CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

In the matter of:	)	
	)	
EQUILON ENTERPRISES LLC, dba SHELL OIL PRODUCTS US, SHELL MARTINEZ REFINERY WASTEWATER TREATMENT PLANT, CONTRA COSTA COUNTY	)	**SETTLEMENT AGREEMENT AND STIPULATION FOR ENTRY OF ADMINISTRATIVE CIVIL LIABILITY ORDER**
	)	**PROPOSED ORDER**
January and February 2017 National Pollutant Discharge Elimination System Permit Effluent Limit Violations	)	

Section I: INTRODUCTION

1. This Settlement Agreement and Stipulation for Entry of Administrative Civil Liability Order (Stipulated Order) is entered into by and between the California Regional Water Quality Control Board, San Francisco Bay Region, Prosecution Team (Prosecution Team) and Equilon Enterprises LLC, dba Shell Oil Products US (Shell) (collectively Parties), and is presented to the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board), or its delegate, for adoption as an Order by settlement, pursuant to Government Code section 11415.60. This Stipulated Order resolves the violations alleged herein by the imposition of administrative civil liability against Shell in the amount of **$86,000**.

Section II: RECITALS

2. Shell owns and operates the Shell Martinez Refinery (facility) at 3485 Pacheco Boulevard in Martinez, California. The facility is a petroleum refinery that includes a wastewater treatment system.

3. On January 12, 2017, Shell discharged 8 million gallons of wastewater above applicable National Pollutant Discharge Elimination System (NPDES) permit effluent discharge limits to the Carquinez Strait. Intense storms and high volumes of stormwater runoff entered the plant reducing the settling pond residence time. This resulted in a discharge that had a daily mercury concentration of 0.83 µg/L and an average monthly concentration of 0.13 µg/L.

4. During February 2017, Shell discharged 51 million gallons of wastewater above NPDES permit effluent discharge limits. Consecutive intense storms with runoff exceeding the plant capacity reduced the settling pond residence time and resulted in

total suspended solids (TSS) exceeding the maximum daily limit twice and the average monthly limit once.

5. Regional Water Board staff informed Shell in December 2014 regarding the inadequacy of its solids removal practices. Failure to meet performance-based concentration limits, such as the mercury limits, indicates a failure to maintain proper operation, maintenance, and performance of the wastewater treatment system. Further, exceedance of the TSS limits indicates a failure to properly operate and maintain the treatment system.

6. In January and February 2017, multiple storm systems caused heavy rainfall in the San Francisco Bay Area, leading to a State of Emergency declaration for Contra Costa County. Approximately 10.96 inches of rain fell in January and 7.06 inches in February. The heavy rains resulted in effluent flows from the wastewater treatment plant reaching nearly 9 MGD, over 50 percent more than average. Shell began efforts to address heavy rainfall by installing a supplementary centrifuge and changing out the carbon in its granular activated carbon units more frequently. The January and February 2017 discharges above NPDES permit effluent discharge limits occurred despite these efforts.

7. The facility is regulated under Order No. R2-2012-0096, NPDES Permit CA0038849 (Watershed Permit) and Order No. R2-2012-0053, NPDES Permit CA0005789. The January 12, 2017, discharge violated the mercury concentration limits for maximum daily and average monthly effluent limits specified in Watershed Permit section III.B, Table 6A. Specifically, the January 12 daily concentration (0.83 µg/L) exceeded the maximum daily limit (0.12 µg/L) by a factor of seven and the average monthly concentration of 0.13 µg/L exceeded the average monthly limit (0.079 µg/L) by a factor of two. The February 2017 discharges violated the TSS maximum daily and average monthly effluent limits specified in Permit section IVA.1.a, Table 6a.

8. California Water Code (Water Code) section 13385, subdivision (a)(2), provides that a person who violates a waste discharge requirement issued pursuant to this chapter shall be liable civilly. Both NPDES permits are issued under this chapter, and effluent limitations are waste discharge requirements contained within those permits. Subdivision (c)(2) provides that civil liability may be imposed administratively by a regional board in an amount not to exceed ten thousand dollars ($10,000) per day in which the violation occurs and, where there is a discharge, an amount not to exceed ten dollars ($10) per gallon for the volume discharged minus 1,000 gallons.

9. Water Code section 13385, subdivisions (h) and (i), provide that a mandatory minimum penalty of three thousand dollars ($3,000) shall be assessed for each serious violation and each violation in which a person violates a waste discharge requirement effluent limitation four times within any period of six consecutive months.

10. To resolve the alleged violations in Section II, paragraphs 3 to 9, by consent and without further administrative proceedings, the Parties have agreed to the imposition

of an administrative civil liability of **$86,000** against Shell. The administrative civil liability ($77,000) imposed for the Water Code violations under section 13385, subdivision (a)(2), is the proposed liability the Prosecution Team calculated and asserted using Steps 1 through 10 of the State Water Resources Control Board's Water Quality Enforcement Policy (May 2010) (Enforcement Policy) as shown in Attachment A. The mandatory minimum penalty ($9,000) imposed under Water Code section 13385, subdivisions (h) and (i), is the amount the Prosecution Team calculated and asserted as shown in Attachment B. Payment of $43,000 to the State Water Pollution Cleanup and Abatement Account is due no later than 30 days following the Regional Water Board executing this Order. The remaining $43,000 in penalties shall be suspended upon completion of a Supplemental Environmental Project (SEP), as described below.

11. The Parties have agreed to settle this matter without administrative or civil litigation, and to present this Stipulated Order to the Regional Water Board, or its delegate, for adoption as an Order by settlement pursuant to Government Code section 11415.60.

12. The Prosecution Team believes that the resolution of the alleged violations is fair and reasonable, and fulfills all of its enforcement objectives; that no further action is warranted concerning these violations, except as provided in this Stipulated Order; and that this Stipulated Order is in the public's best interest.

Section III: STIPULATIONS

The Parties incorporate the foregoing Recitals and stipulate to the following:

13. **Administrative Civil Liability:** Shell hereby agrees to the imposition of an administrative civil liability totaling $86,000 to resolve the alleged violations as set forth in Section II as follows:

    a. No later than 30 days after the Regional Water Board, or its delegate, signs this Stipulated Order, Shell shall submit a check for $43,000 made payable to the "State Water Pollution Cleanup and Abatement Account," reference the Order number on page one of this Stipulated Order, and mail the check to:

        State Water Resources Control Board Accounting Office
        Attn: ACL Payment
        P.O. Box 1888
        Sacramento, CA 95812-1888

        Shell shall e-mail a copy of the check to the State Water Resources Control Board Office of Enforcement (susan.loscutoff@waterboards.ca.gov) and the Regional Water Board (habte.kifle@waterboards.ca.gov).

    b. Shell agrees that $43,000 of the administrative liability amount shall be paid to the Regional Monitoring Program, care of the San Francisco Estuary Institute for

implementation of a SEP, the Polychlorinated Biphenyl (PCB) Synthesis Study, as follows:

i. $43,000 (SEP Amount) shall be paid solely for use toward the PCB Synthesis Study, a study to synthesize information from the Dredged Material Management Office Database to evaluate PCB concentrations from dredging projects, to compare concentration ranges to other areas, and to estimate the PCB mass removed from the Bay by dredging. Attachment C, incorporated herein by reference, provides a complete description of this project.

ii. An additional $2,150 (SEP Oversight Costs) shall be paid to the San Francisco Estuary Institute for administration and oversight costs associated with the PCB Synthesis Study described above.

iii. No later than 30 days after the Regional Water Board, or its delegate, signs this Stipulated Order, Shell shall submit a check for the SEP Amount and the SEP Oversights Costs made payable to the "Regional Monitoring Program," reference the Order number on page one of this Stipulated Order, and mail the check to:

Regional Monitoring Program
c/o San Francisco Estuary Institute
4911 Central Avenue
Richmond, CA 94804

Shell shall send a copy of the check to the Office of Enforcement and the Regional Water Board at the e-mail addresses set forth above.

14. **SEP:** The Parties agree that the payment of the SEP Amount and the SEP Oversight Costs is a SEP and that the SEP Amount will be treated as a suspended administrative civil liability for purposes of this Stipulated Order. Shell's SEP obligations will be satisfactorily completed upon the San Francisco Estuary Institute's written notification to Regional Water Board staff and Shell acknowledging that the Regional Monitoring Program received payment of the SEP Amount and the SEP Oversight Costs from Shell and the payment will be spent on the project described in Section III, paragraph 13(b)(i), in accordance with the terms of this Stipulated Order. The San Francisco Estuary Institute's annual and quarterly financial reports to the Regional Water Board shall be considered a final post-project accounting of expenditures.

15. **SEP Oversight Costs:** The San Francisco Estuary Institute will oversee implementation of the SEP in lieu of oversight by Regional Water Board staff and will report solely to the Regional Water Board. Oversight costs are not considered a part of the SEP Amount.

16. **Publicity Associated with the SEP:** Whenever Shell or its agents or subcontractors publicize one or more elements of the SEP, they shall state in a **prominent manner** that the project is undertaken as part of a settlement to a Regional Water Board enforcement action against Shell.

17. **Regional Water Board is Not Liable:** Neither the Regional Water Board, its members, nor its staff shall be held as parties to or guarantors of any contract entered into by Shell, its directors, officers, employees, agents, representatives, or contractors in carrying out activities pursuant to this Stipulated Order.

18. **Regional Water Board is Not Liable:** Neither the Regional Water Board, its members, nor its staff, attorneys, or representatives, shall be liable for any injury or damage to persons or property resulting from negligent or intentional acts or omissions by Shell, its directors, officers, employees, agents, representatives, or contractors in carrying out activities pursuant to this Stipulation and Order.

19. **Compliance with Applicable Laws:** Shell understands that payment of administrative civil liability in accordance with the terms of this Stipulated Order and/or compliance with the terms of this Stipulated Order is not a substitute for compliance with applicable laws, and that continuing violations of the type alleged herein may subject it to further enforcement, including additional administrative civil liability.

20. **Party Contacts for Communications related to this Stipulation and Order:**

For the Regional Water Board:	**For Shell:**
Habte Kifle San Francisco Bay Regional Water Quality Control Board 1515 Clay Street, 14th Floor Oakland, CA 94612 Habte.Kifle@waterboards.ca.gov (510) 622-2300	Ann Vorderbrueggen Staff Engineer Shell Oil Products US–Martinez Refinery P.O. Box 711 Martinez, CA 94553-0017 Ann.Vorderbrueggen@shell.com (925) 313-5161

21. **Attorney's Fees and Costs:** Each Party shall bear all attorneys' fees and costs arising from its own counsel in connection with the matters set forth herein.

22. **Matters Addressed by this Stipulation:** Upon the Regional Water Board's or its delegate's adoption, this Stipulated Order represents a final and binding resolution and settlement of the alleged violations as of the effective date of this Stipulated Order. The provisions of this paragraph are expressly conditioned on the full payment of the administrative civil liability and SEP Amount by the deadlines specified in Section III, paragraphs 13, and San Francisco Estuary Institute's written notification as specified in paragraph 14.

23. **Public Notice:** Shell understands that this Stipulated Order must be noticed for a 30-day public review and comment period prior to consideration by the Regional Water Board or its delegate. If significant new information is received that reasonably affects the propriety of presenting this Stipulated Order to the Regional Water Board, or its delegate, for adoption, the Prosecution Team may unilaterally declare this Stipulated Order void and decide not to present it to the Regional Water Board or its delegate. Shell agrees that it may not rescind or otherwise withdraw its approval of this proposed Stipulated Order.

24. **Addressing Objections Raised During Public Comment Period:** The Parties agree that the procedure contemplated for the Regional Water Board's or its delegate's adoption of the Order and public review of this Stipulated Order is lawful and adequate. The Parties understand that the Regional Water Board, or its delegate, have the authority to require a public hearing on this Stipulated Order. If procedural objections are raised or the Regional Water Board requires a public hearing prior to the Order becoming effective, the Parties agree to meet and confer concerning any such objections, and may agree to revise or adjust the procedure and/or this Stipulated Order as necessary or advisable under the circumstances.

25. **Interpretation:** This Stipulated Order shall be construed as if the Parties prepared it jointly. Any uncertainty or ambiguity shall not be interpreted against any one Party. The Parties are represented by counsel in this matter.

26. **Modification:** The Parties shall not modify this Stipulated Order by oral representation made before or after its execution. All modifications must be in writing, signed by all Parties, and approved by the Regional Water Board or its delegate.

27. **If the Order Does Not Take Effect:** If the Order does not take effect because the Regional Water Board or its delegate does not approve it, or the State Water Resources Control Board (State Water Board) or a court vacates it in whole or in part, the Parties acknowledge that they expect to proceed to a contested evidentiary hearing before the Regional Water Board to determine whether to assess administrative civil liabilities for the underlying alleged violations unless the Parties agree otherwise. The Parties agree that all oral and written statements and agreements made during the course of settlement discussions will be inadmissible as evidence in the hearing. The Parties agree to waive any and all objections based on settlement communications in this matter, including, but not limited to the following:

    a. Objections related to prejudice or bias of any of the Regional Water Board members or their advisors, and any other objections that are premised in whole or in part on the fact that the Regional Water Board members or their advisors were exposed to some of the material facts and the Parties' settlement positions as a consequence of reviewing the Stipulation and/or the Order, and therefore may have formed impressions or conclusions prior to any contested evidentiary hearing on the violation alleged herein in this matter; or

b. Laches or delay or other equitable defenses based on the time period for administrative or judicial review to the extent that this period has been extended by these settlement proceedings.

28. **Waiver of Hearing:** Shell has been informed of the rights that Water Code section 13323, subdivision (b), provides and hereby waives its right to a hearing before the Regional Water Board prior to the Order's adoption.

29. **Waiver of Right to Petition or Appeal:** Shell hereby waives its right to petition the Regional Water Board's adoption of the Order for review by the State Water Board, and further waives its rights, if any, to appeal the same to a California Superior Court and/or any California appellate-level court. This explicit waiver of rights includes potential future decisions by the Regional Water Board or its delegate directly related to this Stipulated Order, including, but not limited to time extensions, SEP completion, and other terms contained in this Stipulated Order.

30. **Covenant Not to Sue:** Shell covenants not to sue or pursue any administrative or civil claim against any State agency or the State of California, or their officers, Board members, employees, representatives, agents, or attorneys arising out of or relating to any matter expressly addressed by this Stipulated Order or the SEP.

31. **Necessity for Written Approvals:** All approvals and decisions of the Regional Water Board under the terms of this Stipulated Order shall be communicated to Shell in writing. No oral advice, guidance, suggestions, or comments from Regional Water Board employees or officials regarding submissions or notices shall be construed to relieve Shell of its obligation to obtain any final written approval this Stipulated Order requires.

32. **Authority to Bind:** Each person executing this Stipulated Order in a representative capacity represents and warrants that he or she is authorized to execute this Stipulated Order on behalf of and to bind the entity on whose behalf he or she executes the Stipulated Order.

33. **No Third Party Beneficiaries:** This Stipulated Order is not intended to confer any rights or obligations on any third party or parties, and no third party or parties shall have any right of action under this Stipulated Order for any cause whatsoever.

34. **Severability:** This Stipulated Order is severable; if any provision is found to be invalid, the remainder shall remain in full force and effect.

35. **Counterpart Signatures; Facsimile and Electronic Signature:** This Stipulated Order may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one document. Further, this Stipulated Order may be executed by facsimile or electronic signature, and any such facsimile or electronic signature by any Party hereto shall be deemed to be an original signature and shall be

binding on such Party to the same extent as if such facsimile or electronic signature were an original signature.

36. **Effective Date**: This Stipulated Order shall be effective and binding on the Parties upon the date the Regional Water Board, or its delegate, enters the Order incorporating the terms of this Stipulated Order.

IT IS SO STIPULATED.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION, PROSECUTION TEAM**

Date: January 31, 2018

By: _____
Thomas Mumley
Assistant Executive Officer

Approved as to form:

By: _____
Susie Loscutoff, Attorney
State Water Resources Control Board
Office of Enforcement

Shell Oil Products US

Date: FEB 9, 2018

By: _____
Gordon Johnson, Manager, Environmental Affairs

Approved as to form:

By: _____
John Epperson, Attorney

ORDER OF THE REGIONAL WATER BOARD

37. This Order incorporates the foregoing Sections I through III by this reference as if set forth fully herein.

38. In accepting this Stipulation, the Regional Water Board has considered, where applicable, each of the factors prescribed in Water Code section 13385, subdivision (e), and has applied the Penalty Calculation Methodology set forth in the State Water Resource Control Board's Enforcement Policy, which is incorporated herein by this reference. The Regional Water Board's consideration of these factors and application of the Penalty Calculation Methodology is based upon information the Prosecution Team obtained in investigating the allegations set forth in the Stipulation, or otherwise provided to the Regional Water Board.

39. This is an action to enforce the laws and regulations administered by the Regional Water Board. The Regional Water Board finds that issuance of this Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, § 21000 et seq.) in accordance with section 15321, subdivision (a)(2), Title 14, of the California Code of Regulations. Additionally, this Order generally accepts the plans proposed for the SEP prior to implementation. Mere submittal of plans is exempt from CEQA as submittal will not cause a direct or indirect physical change in the environment.

40. The Executive Officer of the Regional Water Board is authorized to refer this matter directly to the Attorney General for enforcement if Shell fails to perform any of its obligations under the Order.

IT IS HEREBY ORDERED pursuant to Water Code section 13323 and Government Code section 11415.60, on behalf of the California Regional Water Quality Control Board, San Francisco Bay Region.

_____ _____

Bruce H. Wolfe Date
Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region

ATTACHMENT A
Factors in Determining
Administrative Civil Liability

Equilon Enterprises LLC, dba Shell Oil Products US
Shell Martinez Refinery Wastewater Treatment Plant
Discharge of Wastewater above NPDES Permit Effluent Limits to Carquinez Strait
Martinez, 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 California Water Code section 13385, subdivision (e). Each factor in the Enforcement Policy and its corresponding category, adjustment, and amount for the alleged violation are 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 located at:

http://www.waterboards.ca.gov/water_issues/programs/enforcement/docs/enf_policy_final111709.pdf

ALLEGED VIOLATIONS

In January and February 2017, Equilon Enterprises LLC, dba Shell Oil Products US (Shell) discharged wastewater in excess of applicable discharge limits to Carquinez Strait, as described below. The violations occurred because Shell did not properly operate and maintain the treatment system, which led to inadequate solids removal from the ponds. High flows (due to stormwater) scoured the sediment deposits and resulted in violations of mercury and total suspended solids (TSS) effluent limits. These violations occurred despite Shell's efforts beginning in January 2017 to address heavy rains by installing a supplementary centrifuge and by more frequently changing the carbon in its Granular Activated Carbon units.

Mercury Violation. On January 12, 2017, Shell discharged 8 million gallons of wastewater in excess of effluent discharge limits in violation of NPDES Permit CA0038849, Order No. R2-2012-0096 (Watershed Permit). The discharge violated the mercury concentration limits for maximum daily and average monthly effluent limits specified in Watershed Permit section III.B, Table 6A. Specifically, the January 12 daily concentration of 0.83 µg/L exceeded the maximum daily limit (0.12 µg/L) by a factor of seven and the average monthly concentration of 0.13 µg/L exceeded the average monthly limit (0.079 µg/L) by a factor of two. Failure to meet these performance-based concentration limits indicates a failure to maintain proper operation, maintenance, and performance of the wastewater treatment system.[1] As Shell reported in its February 28, 2017, *Monthly Self-Monitoring Report and Monthly Discharge Monitoring Report,*

[1] Watershed Permit, Fact Sheet, page F-20.

intense storms and high volumes of stormwater runoff entering the plant reduced the settling pond residence time and resulted in discharges exceeding the effluent limits.[2]

Total Suspended Solids Violations. During February 2017, Shell discharged approximately 51 million gallons of wastewater in excess of effluent discharge limits in violation of NPDES Permit CA0005789, Order No. R2-2012-0052 (Permit). This discharge violated the maximum daily and average monthly effluent limits for TSS specified in Permit section IVA.1.a, Table 6a. The discharge violated the TSS maximum daily limit on two occasions and the average monthly limit once. Exceedance of the TSS limits indicates a failure to properly operate and maintain the treatment system. Shell stated that consecutive intense storms with runoff exceeding the plant capacity reduced the settling pond residence time and resulted in TSS exceeding the Permit effluent limits.[3]

Shell is subject to administrative liabilities for these violations pursuant to Water Code section 13385, subdivision (a)(2). The factors considered in determining the liabilities for exceeding the effluent limits are described below:

PENALTY FACTOR	SCORE	DISCUSSION
Harm or Potential Harm to Beneficial Uses for Discharge Violations	2	A score of 2 (below moderate) is appropriate because the "impacts are observed or reasonably expected, and harm to beneficial uses is minor." (Enforcement Policy, p.12.) As described in detail below, the beneficial uses most affected include estuarine habitat, fish spawning, preservation of rare and endangered species, wildlife habitat, and commercial and sport fishing (Permit, Table 5). Elevated mercury concentrations have the potential to harm beneficial uses through bioaccumulation within the food web, thus affecting rare and endangered species, wildlife habitat, and commercial and sport fishing. Carquinez Strait is impaired by mercury due to its bioaccumulation within the food web. Mercury concentrations in San Francisco Bay fish are high enough to threaten the health of humans who consume them. Mercury concentrations in some bird eggs are high enough to account for abnormally high rates of eggs failing to hatch.[4] Adverse effects of mercury occur through long-term bioaccumulation. While the performance-based concentration limit was exceeded for one day, the violation of the monthly average is considered a violation for every day of the month of January. However, given the monthly average violation was the result of a short-term event and Shell's 12-month rolling mass load of 0.15 kg/year was below the Watershed Permit limit of 0.22 kg/year, a below moderate factor for the mercury violation is appropriate. Refinery TSS includes both organic and inorganic fractions. The inorganic components include materials such as sand, silt, and clay. The organic components include hydrocarbons and other byproducts of refinery operations. In Carquinez Strait, the organic fraction has the potential to be toxic to aquatic organisms (e.g., as sediment particles are trapped in fish gills). Thus, estuarine habitat and fish

[2] Pursuant to 40 C.F.R. section 122.41 (see Permit Attachment D section V.E.3, p. D-7), Water Board staff waived the 5-day report for the January violations and required Shell to summarize its corrective actions in its monthly monitoring report.
[3] Shell submitted the 5-day report on February 17, 2017, and the February self-monitoring report on March 28, 2017.
[4] San Francisco Bay Mercury Total Maximum Daily Load website: http://www.swrcb.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/sfbaymercurytmdl.shtml.

PENALTY FACTOR	SCORE	DISCUSSION
		spawning beneficial uses would be adversely affected. Because the daily limit was exceeded for only two days and the monthly limit was exceeded as a result of that short-term event, a below moderate harm is appropriate.
Physical, Chemical, Biological, or Thermal Character-istics (Degree of Toxicity)	2	A score of 2 (moderate) is appropriate because the "Discharged material poses a moderate risk or threat to potential receptors (i.e., the chemical and/or physical characteristics of the discharged material have some level of toxicity or pose a moderate level of concern regarding receptor protection)." (Enforcement Policy, p. 13.) The mercury discharge posed a moderate degree of toxicity. The greatest risk of exposure to mercury is through fish consumption. Mercury bioaccumulation within the food web can expose wildlife and humans to unsafe mercury levels. For example, birds are especially sensitive to mercury during early development of embryos and chicks.[5] San Francisco Bay is impaired by mercury due to its bioaccumulation. However, the discharge posed only a moderate degree of toxicity because the 12-month rolling mass load of 0.15 kg was below the Watershed Permit's annual limit of 0.22 kg. The TSS in the discharge also exhibited a moderate degree of toxicity. The organic fraction of refinery TSS contains toxic constituents that can harm aquatic life (e.g., when TSS particles are trapped in gills and harmful constituents are absorbed into fish tissue). Deposition of the organic fraction in the bottom sediments can inhibit normal benthic growth and thus interrupt the aquatic food chain. The TSS monthly average of 2,800 lbs/day was 1.5 times the monthly average limit of 1,800 lbs/day. The daily loads of 9,900 and 8,400 lbs/day were about three times the daily limits of 3,200 and 2,900 lbs/day.[6] However, the exceedance of the daily limit was of short duration and exceedance of the monthly average was just above the limit. Therefore, a moderate degree of toxicity is appropriate.
Susceptibility to Cleanup or Abatement	1	A score of 1 is appropriate because the discharges commingled with the receiving waters and were not susceptible to cleanup or abatement. (Enforcement Policy, p. 13.) Shell pumps its effluent to a deep-water diffuser in Carquinez Strait where rapid mixing occurs (Permit, p. 6). There was no opportunity to abate the effects.
Final Score	5	The scores for the above three factors are added together to provide a "Potential for Harm" score of 5 (2+2+1 = 5).
Deviation from Requirement	Moderate	A moderate deviation is appropriate. The Enforcement Policy defines moderate deviation as "The intended effectiveness of the requirement has been partially compromised (e.g. the requirement was not met, and the effectiveness of the requirement is only partially achieved)." (Enforcement Policy, p.14.) Although Shell violated some mercury and TSS limits, it complied with all other technology-based limits, including pH and oil and grease. It also complied with the Water Shed permit's trigger for the 12-month rolling average mercury mass emission. Thus, the intended effectiveness of the permit requirements were only partially compromised.

[5] "Reducing Methylmercury Accumulation in the Food Webs of San Francisco Bay and Its Local Watersheds," San Francisco Estuary Institute: Richmond, CA.
[6] As allowed in the Permit, the TSS effluent limit is adjusted according to the volume of stormwater flow through the system.

PENALTY FACTOR	SCORE	DISCUSSION
Per Day Factor for Discharge Violations	0.10	The Enforcement Policy states, "Generally, it is intended that effluent limit violations be addressed on a per day basis only." (Enforcement Policy, p. 14.) Table 2 of the Enforcement Policy contains per-day factors for penalty assessment. Based on the Potential for Harm score of 5 and a moderate Deviation from Requirement, the per-day factor for the mercury and TSS violations is 0.10.
Initial Liability	**$59,000**	Shell violated daily maximum and average monthly effluent limits in January 2017 and February 2017. Monthly limit violations extend across each day of each month during which the violations occurred. Because Shell exceeded the monthly effluent limits for 31 days in January and 28 days in February, it violated the monthly limit for 59 days.[7] The daily maximum limit violations occurred during these periods and are not counted as separate days of violations. Therefore, the initial liability calculated on a per-day basis is as follows: Initial Liability: $59,000 = $10,000/day x 59 days x 0.10
Adjustments for Discharger Conduct		
Culpability	1.1	A score of 1.1 (above neutral) is appropriate because Shell failed to improve its solids removal practices despite Water Board staff pointing out the need for such improvements in a December 2014 inspection report. In addition, for eight consecutive months, the inflow solids mass to the pond exceeded the outflow mass from the pond,[8] indicating excess sediment deposition. The high flows in January and February 2017 likely scoured the sediment deposits, resulting in the effluent limit violations.
Cleanup and Cooperation	1	A score of 1 (neutral) is appropriate because Shell complied with both permits' monitoring and reporting requirements following the violation. In addition, Shell implemented the following corrective actions to reduce TSS and comply with Permit requirements: • Installed one additional centrifuge; • Doubled attendants at centrifuges; • Supplemented dredging by removing bottom sediments with narrow probes attached to pumps and hoses; • Increased solids removal by increasing change-out rates at granular activated carbon (GAC) vessels; • Lengthened backwash time at each GAC vessel to optimize solids removal; and • Added TSS sampling points upstream of effluent to monitor conditions.
History of Violations	1.1	A score of 1.1 is appropriate because the Enforcement Policy states, "Where there is a history of repeat violations, a minimum multiplier of 1.1 should be used to reflect this." (Enforcement Policy, p. 17.) Shell has a history of effluent limit violations, as demonstrated by the following enforcement orders:

[7] The Water Boards interpret Water Code section 13385, subdivision (c)(1) the same as Clean Water Act section 309(d). (Wat. Code, § 13372 (requiring state provision be construed to ensure consistency with the federal program requirements); *Atlantic States Legal Foundation, Inc. v. Tyson Foods, Inc.* (11th Cir. 1990) 897 F.2d 1128 (holding that a violation of a monthly average is a violation for each day of the month); *Natural Resources Defense Council Inc. v. Texaco Refining and Marketing, Inc.* (3d Cir. 1993) 2 F.3d 493 (assessing penalties for a violation of a monthly average based on the number of days the facility was in operation).

[8] Email from Shell to Regional Water Board staff, *Copy of Selenium Solids Tracking,* May 9, 2017.

PENALTY FACTOR	SCORE	DISCUSSION
		• Order No. R2-2014-1025: $6,000 penalty for mercury and selenium effluent limit violations; and • Order No. R2-2013-1021: $15,000 penalty for five mercury effluent limit violations.
Total Base Liability	**$71,400** (rounded)	The initial liability is multiplied by each factor related to Shell's conduct to determine the Total Base Liability as follows: $71,390 = $59,000 x 1.1 (culpability) x 1 (cleanup) x 1.1 (history)
Ability to Pay and Continue in Business	No adjustment	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 liability may be adjusted downward if warranted. According to Shell's first quarter 2017 earnings report (http://www.cnbc.com/2017/05/04/shell-earnings-q1-2017.html), it earned $3.8 billion with an overall revenue value of $71.8 billion. Therefore, Shell can pay the proposed liability without undue financial hardship.
Economic Benefit	$77,000	The Enforcement Policy requires recovery of any economic benefit plus 10 percent derived from failure to implement controls that result in a violation. Shell may have received an economic benefit by failing to implement a temporary remedy, such as renting a mobile filtration unit, to manage its flows. Mobile units cost about $5,000/day (including chemicals, supplies, and operators) and can filter up to 1,000 gallons per minute.[9] Heavy rain occurred over 14 days. Thus, the economic benefit plus 10 percent was likely about $77,000 ($5,000/day x 14 days x 1.1).
Other Factors as Justice May Require		
Staff Costs	No adjustment	The Prosecution Team did not consider staff costs in determining the final proposed liability amount.
Maximum Liability	$232 Million	Water Code section 13385 allows up to $10,000 for each day in which a violation occurs and $10 for each gallon exceeding 1,000 gallons discharged and not cleaned up. The maximum liability calculated based on 23.1 million gallons and 59 days of violations is as follows: $232 Million = (23,100,000 gallons – 1,000 gallons) x $10/gallon + (59 days x $10,000/day)
Minimum Liability	$15,000	Water Code section 13385 requires a mandatory minimum penalty of $3,000 for each serious violation. There were five serious violations subject to mandatory minimum penalties (i.e., three maximum daily and two average monthly violations). Thus, the minimum liability is $15,000.
Final Liability	**$77,000**	The Enforcement Policy states that the final liability must be at least 10 percent higher than the economic benefit. (Enforcement Policy, p. 21.) In this case, the economic benefit plus 10 percent is $77,000, which is higher than the base liability of $71,400. Therefore, the final liability is $77,000, which should serve as a sufficient deterrent against future violations.

[9] Quote from GE Mobile on May 19, 2017.

ATTACHMENT B

Mandatory Minimum Penalties
for
Equilon Enterprises LLC, dba Shell Oil Products US
Shell Martinez Refinery Wastewater Treatment Plant
3485 Pacheco Boulevard, Martinez, Contra Costa County
NPDES Permit No. CA0005789, Order No. R2-2012-0052

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

No	CIWQS Violation ID	Occurrence Date	Effluent Limit (Unit)	Effluent Limit	Reported Value	Percent Group I or Group II Pollutant is over Effluent Limitation	Exceedance Type	CWC Section 13385(h) and (i) Required MMP
1	1021501	1/12/2017	Total suspended solids (TSS), Daily Maximum (lbs/day)	3200*	4180	30	C1	
2	1021502	1/20/2017	Selenium, Daily Maximum (µg/L)	50	72	44	C2, S	$3,000
3	1022769	2/17/2017	Mercury, Daily Maximum (µg/L)	0.12	0.368	206.7	C3, S	$3,000
4	1022771	2/24/2017	Mercury, Daily Maximum (µg/L)	0.12	0.15	25	> C3, S	$3,000
							Total	**$9,000**

Legend:

MMP = mandatory minimum penalty

CIWQS = California Integrated Water Quality System (database Water Boards use to manage violation and enforcement activities)

Violation ID = Identification number assigned to permit violation in CIWQS.

C = Count – Number that follows represents number of exceedances in past 180 days, including this violation. Penalty under Water Code section 13385(i) applies when count is greater than three (> C3).

S = Serious – Penalty under Water Code section 13385(h) applies when effluent limit exceeded by 40 percent for Group I pollutant or 20 percent for Group II pollutant.

* = TSS maximum daily effluent limit is calculated using wet weather stormwater runoff allocations set forth in Permit section IV.A.1.b, Effluent Limitations and Discharge Specifications (see Permit Table 6b).

CIWQS Place ID: 256695
Regulatory Measure: 385534
WDID: 2 071042001

ATTACHMENT C

Equilon Enterprises LLC, dba Shell Oil Products US, Shell Martinez Refinery
PCB Synthesis Study
Description of Supplemental Environmental Project Fund for the
San Francisco Bay Regional Monitoring Program

1. Basic Information

Study Name: PCB Synthesis Study of Measurements in Dredged Sediments Compiled in the Dredged Material Management Office (DMMO) Database.

Study Budget: Total: $45,150 ($43,000+$2,150 in oversight costs)

Contacts: San Francisco Estuary Institute (SFEI) Technical – Jay Davis, jay@sfei.org, cell (510) 304-2308
SFEI Financial – Lawrence Leung, lawrence@sfei.org, (510) 746-7356

2. Study Description

This study will synthesize information from the DMMO database to evaluate PCB concentrations from dredging projects to compare the concentration ranges to other areas (e.g., open water and margin ambient sites), and to estimate the PCB mass removed from the Bay by dredging. The DMMO maintains a database that compiles sediment chemistry testing data from all Bay dredging projects. The DMMO has only recently released this database to the public. These data would provide valuable information to confirm the PCB total maximum daily load (TMDL) assessment that dredging results in a net PCB loss from the Bay and to leverage data already collected to evaluate the current conceptual model of Bay PCBs.

3. No Benefit to the Water Board Functions, Members, or Staff

This Supplemental Environmental Project (SEP) provides no benefit to the San Francisco Bay Regional Water Quality Control Board (Regional Water Board), its members, or its staff.

4. Compliance with SEP Criteria

This study complies with the following SEP criteria:

- It is a study of surface water quality.
- It has a nexus to the violations in that it is located within the same Water Board region in which the violations occurred.

5. Above and Beyond Discharger's Obligations

This study and the associated technical report go above and beyond the discharger's applicable obligations required under the permit issued by the Regional Water Board

or what can be accomplished with the discharger's required monetary contributions to the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP).

6. Study Milestone and Performance Measure

The results of the PCB data analysis from the DMMO data will be reported as a technical report due by September 30, 2018.

7. Study Budget and Reports to Regional Water Board

Pursuant to the October 2015 Supplemental to Memorandum of Understanding between SFEI and the Regional Water Board, SFEI is responsible for identifying in each RMP annual work plan and annual budget those studies or elements, or a portion of a study or element, to be funded by SEP funds. SFEI will keep a copy of accounting records of SEP fund contributions and expenditures separate from regular RMP funds. In its annual and quarterly financial reports to the Regional Water Board, SFEI will separately itemize SEP fund contributions and expenditures by each SEP funder.

8. Supplemental Information

Background. San Francisco Bay and its watershed have legacy PCB contamination spread widely across the land surface, mixed deep into the sediment, and contaminating the food web to a degree that poses health risks to humans and wildlife. The Regional Water Board has implemented TMDL requirements for San Francisco Bay PCBs to address impairment from elevated PCB concentrations in fish tissue. The TMDL Implementation Plan relies on controlling external PCB loads to the Bay, controlling internal PCB sources within the Bay, and managing risks to Bay fish consumers. Sediment dredging and disposal outside of the Bay are expected to result in a net PCB removal from the Bay, but rising sea levels and a deficit of sediment relative to the needs for sediment in potential wetland restoration projects suggest that more beneficial re-use of dredged material may be needed, where possible.

The DMMO is an interagency group responsible for approving dredging projects. Every year, millions of cubic yards of sediment are dredged from San Francisco Bay to maintain safe navigation. The DMMO includes representation by the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency Region 9, the San Francisco Bay Conservation and Development Commission, the Regional Water Board, and the State Water Resources Control Board. It is responsible for approving dredging projects in an economically and environmentally sound manner. Both the dredged sediment and the remaining residual sediment (post-dredge surface sediment) are analyzed for PCBs and other contaminants, and compared to ambient Bay sediment concentrations based on RMP data. The analysis of the dredged material is used to determine the suitability of the material for disposal at specific sites or for reuse within the Bay. The physical, chemical, and biological testing data for dredging projects is compiled in a database, which is now available on the DMMO website.

Analysis and synthesis of the PCB data already compiled in the DMMO database can provide valuable insights into the PCB mass removed from the Bay by dredging projects. This information can update and check our conceptual understanding of PCB contamination in the Bay and contribute to answering PCB management questions (described below) and identifying how DMMO data can be more closely integrated with the RMP PCB Management Strategy.

Approach. The DMMO database includes complete physical, chemical, and biological testing data from sediment dredging projects from 2000 through 2016. SFEI will extract and synthesize dredged sediment PCB data from the DMMO website (e.g., a copy of or download of the database contents) to quantify the distribution and movement of PCB out of the Bay through dredging projects. Annual reports published by DMMO specify the total volume of dredged sediment from each project in the Bay and the destination of the dredged sediment (e.g., San Francisco Deep Ocean Disposal Site or upland reuse sites). Each DMMO annual report includes a table that summarizes this information. SFEI will extract and match the most relevant PCB sediment concentration testing data with the project-specific dredged volume disposed outside the Bay as reported in the DMMO annual report. This way, SFEI will estimate the amount of PCB removed from the Bay from dredging projects.

Data from the DMMO database will also be synthesized to evaluate the spatial distribution of PCB concentrations in dredged sediment. This synthesis of dredged sediment testing data will help answer management questions about the PCB concentrations and masses in the Bay and its segments. Comparing dredging data with ambient concentrations (http://www.sfei.org/projects/dmmo-ambient-sediment-conditions) may help answer questions about whether these sites are likely PCB sources or sinks relative to the surrounding area. Comparing sediment dredging data and RMP ambient data on a regional and local basis can also help inform appropriate management options for the dredged sediment, and help evaluate opportunities for beneficial reuse through specific reuse.