

Attachment A to Stipulated Order R5-2020-0553
Penalty Calculation Factors
Shasta County Service Area No. 17 Sanitary Sewer Collection System, Shasta
County

This document provides details to support recommendations for enforcement in response to the Shasta County Service Area No. 17 (Discharger, County) sanitary sewer overflow (SSO). The Central Valley Regional Water Quality Control Board (Central Valley Water Board) Prosecution Team derived the proposed administrative civil liability following the State Water Resources Control Board's (State Water Board) applicable *Water Quality Enforcement Policy* (Enforcement Policy).

Application of State Water Board's Enforcement Policy

The Enforcement Policy establishes a methodology for assessing administrative civil liability for violations of the California Water Code (Water Code) and Federal Water Pollution Control Act (Clean Water Act). Use of the Enforcement Policy incorporates Water Code sections 13327 and 13385 that require the Central Valley Water Board to consider specific factors when determining the amount of civil liability to impose, including "...the nature, circumstance, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on ability to continue its business, any voluntary cleanup efforts undertaken, 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." Additional information on the [Enforcement Policy](https://www.waterboards.ca.gov/water_issues/programs/enforcement/water_quality_enforcement.shtml), is available at the following web address:
https://www.waterboards.ca.gov/water_issues/programs/enforcement/water_quality_enforcement.shtml

Regulatory Basis for Alleged Violations and Proposed Liability

The Discharger is required to comply with the State Water Board's *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003-DWQ* (Statewide General Order) because it is a municipality that owns or operates a sanitary sewer collection system greater than one mile in length. The County of Shasta (Discharger) operates Community Service Association (CSA) #17 which is a sanitary sewer system that serves the unincorporated community of Cottonwood. The Discharger has been enrolled in the Statewide General Order since 2006. Prohibition C.1. of the Statewide General Order provides "[a]ny SSO [sanitary sewer overflow] that results in a discharge of untreated or partially treated wastewater to waters of the United States is prohibited."

Beginning on 2 February 2019, the Discharger discharged untreated domestic and municipal wastewater from its collection system to a stormwater conveyance which discharges to surface water. The Prosecution Team alleges that the Discharger violated Prohibition C.1 of the Statewide General Order and section 301 of the Clean Water Act by discharging untreated domestic and municipal wastewater to a stormwater

conveyance which discharges to surface water without a National Pollutant Discharge Elimination System (NPDES) permit from 2 February 2019 to 3 February 2019.

Pursuant to Water Code section 13385, subdivision (a), a discharger who violates section 301 of the Clean Water Act is subject to administrative civil liability pursuant to Water Code section 13385, subdivision (c), in an amount not to exceed the sum of \$10,000 per day of violation and \$10 per gallon of waste discharged over 1,000 gallons but not cleaned up.

Penalty Calculation Methodology Procedural Steps

CATEGORY 1 SSO OCCURRING BETWEEN 2 FEBRUARY 2019 AND 3 FEBRUARY 2019

On 4 February 2019, Central Valley Water Board staff were notified, via email, of a sanitary sewer overflow of raw sewage from the CSA #17 Main Lift Station in Cottonwood. On 3 February 2019, during routine daily monitoring at the CSA #17 Main Lift Station, County staff observed a wet well manhole cover that was ajar and evidence of sewage immediately surrounding the wet well. County staff collected remaining debris and spread chlorine on the ground to disinfect the area.

On 7 February 2019, Central Valley Water Board staff were notified that a second discharge point was identified on 5 February 2019. According to the revised Technical Report submitted on 6 December 2019, the second discharge point was upstream of the lift station and was discovered because a County employee noticed a manhole cover was askew. A vacuum truck was brought to the second discharge point, but none of the untreated sewage was recovered due to the delayed discovery. County employees raked up debris surrounding the manhole and spread chlorine on the ground to disinfect.

The second discharge point is located adjacent to a stormwater conveyance which discharges to Cottonwood Creek, a tributary to the Sacramento River, and a Water of the United States. Since untreated wastewater reached a stormwater conveyance which discharges to surface water, this spill is categorized as a category 1 SSO, as defined by the Statewide General Order.

The Main Lift Station is equipped with two interconnected wet wells each containing two pumps (one 300 gallon per minute (gpm) pump and one 150 gpm pump). According to the Discharger's revised Technical Report, prior to the 2 February 2019 SSO the Discharger knew that one of the 300 gpm pumps was repeatedly malfunctioning. It was also known prior to the 2 February 2019 SSO that one of the 150 gpm pumps was non-operational and was unable to be repaired because the guide railing to remove the pump was broken.

The cause of the spill was determined to be pump failure at the Main Lift Station. The 300 gpm pump, which had been repeatedly malfunctioning, “tripped off”. The two remaining operational pumps (one 300 gpm and one 150 gpm pump) both were clogged by debris in the wastewater. As the two wet wells began to overflow, a call system at the Main Lift Station should have alerted County employees of the overflow, however no alert was sent from the system. It was later discovered that the phone line for the alarm was severed in the conduit.

The Discharger reported that they had been working with a contractor (J & J Pumps) to diagnose issues with the two pumps prior to the SSO event but that no repairs had been made prior to the SSO. Following the spill, the Discharger contacted J & J Pumps to replace the 300 gpm pump that had been malfunctioning, as well as the 150 gpm pump and pump railing which had been non-operational.

After being requested by Regional Water Board staff, and as required by the Statewide General Order, the Discharger submitted a technical report to Central Valley Water Board staff describing the spill location, the County’s response, and a spill volume estimation. The County originally estimated that 10,000 gallons of wastewater was discharged. However, later analysis of influent flow data to the Cottonwood Wastewater Treatment Plant showed a significant reduction in flow during the time period when the SSO occurred. Based on this recorded loss of influent flow to the Treatment Plant, the spill volume of the SSO is alleged to be 465,227 gallons.

Step 1 – Potential for Harm for Discharge Violations

The “potential harm to beneficial uses” factor considers the harm that may result from exposure to the pollutants in the illegal discharge, while evaluating the nature, circumstances, extent, and gravity of the violation(s). A three-factor scoring system is used for each violation or group of violations: (1) the potential for harm to beneficial uses; (2) the degree of toxicity of the discharge; and (3) whether the discharge is susceptible to cleanup or abatement.

Factor 1: Degree of Toxicity.

The evaluation of this factor considers the physical, chemical, biological, and/or thermal characteristics of the discharge and the risk of damage the discharge could cause to the receptors or beneficial uses. Potential receptors are human, environmental, and ecosystem exposure pathways. In this case, the sanitary sewer overflow was raw sewage, and is known to contain highly elevated concentrations of coliform organisms, biochemical oxygen demand, and ammonia.

Discharges of sewage to surface water must typically be treated to a high standard to prevent adverse impacts to aquatic life. Toxicity is the degree to which a substance can damage a living or non-living organism. Toxicity can refer to the effect on a whole organism, such as an animal, bacterium, or plant, as well as the effect on a substructure of the organism, such as a cell or an organ. In this case, the discharge consisted of raw

sewage, which contains pathogens, nitrogen, ammonia, and biological oxygen demand. Fish are highly sensitive to even small concentrations of ammonia.

Elevated levels of these constituents can lead to low dissolved oxygen in the receiving water, impacts to aquatic life, and impacts to human health. Because the discharged material possesses “an above-moderate risk or a direct threat to potential receptors,” a score of **3** was assigned for this factor.

Factor 2: Actual Harm or Potential Harm to Beneficial Uses.

A score between 0 and 5 is assigned based on a determination of whether the harm or potential for harm to beneficial uses ranges from negligible (0) to major (5). During the 2 February 2019 SSO, raw sewage was discharged to a stormwater conveyance which discharges to Cottonwood Creek, a Water of the United States. The designated beneficial uses of Cottonwood Creek that could be impacted by the unauthorized discharge are outlined in the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins, Fifth Edition, May 2018* (Basin Plan) and include municipal and domestic supply, irrigation supply, stock watering, contact and non-contact recreation, warm and cold freshwater habitat, cold migration, warm and cold spawning, and wildlife habitat.

Raw sewage contains pathogens, nitrogen, ammonia, and creates a biological oxygen demand. Raw sewage impacts cold and warm freshwater habitat and wildlife habitat because fish are highly sensitive to even small concentrations of ammonia. In addition, raw sewage impacts contact and non-contact recreation because it contains pathogens which adversely affect human health.

Although no samples were collected by the Discharger, the nature of the spill resulted in at least a moderate potential harm to beneficial uses. “Moderate” is defined as “impacts are observed or reasonably expected and impacts to beneficial uses are moderate and likely to attenuate without appreciable acute or chronic effects.” Therefore, a score of **3**, moderate, is assigned for this factor.

Factor 3: Susceptibility to Cleanup or Abatement.

A score of 0 is assigned for this factor if 50% or more of the discharge is susceptible to cleanup or abatement. A score of 1 is assigned if less than 50% of the discharge is susceptible to cleanup or abatement. This factor is evaluated regardless of whether the discharge was actually cleaned up or abated by the discharger. In this case, the Discharger did not clean or abate any of the sewage discharged from either discharge point. The Discharger did use chlorine to sanitize areas where the spill occurred but was not able to recover any of the actual discharged sewage, therefore, a score of **1** was assigned to this factor.

Final Score – “Potential for Harm”

The scores of the three factors are added to provide a Potential for Harm score for each violation or group of violations. In this case, a **final score of 7** was calculated. The total score is then used in Step 2, below.

Step 2 – Assessment for Discharge Violations

This step addresses administrative civil liabilities for the spill based on both a per gallon and a per day basis.

Per Gallon Assessment for Discharge Violation

When there is a discharge, the Central Valley Water Board is to determine an initial liability amount on a per gallon basis using the Potential for Harm score and the Extent of Deviation from Requirement of the violation.

A Potential for Harm Score of 7 was determined in Step 1. In this case, the Central Valley Water Board finds the Extent of Deviation from Requirement is “major”. The Statewide General Order prohibits any SSO that results in a discharge of raw sewage to waters of the United States. Therefore, when the Discharger discharged 465,227 gallons of untreated sewage which reached surface waters, it rendered this prohibition ineffective.

Table 1 of the 2017 Enforcement Policy (p. 14) is used to determine a per gallon factor based on the total score from Step 1 and the level of Deviation from Requirement. For this particular case, the factor is 0.41. This value of 0.41 is multiplied by the volume of discharge and the days of discharge, as described below.

The 2017 Enforcement Policy allows for a reduction from the maximum penalty amount of \$10 per gallon when the discharge is over 100,000 gallons and considered high volume. The 2 February 2019 spill incident discussed in this violation was 465,227 gallons and is considered “high volume” based on the total gallons discharged. In order to facilitate the settlement of this matter, the Prosecution Team has determined that a reduction to \$1 per gallon is appropriate in this case.

Water Code section 13385(c)(2) states that the civil liability amount is to be based on the number of gallons discharged but not cleaned up, over 1,000 gallons for each spill event. Of the 465,227 gallons spilled, a total of 464,227 gallons were discharged in excess of 1,000 gallons into waters of the United States.

The Per Gallon Assessment is as follows:
 $0.41 \text{ factor from Table 1} \times 464,227 \text{ gallons} \times \$1 \text{ per gallon} = \$190,743$

Per Day Assessment for Discharge Volume

When there is a discharge, the Central Valley Water Board is to determine an initial liability amount on a per day basis using the same Potential for Harm and the Extent of Deviation from Requirement that were used in the per-gallon analysis. The “per day” factor (determined from Table 2 of the 2017 Enforcement Policy, p. 15) is 0.41. The spill event took place over two days, commencing on 2 February 2019 at 1151 hours am and stopping on 3 February 2019 at 0729 hours. However, as a settlement consideration, a value of one day was used for the per day assessment because the duration of the spill was less than 24 hours. The liability is calculated as the per day factor multiplied by the number of days multiplied by the statutory maximum per day (\$10,000).

The Per Day Assessment is as follows:
0.41 factor from Table 2 x 1 day x \$10,000 per day = \$4,100

Initial Liability Amount: The value is determined by adding together the per gallon assessment and the per day assessment. For this case, the total is \$190,743 + \$4,100 for a total initial liability amount of \$194,843.

Step 3 – Per Day Assessment for Non-Discharge Violation

The 2017 Enforcement Policy states that the Board shall calculate an initial liability for each non-discharge violation. In this case, this factor does not apply because this violation is related to the discharge of raw sewage water, and the liability was determined in Step 2.

Step 4 – Adjustment Factors

There are three additional factors to be considered for modification of the amount of initial liability: the violator’s culpability, efforts to clean-up or cooperate with regulatory authority, and the violator’s compliance history. After each of these factors is considered for the violations involved, the applicable factor should be multiplied by the proposed amount for each violation to determine the revised amount for that violation.

Culpability

Higher liabilities should result from intentional or negligent violations as opposed to accidental violations. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier for negligent behavior. The 2-3 February 2019 discharge event resulted from one non-operational 150 gpm pump, one malfunctioning 300 gpm pump, two clogged pumps (one 300 gpm and one 150 gpm pump), and a failed callout system at the Cottonwood Main Lift Station. The Discharger knew prior to the SSO that one 150 gpm pump was non-operational and that one 300 gpm pump was repeatedly malfunctioning. While the discharger was aware of these issues with its system, and it had contracted with a contractor to repair and upgrade its system, it did not do so prior to the SSO event.

In addition, the second discharge point was found by chance two days after the discovery of the first discharge point. The Discharger failed to use the resources available to it, such as SCADA system data, to estimate volume discharged. If the County had used the data from the SCADA system earlier, the County should have realized that the spill footprint at the Main Lift Station could not account for the total volume lost. The second discharge point could have been located sooner which may have allowed for some volume of the SSO to be recovered.

Additionally, the County did not regularly test or keep records of testing for the callout system at the Main Lift Station. If the Discharger had conducted routine testing of the callout system, the spill total volume could have been reduced.

Together, the Discharger's conduct falls below what is expected. The Discharger did not adequately repair and upgrade its facility as necessary; did not appropriately utilize its resources to respond to the spill; and did not adequately test its backup systems.

Therefore, a multiplier value of **1.1** is appropriate.

Cleanup and Cooperation

This factor reflects the extent to which a discharger voluntarily cooperated in returning to compliance and correcting environmental damage. A multiplier between 0.75 and 1.5 is to be used, with a higher multiplier when there is a lack of cooperation.

The discharge was identified approximately 20 hours after it first began. Once the spill was identified, the Discharger timely notified the Central Valley Water Board, as required by the Statewide General Order, and cooperated with requests and directions from the Central Valley Water Board. The Discharger did not collect receiving water samples and no public notices were posted. Although it is required of the Discharger by the Statewide General Order (Section G.4/MRP Section A) to contact local health agencies, Regional Water Board staff contacted local health agencies. The Discharger brought out a vacuum truck to the second discharge point without notifying the Central Valley Water Board but was unable to recover any material. Rags and debris surrounding both discharge points were collected, and chlorine was sprinkled on the ground.

According to information provided by the Discharger to the Prosecution Team, the County has since replaced the faulty pumps and pump rails. The plugged pumps were cleaned. On May 29, 2019, the failed pumps were replaced. The phone line has been repaired. Subsequent testing has verified the repairs. The pump station now has sufficient pump capacity and redundancy to reliably convey double the peak flow.

From the Central Valley Water Board's perspective, the Discharger did not initially respond to the spill as thoroughly or communicate with Central Valley Water Board staff as promptly as was expected. However, the Discharger overall has been cooperative

and willing to address the concerns raised by the Prosecution Team and share needed information to resolve this matter. Therefore, a multiplier value of 1.1 is appropriate.

History of Violations

The Discharger does not have a history of violations similar to the 2 February 2019 SSO, therefore a neutral multiplier value of 1 is appropriate.

Step 5 - Determination of Total Base Liability Amount

The Total Base Liability is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

Total Base Liability Amount: This value is determined by applying the adjustment factors from Step 4 to the Initial Liability Amount determined in Step 2.

<p>Total Base Liability Amount, Violation 1</p> <p>$\\$194,843 \times 1.1 \times 1.1 \times 1 = \\$235,760$</p> <p>Total Base Liability Amount, Violation 1 = \$235,760</p>

Step 6 - Ability to Pay and Ability to Continue in Business

The ability to pay and to continue in business factor must be considered when assessing administrative civil liabilities. If the Water Board has sufficient financial information to assess the Discharger's ability to pay the Total Base Liability or to assess the effect of the Total Base Liability on the Discharger's ability to continue in business, then the Total Base Liability amount may be adjusted downward.

In this matter, the Discharger is an ongoing governmental entity with the ability to raise revenue to satisfy the liability proposed through the imposition of fees and taxes and there is no information presented to date that would evidence the inability to pay.

Step 7 – Other Factors as Justice May Require

As a settlement consideration, the Prosecution Team is not including any staff costs in the liability.

Step 8 – Economic Benefit

Pursuant to CWC section 13385(e), civil liability, at a minimum, must be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation.

The Economic Benefit is calculated to be \$407. Additional details regarding this calculation are included in Attachment C.

Final adjusted liability

The final adjusted liability is \$235,760.

Step 9 – Maximum and Minimum Liability Amounts

The maximum and minimum amounts for the discharge violation must be determined for comparison to the amounts being proposed.

Maximum Liability: Water Code maximum liability amount for the violation is \$4,662,270.

Minimum Liability: The minimum liability is calculated as the economic benefit plus 10%. The minimum liability is \$447.

Step 10 – Final liability Amount

The final liability amount consists of the amount of the violation, with any allowed adjustments, provided the amount is within the statutory minimum and maximum amounts. Using the Penalty Calculation Methodology, as described above, the proposed penalty is \$235,760.