

## **EXHIBIT A**

### **Alleged Violation and Factors in Determining Administrative Civil Liability**

#### **VALERO REFINING COMPANY IMPROPER OPERATION OF TREATMENT SYSTEM RESULTING IN EFFLUENT LIMIT VIOLATIONS BENICIA REFINERY, BENICIA, CONTRA COSTA COUNTY**

The State Water Resources Control Board Water Quality Enforcement Policy (Enforcement Policy) establishes a methodology for assessing administrative civil liability. Use of the methodology addresses the factors required by Water Code sections 13327 and 13385, subdivision (e). Each factor in the Enforcement Policy and its corresponding category, adjustment, and amount for the alleged violation is presented below. The Enforcement Policy should be used as a companion document in conjunction with this administrative civil liability assessment since the penalty methodology and definition of terms are not replicated herein. The Enforcement Policy is at:

[http://www.waterboards.ca.gov/water\\_issues/programs/enforcement/docs/enf\\_policy\\_final111709.pdf](http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf)

#### **ALLEGED VIOLATION**

On January 18, 2016, Valero Refining Company (Discharger) discharged partially treated wastewater to Suisun Bay for the entire day in violation of NPDES Permit No. CA0005550, Order R2-2015-0037 (permit or Order). The discharge violated the three separate effluent limitations prescribed in Table 4 of Provision IV.A: 1) the maximum daily concentration of total suspended solids (TSS) and 2) the maximum daily concentration for selenium (Se), and 3) the average monthly concentration for selenium. These effluent limit violations were the result of the improper operation of the EQIP solids treatment unit.

The Discharger reported via telephone and in a follow-up notification letter on February 5, 2016, that operator error on January 18, 2016, resulted in the failure of the EQIP unit to maintain a stable sludge bed. The total volume discharged on January 18 was approximately 2.87 million gallons, of which about 1.13 million gallons was discharged during the 9 hours of improper operation of the EQIP unit. Specifically, at about 10:00 a.m. on January 18, the operator inadvertently left closed the polymer feed during a routine feed rate check. About seven hours later, at around 5:00 p.m. that same day, the next shift operator reestablished the polymer feed. Finally, at about 7:00 p.m. and two hours after the polymer feed was reestablished, the operator visually confirmed the EQIP unit's return to normal operation when a stable sludge bed was observed. Monitoring results obtained on January 18 confirmed that the effluent limits for TSS and Se were exceeded.

On January 18, 2016, the discharge was also monitored for acute toxicity, mercury, oil and grease, and pH. These results show compliance with permit effluent limits. No monitoring occurred for other permit-limited parameters because those parameters were not scheduled for monitoring during the incident week. The Discharger's follow-up monitoring for TSS on January 26 and 27 and for Se on January 28, 2016, confirmed its return to compliance. Follow up monitoring is a requirement of the permit.

While the Discharger is subject to an Administrative Civil Liability for all three of the above violations of the Order pursuant to Water Code section 13385(a)(2), the Enforcement Policy allows for a single base liability amount to be assessed for multiple violations at the discretion

of the Water Board when those violations are not independent of one another. Here all three effluent limitations violations derive from the same incident: the failure to reestablish the polymer feed after a routine feed rate check. Because the violations are not independent of each other one penalty is calculated for the discharge of 1.13 million gallons of partially treated wastewater that exceeded the effluent limitations.

## **ADMINISTRATIVE CIVIL LIABILITY CALCULATION STEPS**

### **STEP 1 – POTENTIAL FOR HARM FOR DISCHARGE VIOLATION**

The “potential harm” factor considers the harm to beneficial uses that resulted or that may result from exposure to the pollutant(s) in the 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 harm or potential 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: Harm or Potential Harm to Beneficial Uses**

The Enforcement Policy specifies that a score between 0 and 5 be assigned based on a determination of whether direct or indirect harm, or potential for harm, from a violation is negligible (0) to major (5).

The potential harm to beneficial uses from the discharge is **minor (i.e., a score of 1)**. Minor is assigned when there are “no observed impacts but potential impacts to beneficial uses without appreciable harm.” The beneficial uses of Suisun Bay are commercial and sport fishing; estuarine habitat; industrial service supply; fish migration; navigation; preservation of rare and endangered species; water contact recreation; noncontact water recreation; fish spawning; and wildlife habitat (San Francisco Bay Basin Plan Table 2-7, Basin 7–Suisun Basin).

Elevated levels of TSS and Se discharged into Suisun Bay would have potential to harm aquatic habitat uses. The Order sets load limits for Se because it is widely recognized to be a concern through aquatic food chain bio-concentration, which occurs over time. The TSS limits are technology based to ensure effective treatment of refinery wastewater in accordance with national Petroleum Refining Effluent Guidelines and Standards (40 CFR Part 419). Also, TSS is a surrogate for many potential particle-bound contaminants of concern in petroleum refinery wastewater. Therefore, the primary concern for potential harm is the increased TSS and Se loading to the Bay. However, these potential impacts would not result in any appreciable harm to the aquatic habitat beneficial uses for the following reasons:

- The TSS load of 5,265 pounds per day (lb/d) exceeded the daily maximum limit of 2,400 lb/d, which is just under two times the limit. This increase was over a short duration.
- While the reported Se concentration of 110 micrograms per liter ( $\mu\text{g/L}$ ) was more than twice the daily limit of 50  $\mu\text{g/L}$ , it had a minimal effect on the average monthly concentration. The reported concentration of 42.75  $\mu\text{g/L}$  is just slightly above the monthly effluent limit of 42  $\mu\text{g/L}$ . Thus, any additional bio-concentration would be minor because the increased load of Se is only about two percent above the monthly limit. Thus, the potential impacts to beneficial uses due to Se are minor.

## **Factor 2: The Physical, Chemical, Biological or Thermal Characteristics for the Discharge**

The Enforcement Policy specifies that a score between 0 and 4 be assigned based on a determination of the risk or threat of the discharged material to potential receptors. It defines “potential receptors” as those identified considering human, environmental and ecosystem health exposure pathways.

The risk or threat of the discharge is **minor (i.e., a score of 1)**. Minor is assigned because the discharge fits the Enforcement Policy definition that “discharged material poses only minor risk or threat to potential receptors (i.e., the chemical and or/or physical characteristics of the discharged material are relatively benign or are not likely to harm potential receptors.”

The primary concern with Se is the chronic exposure to aquatic life over time. This short-duration discharge does not likely have the potential to harm receptors, such as aquatic life. The risk or threat of risk due to the chemical characteristics of the Se discharge is minor.

The TSS in the EQIP unit is predominantly made up of precipitated iron. The EQIP unit’s main function is to remove co-precipitated ferric chloride, which is used to reduce Se. Thus, the bulk of the solids would be generally benign iron (Attachment F of Order No. R2-2015-0037, Fact Sheet II.A.2.b.iii page F-4). However, high solids could also be indicative of other pollutants such as chromium, copper, and dioxin-TEQ (which were not monitored), so a factor above “negligible” is warranted.

## **Factor 3: Susceptibility to Cleanup or Abatement**

The Enforcement Policy specifies that if 50 percent or more of the discharge is susceptible to cleanup or abatement, then a score of 0 is assigned. A score of 1 is assigned if less than 50 percent of the discharge is susceptible to cleanup or abatement. This factor is evaluated regardless of whether the discharge was actually cleaned up or abated.

The discharge was **not susceptible to cleanup or abatement and is assigned a score of 1**. The discharge flowed into and commingled with ambient receiving waters. There was no opportunity for abating the effects.

## **STEP 2 – ASSESSMENTS FOR DISCHARGE VIOLATIONS**

The Enforcement Policy specifies that when there is a discharge, an initial liability amount based on a per-gallon and/or a per-day basis is determined using the sum of the Potential for Harm scores from Step 1 and a determination of Deviation from Requirement. The Deviation from Requirement reflects the extent to which a violation deviates from the specific requirement that was violated.

For the violations, the **sum of the three factors from Step 1 is 3**. In addition, the **Deviation from Requirement** for the violations is **moderate**. The Policy defines moderate deviation for violations where “The intended effectiveness of the requirement has been partially compromised.” The intent of the requirement to meet permit technology based effluent limits is to ensure treatment of the discharge to a certain standard. The TSS and Se limits were both technology based limits. Because the improper operation was limited to just one of the many treatment units at the refinery, and resulted in effluent limit violations for two out of four monitored technology based effluent limits (pH, and oil and grease were the other two limits), the intent of the requirements was only partially compromised.

The resulting **per-gallon and per-day multiplier factor is 0.013** from the matrix in Tables 1 and 2 of the Enforcement Policy, based the Potential for Harm score and extent of Deviation from Requirement described above. The Enforcement Policy notes that while generally it is intended that effluent limit violations be addressed on a per day basis only, in appropriate situations such as a large scale spill, both per gallon and per day assessment may be considered. Due to the large scale of the spill, and to avoid an inappropriately small penalty, the Prosecution Staff used both per-gallon and per-day factors.

#### **Initial Liability Amount**

There was no adjustment of the maximum \$10/gallon because it would result in an inappropriately small penalty. The volume discharged over the nine-hour period was 1.13 million gallons. The volume used to calculate the initial liability is 1,000 gallons less than the total discharged volume (1.13 million gallons) during the event, which is 1.129 million gallons. The initial liability amount calculated on a per-gallon and per-day basis is as follows:

Per Gallon Liability: (1.129 million gallons) x (0.013) x (\$10/gallons) = \$146,770

Per Day Liability: \$10,000/day x (0.013) x (31 days) = \$4,030

**Initial Liability = \$150,800**

### **STEP 3 – PER DAY ASSESSMENT FOR NON-DISCHARGE VIOLATIONS**

Not applicable for this discharge violation.

### **STEP 4 – ADJUSTMENTS TO INITIAL LIABILITY**

The Enforcement Policy specifies that three additional factors should 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.

#### **Culpability**

The Enforcement Policy specifies that higher liabilities should result from intentional or negligent violations as opposed to accidental violations. It specifies use of a multiplier between 0.5 and 1.5, with a higher multiplier for intentional or negligent behavior.

For this violation, the culpability multiplier is increased to **1.1** because the effluent limit violations were caused by an operator's failure to reestablish polymer feed after closing the feed line during a routine check.

#### **Cleanup and Cooperation**

The Enforcement Policy provides for an adjustment to reflect the extent to which a violator voluntarily cooperated in returning to compliance and correcting environmental damage. The adjustment is a multiplier between 0.75 and 1.5, with a higher multiplier where there is a lack of cooperation.

The cleanup and cooperation multiplier in this case is **neutral at 1**. The Discharger's next shift operator promptly took appropriate actions to restore normal treatment function. The Discharger

also complied with permit notification, reporting, and monitoring requirements when it became aware that operator error resulted in violations of permit effluent limits.

According to the Discharger's February 5, 2016, five-day written report, and May 27, 2016, report of additional information, the Discharger also took reasonable corrective action to install an on-line turbidity meter with an alarm system, which will reduce future operator response time and subsequent exceedances.

### **History of Violations**

The Enforcement Policy provides that where there is a history of repeat violations, a minimum multiplier of 1.1 should be used.

The history multiplier is increased to **1.1**. This increase is appropriate because the Regional Water Board has previously assessed mandatory minimum penalties of \$27,000 (ACL R2-2012-0065) and \$18,000 (ACL R2-2007-0013) for effluent limit violations against the Discharger.

### **STEP 5 – DETERMINATION OF TOTAL BASE LIABILITY**

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 = \$150,800 (Initial Liability) x 1.1 (Culpability Multiplier) x 1 (Cleanup and Cooperation Multiplier) x 1.1 (History of Violations Multiplier)

**Total Base Liability = \$182,468 (rounded to \$182,500)**

### **STEP 6 – ABILITY TO PAY AND TO CONTINUE IN BUSINESS**

The Enforcement Policy provides that if there is sufficient financial information to assess the violator's ability to pay the Total Base Liability or to assess the effect of the Total Base Liability on the violator's ability to continue in business, then the Total Base Liability amount may be adjusted downward if warranted.

In this case, Regional Water Board Prosecution Staff has sufficient information to suggest the Discharger has the ability to pay the proposed liability. According to its public earnings report, the Discharger ended the first quarter of 2016 with \$3.8 billion in cash and temporary cash investments, of which \$102 million was held by Valero Energy Partners LP.<sup>1</sup>

### **STEP 7 – OTHER FACTORS AS JUSTICE MAY REQUIRE**

The Enforcement Policy provides that if the Regional Water Board believes that the amount determined using the above factors is inappropriate, the amount may be adjusted under the provision for "other factors as justice may require." The Enforcement Policy includes the costs of investigation and enforcement as "other factors as justice may require," that should be added to the liability amount. While staff costs could be added to the penalty, the Prosecution Team, in its discretion, is electing not to pursue staff costs in this matter.

There are no factors under this category that warrant an adjustment.

<sup>1</sup> <https://globenewswire.com/news-release/2016/05/03/835929/en/Valero-Energy-Reports>

## **STEP 8 – ECONOMIC BENEFIT**

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

As documented in this complaint, the facility operator failed to open the polymer feed, which resulted in an unstable sludge bed and incomplete flocculation. Due to the fact that the Discharger had not installed a turbidity meter and alarm that would have alerted the operator of the problem, seven hours passed before the next shift operator noticed the problem and reestablished the polymer feed. A turbidity meter and alarm was installed on June 30, 2016. As a result, the Discharger enjoyed an economic benefit related to delayed installation of the turbidity meter and alarm, as well as the avoided cost of the polymer for those seven hours. The BEN financial model provided by the United States Environmental Protection Agency was used to compute the total economic benefit of noncompliance. Cost estimate and other assumptions are detailed in the table found in **Attachment 1**. Based on specific assumptions within the model, the total economic benefit of noncompliance was determined to be approximately **\$343**.

The adjusted Total Base Liability from Step 7 is unchanged because it is more than ten percent higher than the estimated economic benefit.

## **STEP 9 – MAXIMUM AND MINIMUM LIABILITY**

### a) *Minimum Liability*

The Enforcement Policy states (p. 21) that the total liability shall be at least 10% higher than the economic benefit, “so that liabilities are not construed as the cost of doing business and the assessed liability provides meaningful deterrent to future violations.” Therefore the minimum total liability is approximately \$377.

### b) *Maximum Liability*

The maximum administrative civil liability is \$28.7 million. This is based on the highest discharge volume resulting from the volume discharged during improper operation, which is 2.87 million gallons for the full day of discharge in violation of the TSS and Se limits. The maximum allowed by Water Code section 13385 is (1) \$10,000 for each day in which the violation occurs, plus (2) \$10 for each gallon exceeding 1,000 gallons that is discharged and not cleanup.

## **STEP 10 – FINAL LIABILITY**

The final liability proposed is **\$182,500** (rounded), based on consideration of the penalty factors discussed above. It is within the minimum and maximum liabilities.

## Economic Benefit Analysis

### Valero Refining Company

| Compliance Action                           | One-Time Non-Depreciable Expenditure |       |           |          | Non-Compliance Date | Compliance Date | Penalty Payment Date | Discount Rate | Benefit of Non-Compliance |
|---|--------------------------------------|-------|-----------|----------|---------------------|-----------------|----------------------|---------------|---------------------------|
|   | Amount                               | Basis | Date      | Delayed? |                     |                 |                      |               |                           |
| 1 - Installation of Turbidity Meter & Alarm | \$ 15,500                            | ECI   | 6/30/2016 | Y        | 1/18/2016           | 6/30/2016       | 12/13/2016           | 7.30%         | \$ 248                    |
| 2 - Increased Polymer Dosing                | \$ 151                               | GDP   | 8/25/2016 | N        | 1/18/2016           | 1/1/2016        | 12/13/2016           | 7.30%         | \$ 95                     |

**Income Tax Schedule:** Corporation      **Analyst:** Bryan Elder      **Total Benefit:** \$ **343**  
**USEPA BEN Model Version:** Version 5.6.0 (April 2016)      **Date/Time of Analysis:** 9/13/2016 12:28

**Assumptions:**

- 1 Cost estimates for installation of turbidity meter are based on discussions with Valero during an inspection conducted in August 2016. Purchase and installation was completed in June 2016.
- 2 Polymer dosing expenses based on upper range of cost per gallon determined from comparison with East Bay MUD wastewater treatment.
- 3 Turbidity installation is indexed using Employment Cost Index (ECI) as a significant portion of the cost is related to labor. This cost is considered a delayed expense.
- 4 Polymer dosing cost is indexed using Gross Domestic Product (GDP) and is considered an avoided expense.
- 5 Non-compliance date is assumed to be the date of unauthorized discharge (January 18, 2016).
- 6 Compliance date for turbidity meter installation is assumed to be June 30, 2016.
- 7 Compliance date for polymer dosing is irrelevant as the cost is considered an avoided expense.
- 8 Penalty Payment Date is assumed to be the tentative hearing date, or approximately 90 days from the date this analysis was prepared.
- 9 The Discharger is assumed to be a for-profit corporation.

**EXHIBIT B**

**MANDATORY MINIMUM PENALTIES  
FOR  
VALERO REFINING COMPANY-CALIFORNIA  
VALERO BENICIA REFINERY WASTEWATER TREATMENT PLANT  
3400 EAST SECOND STREET, BENICIA, SOLANO COUNTY  
NPDES PERMIT NO. CA0005550, ORDER NO. R2-2015-0037**

The following table lists alleged violation(s) for which the Discharger is subject to civil liabilities pursuant to Water Code sections 13385(h) and/or 13385(i).

| No           | CIWQS Violation ID No. | Date of Occurrence | Effluent Limitation (Unit)                           | Effluent Limit | Reported Value | Percent a Group I or Group II Pollutant is over Effluent Limitation | Type of Exceedance | CWC Section 13385(h) and/or (i) Required MMP |
|--------------|------------------------|--------------------|--|----------------|----------------|---|--------------------|--|
| 1            | 985568                 | 12/02/2014         | Cyanide, Total (as CN) Daily Maximum (ug/L)          | 42             | 80             | 90  | C1, S              | \$3,000                                      |
| 2            | 985567                 | 12/04/2014         | Cyanide, Total (as CN) Daily Maximum (ug/L)          | 42             | 48             | 14  | C2                 |  |
| 3            | 985563                 | 12/06/2014         | Cyanide, Total (as CN) Daily Maximum (ug/L)          | 42             | 51             | 21  | C3, S              | \$3,000                                      |
| 4            | 985564                 | 12/17/2014         | Cyanide, Total (as CN) Daily Maximum (ug/L)          | 42             | 57             | 36  | > C3, S            | \$3,000                                      |
| 5            | 985565                 | 12/18/2014         | Cyanide, Total (as CN) Daily Maximum (ug/L)          | 42             | 66             | 57  | > C3, S            | \$3,000                                      |
| 6            | 985566                 | 12/31/2014         | Cyanide, Total (as CN) Monthly Average (Mean) (ug/L) | 21             | 33.8           | 61  | > C3, S            | \$3,000                                      |
| <b>Total</b> |                        |                    |  |                |                |   |                    | <b>\$15,000</b>                              |

Legend for Table:

MMP = mandatory minimum penalty

CIWQS = California Integrated Water Quality System database used by the Water Boards to manage violation and enforcement activities.

Violation ID = Identification number assigned to a permit exceedance in CIWQS.

C = Count – The number that follows represents the number of exceedances in the past 180 days, including this violation. A count greater than three (> C3) means that a penalty under Water Code section 13385(i) applies.

S = Serious, which means that a penalty under Water Code section 13385(h) applies when an effluent limitation is exceeded 40 percent or more for a Group I pollutant or 20 percent or more for a Group II pollutant.

**CIWQS Place ID:** 223950  
**Regulatory Measure:** 404940  
**WDID:** 2 482004001