Continued exemption from this prohibition may be questionable in the future if violations of this frequency and magnitude continue to occur.

Zinc

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The Discharger's exceedance of their zinc limit appears to begin in late 1998. Three (3) exceedances of the zinc limit occurred in the eight months of discharge between November 1, 1998 and December 31, 1999. High concentrations of zinc can be acutely toxic to aquatic organisms. This is reflected in the fact that the Basin Plan water quality objectives (Table 3-3 and 3-4) for zinc for chronic and acute values (58 µg/L and 170 µg/L, respectively) are listed under the 24-hour average, rather than the 4-day average, for chronic and instantaneous maximum, rather than the 1-hour average for acute. The Basin Plan's Table 4-3 lists effluent limitations for selected toxic pollutants discharged to surface waters. The limit for shallow water discharges is 58 µg/L.

Chlorine

Seven (7) chlorine residual violations occurred between January and April 1999. The acutely toxic effects of chlorine residuals to aquatic organisms have also been well established. Studies of toxic effects of a pollutant usually distinguish between acute and chronic toxicity. Acute toxicity refers to the death of a test organism after a relatively short toxicant exposure time while chronic toxicity refers to lethal or sublethal effects due to long-term toxicant exposure. The article entitled "Site-specific evaluation of power plant chlorination", by Mattice and Zittel, Journal WPCF (Vol. 48, No. 10), dated October 1976, contains dose duration curves for marine (saltwater) and freshwater species as indicators of both acute and chronic toxicity. The duration curves reveal that exposure to as little as 0.1 mg/l of chlorine residual can result in acute toxicity for marine, estuarine or freshwater species.

pH

Mathematically, pH is defined as the negative logarithm of the hydrogen ion concentration in a water sample. Due to the logarithmic nature of pH, the measured value of 5.9 on February 1, 2000 represents a hydrogen ion concentration that is about four times greater than the permitted value of 6.5. Since discharges to Schell Slough from the Sonoma wastewater treatment plant receive little dilution, the excess chlorine residuals and the pH violations may have posed a significant risk to the aquatic biota of Schell Slough. The number of pH violations has decreased from twelve (12) during the eight months of discharge between November 1998 and December 1999 to two (2) during the 7 months of 2000. However, the compliance monitoring results show that the effluent is typically running at the low end of the 6.5 to 8.5 limit due to one or more of the following reasons: (1) low alkalinity of the source water, (2) over feeding of sulfur dioxide, and/or (3) aeration in the extended aeration basins.

Coliform

The coliform violations caused some beneficial use impairment since coliform is primarily a human water contact recreation problem and Sonoma Creek and San Pablo Bay both include designations for REC-1 (water contact recreation) and REC-2 (non-contact water recreation) beneficial uses. Although Schell Slough is not listed in the Basin Plan's Table 2-6 and is fairly remote and inaccessible for water contact recreational use, it is located between Sonoma Creek and San Pablo Bay and water quality violations could affect beneficial uses. Twenty-seven (27) coliform violations occurred in the eight months of discharge between November 1998 and December 1999 (five (5) occurred in the 7 months between January 1, 2000 and December 31, 2000).

Sewer System Overflows

The sewer system overflows totaling 356,000 gallons on February 6 through 9, 1999 were very considerable in size. Although these overflows were related to heavy rainfall induced inflow and infiltration, the cumulative water quality impacts on Sonoma, Agua Caliente, and Fryer Creeks, as well as others, are significant. Sewer overflows can cause exceedances of water quality objectives, particularly for pathogens, oxygen-demanding pollutants, suspended and settleable solids, nutrients, toxics, and floatable matter. The beneficial uses that are adversely impacted by sewer overflows are shell-fish harvesting, water contact recreation, and non-contact water recreation. There is potential for contact with contaminated water in the areas where sewer overflows occurred. The Board sent a Notice of Violation on April 29, 1999 that required increased measures to control the District's sewer system overflows. These measures included a comprehensive rehabilitation of the sewer system to reduce infiltration and inflow of water, and construction of relief sewers parallel to, or as replacements of, existing trunk sewers, thus making it possible to convey peak flows to the treatment facilities. The District has completed Phase II of a three-phase Sewer System Overflow Prevention Study. Phase III will include a capital improvement plan and is due to the Regional Board on December 1, 2001.

3. Degree of Culpability

The Discharger is responsible at all times for ensuring proper operation and maintenance of the treatment plant and collection system and for meeting the purpose and intent of the NPDES permit requirements for discharge. It appears that most of the violations noted in this analysis could have been avoided with more timely facility upgrades, plant optimization, more aggressive pollution prevention and pretreatment programs, and greater oversight of plant operations and maintenance through staff training. Although the Discharger has made a number of capital improvements to the plant, such as two new clarifiers and a new chlorine contact tank, these improvements should have been implemented sooner.

Chlorine Residual

Chlorine residual violations occurred in January through April 1999 (2 in January, 2 in February, 2 in March, and 1 in April). Sulfur dioxide dosing for chlorine removal is done manually, which is prone to operator error. Automated technology has been available for several years and the manual controls should have been replaced sooner. The Discharger violated the 0.0 mg/L chlorine residual limit seven (7) times between January and April 1999. The Discharger stated in its 1999 Annual Report that the District "will complete the installation of flow paced and residual trimmed dechlorination control" ... and are "researching chlorine and sulfite analyzers in an effort to identify and install the best available technology for solving this problem". An automatic dosing system is scheduled to be implemented when the filters are added to the treatment process, which is expected within the next one to 1½ years. The plant released about 335,000 gallons of water with chlorine residuals of 0.1 to 1.5 mg/l between January and May 2000. This ACL evaluates the Discharger's economic benefit from delaying the installation of this automated dechlorination system.

Zinc

The Discharger has not determined the cause for the zinc violations, which began in late 1998 and increased in 2000. However, the high zinc in the influent as well as effluent, especially when compared to other dischargers with the same source water, appears to point to unidentified sources within the community, either from industry, commercial or residential sources. The Discharger has received a separate ACL/MMP for year 2000 violations.

pH

Violations of pH occurred throughout the time period of this Complaint (3 in November 1998, 3 in December 1998, one each in January and February 1999, and 4 in November 1999). The Discharger's low pH is probably the result of overfeeding with sulfur dioxide to prevent continued chlorine residuals. These violations, however, have also been explained to be a result of the fine-bubble diffusers in the extended aeration system increasing the levels of carbon dioxide and consequently bicarbonate in the water. The Plant operates routinely on the lower end of its pH limit of 6.5 to 8.5. Therefore, automatic feed equipment is a high necessity and should have been installed several years ago.

Coliform, Settleable Solids, and Oil and Grease

A majority of the coliform violations occurred in November 1998: 20 of the total 27 violations occurred in that month. The four settleable solids violations also occurred in November 1998. These violations were a result of the old secondary rectangular clarifiers sloughing accumulated solids from the skimmer. In November 1999, the first new circular clarifier replaced these clarifiers. As stated earlier in this document, the 28 days of violations for the monthly average oil and grease limit was from a single monthly sample on February 3, 1999. Under USEPA guidance in determining violations for monthly average limits, each day in the month is counted as a violation. The discharger had the opportunity to resample and did not do so.

4. History of Violations and Enforcement

The Discharger has been subject to previous enforcement by the Regional Board for violations of its prior permit. The Regional Board imposed an Administrative Civil Liability (ACL) in the amount of \$83,000 against the Discharger on February 9, 1998, for 242 violations of effluent limitations and 738,000 gallons of collection system (sewer) overflows from January 1994 through July 1997. The effluent limit violations consisted primarily of exceeding coliform limits (31%) and settleable solids limits (24%). Other violations during the 3.5 year period included exceeding limits for copper, chlorinated pesticides and PAHs, chlorine residual, oil and grease, pH, mercury, TSS, arsenic, and lead.

These violations were due, in part, to deferred maintenance and replacement by the previous operating authority, the Public Works Department. After the Sonoma County Board of Supervisors transferred operating authority to the Sonoma County Water Agency (Agency) on January 1, 1995, the Agency developed a capital replacement program requiring \$40-\$50 million dollars over a ten year period, of which \$30 million was designated for collection system replacement and rehabilitation. The 10-year capital improvement plan included replacement of the chlorine contact chamber, secondary clarifiers, extended aeration system,

chlorination/dechlorination equipment, and monitoring and control equipment. The plan also included expanding effluent storage and reclamation reservoirs. The new chlorine contact tank was put into service in February 1999. As stated earlier, the first of three circular clarifiers was put into service in November 1999. The Discharger has had numerous problems with the aeration system in the extended air activated sludge secondary treatment process.

Regional Board staff sent the Discharger a Notice of Violation (NOV) letter on April 29, 1999 for violations of their NPDES permit related to collection system overflows totaling 355,680 gallons during the month of February 1999 (Table 2). Pursuant to Section 13267 of the California Water Code, the Discharger was required to conduct a sewer system overflow prevention study which included the feasibility of eliminating overflows up to a certain storm event (1, 5 or 20 year storm event). During the period covered by this Complaint, November 1, 1998 through December 31, 1999, the Discharger reported nine (9) overflows of significant volume (greater than 1,000 gallons). These overflows are listed in Table 2. This Complaint includes all of the overflow incidents, which total 370,500 gallons of untreated wastewater. The sewer system overflow prevention study is scheduled to be complete December 2001.

5. Other Factors Justice May Require

The Discharger's increasing number of customers (hook-ups), while the plant is within 92-98% of their current dry weather capacity, is another consideration that needs to be taken into account. The Discharger currently has a dry weather treatment capacity limit of 3.0 million gallons per day (MGD). The average of three dry summer months (July through September) daily flow for 1998, 1999, and 2000 were 2.94, 2.75, and 2.85 MGD, respectively. Although the Discharger has increased their wet weather capacity from 8 to 12 MGD with new secondary clarifiers, their dry weather capacity has not been adequately addressed from an anti-degradation standpoint.

6. Administrative Civil Liability

Considering all of the factors above, an administrative penalty of **\$100,500** is recommended in this Complaint. This amount was determined by a sum of \$1,000 for each of the 82 violations between November 1, 1998 and December 31, 1999 (\$82,000) and approximately five cents per gallon of overflows for the 370,500 gallons in excess of 1,000 gallons that occurred between November 1, 1998 and December 31, 1999 (\$18,500). The \$82,000 for effluent limit violations and \$18,500 for sewer system overflows total **\$100,500**.

7. Economic Benefit

The Discharger has realized substantial economic benefits from postponing measures that would have prevented the violations at issue in this Complaint. The violations in Table 1 and 2 probably could have been avoided or reduced in frequency if the Discharger had replaced and/or upgraded its equipment in a more timely fashion, improved plant maintenance and operations, and provided better training to its operators and technicians. The Discharger's economic savings amounts to the interest or investment income earned from capital that would have otherwise been spent on plant improvements necessary for compliance with its NPDES permit. To estimate

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economic benefits to the District from these violations, Board staff used the USEPA's Benefits (BEN) model, data supplied by the District and judgment based on similar facilities when District data was in doubt or unavailable.

For violations that occurred before January 1, 2000, the Regional Board is authorized, but not required, to recover any economic benefit the Discharger derived from the acts that constituted violations. Regional Board staff estimated the economic benefit gained by the Discharger from postponing measures that would have prevented the violations prior to January 1, 2000 to be **\$82,900**. This assessment comes from the following four factors:

- (1) Postponement of a source reduction program for zinc, which should have been implemented beginning in October 1994 when the Discharger's effluent zinc concentration was as high as 170 µg/L, but at least by no later than the permit reissuance date, October 21, 1998, (**\$12,000**). Dates used in BEN model: November 1, 1998 through December 31, 1999.
- (2) Postponement of a treatment plant optimization program that began in October 2000, but should have been initiated in January 1995 when the Sonoma County Water Agency became the operating authority for the plant (**\$2,600**). Dates used in model: March 1, 1998 (after the last ACL) through December 31, 1999. Effect of postponement: decreased efficiency and increases in overall number of violations.
- (3) Postponement of an inflow and infiltration reduction study and capital improvement project for the Discharger's collection system, which should have begun February 1998, when the Discharger received an ACL partly for its collection system overflows, but instead began in June 1999 in response to the Regional Board's Notice of Violation and request for report pursuant to Section 13267 (**\$31,100**). The economic benefit was based on that total cost estimated to complete work on the collection system minus what had been spent as of January 1, 2000. Dates used in model: March 1, 1998 through December 31, 1999. Effect of postponement: continued sewer system overflows.
- (4) Postponement of replacing the manual SO₂ dose feed to an automated dechlorination control system and replacing step-feed chlorine dosage to a chlorine demand-compound loop system (**\$37,200**). Dates used in model: March 1, 1998 through December 31, 1999. Effect of not installing this equipment: increased number of coliform, pH and chlorine residual violations.

The cost savings gained by the Discharger from not implementing a source reduction program for zinc when the permit was reissued with a lower limit of 58 µg/L (previously 86 µg/L) was estimated by the interest on the source reduction program that should have been initiated in November 1998. Staff used USEPA's BENEFITS (BEN) model to calculate the economic benefit gained by the Discharger by using the cost of a source reduction program for a similar metal, such as copper. For comparison purposes, the cost of determining pollutant sources and developing a pollution prevention plan for copper, which was required by the 1998 NPDES permit, was approximately \$34,000. The ongoing costs of implementing the pollution prevention plan are estimated at \$8,000 per year. The economic benefit gained by the end of 1999 for not developing and implementing a pollution prevention plan for zinc in 1998 is estimated at **\$12,000** using USEPA's BEN model.

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The cost of conducting a plant optimization study was approximately \$30,000 and should have been done when Sonoma County Water Agency first took over operations of the District's plant in 1995. However, because the District received an ACL in February of 1998, the assessment of this factor is based on March 1, 1998. The benefit gained for not conducting a plant optimization study beginning in March 1, 1998 was estimated at **\$2,600** using USEPA's BEN model. Compliance date used in model was December 31, 1999.

The third economic savings component is the postponement of an inflow and infiltration study and capital improvement project specifically targeted to improve the collection system and prevent sewer system overflows. It is estimated that \$800,000 in economic benefit was derived based upon estimates from a project at a similar-size community that has recently undergone upgrades to their collection system. The total cost for the similar community with its 120 miles of collection pipes was \$12,800,000. The Inflow/Infiltration Correction Program study was \$456,000. By comparison, the Discharger's collection system has 76 miles of collection system pipeline, which is 63.3% of the example community. Therefore, the capital improvement costs for the Discharger's collection system are estimated to cost approximately \$8.1 million and the one-time non-depreciable cost for the study would be approximately \$290,000. Since the Discharger spent \$3.369 million on collection system improvements between 1995 and 1996, Regional Board staff subtracted this amount from the \$8.1 million, then divided the result (\$4,731,000) by ten to account for the allowance of spending this over a 10 year period. This amount (\$473,100) was then used in the USEPA's BEN model to determine economic benefit for not having implemented the study earlier than the Discharger did. The Discharger should have started the study when they received the ACL on February 18, 1998, but instead began the sewer system work in June 1999 after receiving the Board's Notice of Violation. The noncompliance and compliance dates used in the analysis were March 1, 1998 and December 31, 1999, respectively, for economic benefit. The economic savings gained from this factor is **\$31,100**.

The fourth component to the economic benefit is the lack of automatic chlorination and dechlorination. Automated feed systems for chlorination and dechlorination, which has been available and has been installed in most other plants for many years, would reduce the number of coliform and chlorine residual violations and, in the long run, probably save the District money by reducing the quantity of chemicals used. A chlorine demand-compound loop and automated dechlorination control systems have been available and should have been installed several years ago. The estimated costs for the equipment and installation were \$290,000. The noncompliance and compliance dates used in the analysis were March 1, 1998 through December 31, 1999, respectively. The economic savings gained by the end of 1999 from this factor is **37,200**.

Thus, the total economic benefit gained by the Discharger prior to January 1, 2000 by postponing programs for source reduction control, treatment plant optimization, and inflow/infiltration reduction, and postponing installation of an automated chlorination/dechlorination is **\$82,900**.

8. Staff Costs

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Regional Board staff time to investigate the violations and prepare the Complaint and Staff Report totaled 10 hours, at an average cost to the State of \$100 per hour. Thus, the total staff cost for this enforcement action is \$5,000.

9. Ability to Pay

A review of Sonoma County Water Agency's financial statement regarding the Sonoma treatment plant indicates that gross revenue sources during 1999 were \$5.8 million. Gross revenues for 2000 are expected to exceed those of 1999 by \$232,330. Considering the accompanying ACL/MMP for post-January 1, 2000 violations, the total sum of this recommended penalty, \$188,400, is most likely outside the range of the Discharger's ability to pay without significant impact on its ability to conduct its responsibilities. Therefore, a reduction in the total fine by the amount assessed from "factors to be considered" (the nature, circumstances, extent and gravity of the violations, degree of culpability, and prior history of violations) is recommended, thus reducing the fine from \$188,400 to \$87,900. The sum of the fine is, therefore, the sum of the economic benefit, \$82,900 (sum of \$12,000, \$2,600, \$31,100 and \$37,200), and staff costs, \$5,000. The total recommended penalty is **\$87,900**. The proposed monetary penalty of \$87,900 is within the Discharger's ability to without significant impact on its ability to conduct its responsibilities.

The table below itemizes both the initial and proposed fines within each penalty category.

<i>Penalty Category</i>	<i>Initial Findings</i>	<i>Reduction</i>	<i>Final Findings</i>
Economic Benefit (discretionary)			
1) Source Reduction	\$ 12,000	\$ 12,000	
2) Plant Optimization	\$ 2,600	\$ 1,700	
3) Inflow/Infiltration Collection System	\$31,100	\$ 31,100	
4) Chlorination/Dechlorination Automation	\$ 37,200	\$ 37,200	
Economic Benefit Sum	\$82,900	\$82,900	\$82,900
Administrative Penalty (discretionary)			
1) Effluent limit violations (\$1,000/ violation)	\$ 82,000	\$ 0	
2) Sewer system overflows (\$0.05/ gallon)	\$ 18,500	\$ 0	
Administrative Penalty Sum	\$ 100,500	\$ 0	\$ 0
Staff Costs	\$ 5,000	\$ 5,000	\$ 5,000
Total	\$188,400	-\$100,500	\$87,900

10. Maximum Penalty

The California Water Code provides several enforcement remedies for discharges in violation of Board-issued NPDES permits:

- (1) Impose Administrative Civil Liability pursuant to Section 13385
- (2) Refer to the Attorney General to have a superior court impose civil liability pursuant to Section 13385

Section 13385 sets a maximum liability of \$10,000/day and \$10/gallon for the discharge volume that is not cleaned up, or is not susceptible to cleanup, and that exceeds 1,000 gallons. If this

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matter is referred to the Attorney General, a liability of \$25,000/day and \$25/gallon can be imposed.

RECOMMENDATIONS

In consideration of the facts in this case and prior Board actions, I recommend that the maximum liability be reduced to account for the Discharger's efforts to upgrade the treatment facility and their responsiveness with regard to our requests for information. The recommended civil liability is **\$87,900** against Sonoma Valley County Sanitation District for its 91 NPDES permit violations, and 373.3 million gallons of inadequately treated wastewater from November 1998 through December 1999. The proposed liability recovers economic benefits of \$82,900 and \$5,000 in staff costs to prepare the Complaint and staff report.