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AttorneyS for Complainant

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 9**

IN THE MATTER OF:	)	DOCKET NO. OPA 09-2018-00002
	)	
VSS International, Inc.	)	<b>COMPLAINANT'S</b>
	)	<b>PREHEARING EXCHANGE</b>
West Sacramento, California,	)	
	)	
Respondent.	)	
	)	
Proceedings under Section 311(b)(6) of the	)	
Clean Water Act, 33 U.S.C. § 1321(b)(6).	)	

Complainant, U.S. Environmental Protection Agency, Region 9 (“EPA”), provides this Prehearing Exchange as directed in the Prehearing Order of April 20, 2018.

**I. Complainant’s List of Witnesses to be Called at Hearing**

EPA may call the following witnesses at hearing. EPA may not call some witnesses if, at the time of hearing, the substance of their testimony is undisputed or stipulated, if they are otherwise determined to be unnecessary, or if they are unavailable. EPA reserves the right to supplement this list of witnesses to the extent allowed for by 40 CFR Part 22, or by order of the tribunal.

1 Janice Witul (Fact Witness)

2 Ms. Witul is a Physical Scientist in the Enforcement Division of EPA, Region 9. Ms.  
3 Witul is expected to testify about conditions at Respondent's facility, including at the time of  
4 EPA's 2012 and 2016 inspections for compliance with the Oil Pollution Prevention regulations  
5 at 40 C.F.R. Part 112.

6 Conner Adams (Fact Witness)

7 Mr. Adams is a Physical Scientist in the Enforcement Division of EPA, Region 9. Mr.  
8 Adams is expected to testify about conditions at Respondent's facility, including at the time of  
9 EPA's 2016 inspection for compliance with the Oil Pollution Prevention regulations at 40 C.F.R.  
10 Part 112.

11 Troy Swackhammer (Fact Witness)

12 Mr. Swackhammer is a chemical engineer in EPA's Office of Enforcement and  
13 Compliance Assistance in Washington, D.C. Mr. Swackhammer is expected to testify about the  
14 economic benefit Respondent received from non-compliance with the Oil Pollution Prevention  
15 regulations, and authentication of public records regarding the costs of compliance with the Oil  
16 Pollution Prevention regulations.

17 William Michaud, P.E. (Expert Witness)

18 Mr. Michaud is a Professional Engineer employed by SRA International, Inc., a  
19 contractor to EPA. He is expected to testify to use of the "substantial harm" criteria for  
20 determining applicability of 40 C.F.R. § 112.20 to Respondent's facility. Government  
21 contracting requirements have delayed EPA's access to his curriculum vitae, but EPA will  
22 provide it to Respondent as soon as it is available and advise the tribunal.

1 **II. Complainant's Documents and Exhibits**

2 EPA includes with this Prehearing Exchange the documents and exhibits it intends to  
3 introduce into evidence. These are:

4 a. CX 1: Google Maps of Sacramento Deepwater Channel area

5 (<https://www.google.com/maps/place/38%C2%B033'38.0%22N+121%C2%B034'13.>

6 [0%22W/@38.5605599,-](https://www.google.com/maps/place/38%C2%B033'38.0%22N+121%C2%B034'13.0%22W/@38.5605599,-)

7 [121.5723207,783m/data=!3m2!1e3!4b1!4m5!3m4!1s0x0:0x0!8m2!3d38.560556!4d-](https://www.google.com/maps/place/38%C2%B033'38.0%22N+121%C2%B034'13.0%22W/@38.5605599,-121.5723207,783m/data=!3m2!1e3!4b1!4m5!3m4!1s0x0:0x0!8m2!3d38.560556!4d-)

8 [121.570269?hl=en](https://www.google.com/maps/place/38%C2%B033'38.0%22N+121%C2%B034'13.0%22W/@38.5605599,-121.570269?hl=en))

9 b. CX 2: Area Contingency Plan Site Strategy (Excerpt) – Sacramento River Deep  
10 Water Ship Channel, 2-859-B (October 1, 2014).

11 <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16226&inline=true>

12 c. CX 3: Winter-run Chinook Salmon map, NOAA Fisheries West Coast Region  
13 Critical Habitat:

14 [http://www.westcoast.fisheries.noaa.gov/publications/gis\\_maps/maps/salmon\\_steelhe](http://www.westcoast.fisheries.noaa.gov/publications/gis_maps/maps/salmon_steelhead/critical_habitat/chin/chinook_srwr.pdf)

15 [ad/critical\\_habitat/chin/chinook\\_srwr.pdf](http://www.westcoast.fisheries.noaa.gov/publications/gis_maps/maps/salmon_steelhead/critical_habitat/chin/chinook_srwr.pdf) (Location of VSS facility added.)

16 d. CX 4: November 2012 Inspection Report/checklist, September 23, 2013

17 e. CX 5: Photolog – November 2012 Inspection Report/checklist

18 f. CX 6: Notice of SPPCC and FRP Inspection for September 30, 2016 signed by Randy  
19 Tilford.

20 g. CX 7: Summary of SPCC Deficiencies, September 30, 2016

21 h. CX 8: September 2016 Inspection Report/checklist, November 28, 2016

22 i. CX 9: Photolog – September 2016 Inspection Report/checklist

23 j. CX 10: EPA Request for Information pursuant to CWA § 308, June 25, 2013

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- 1 k. CX 11: VSS Int'l Response to EPA's Information Request, August 23, 2013
- 2 l. CX 12: January 20, 2017 FRP Review Checklist
- 3 m. CX 13: EPA requests for additional training records, June 27, 2017
- 4 n. CX 14: Review of FRP Applicability, William R. Michaud, P.E., August 23, 2016
- 5 o. CX 15: Report on Evaluation of Containment Measures, Haley & Aldritch,, January
- 6 2014
- 7 p. CX 16: VSS Int'l SPCC Plan, April 2012
- 8 q. CX 17: VSS Int'l Consolidated Plan, October 2014 (SPCC & FRP)
- 9 r. CX 18: VSS Int'l Consolidated Plan, January 2016 (SPCC)
- 10 s. CX 19: VSS Int'l January 2017 FRP
- 11 t. CX 20: VSS Int'l Consolidated Plan, May 2017 (SPCC)
- 12 u. CX 21: VSS Int'l May 2017 FRP
- 13 v. CX 22: Renewal of Information Collection Request for the Implementation of the Oil
- 14 Pollution Act Facility Response Plan Requirements (40 C.F.R. Part 112), February
- 15 2018
- 16 w. CX 23: Substantial Harm Criteria Determination, Delano and Casey, June 23, 2015
- 17 x. CX 24: September 18, 2017 FRP Review Checklist

18 **III. Complainant's Estimate of Time Needed to Present its Case**

19 Barring stipulations regarding the facts or elements of the case, Complainant estimates  
20 that it will take approximately 16 hours to present its direct case.

21 **IV. Translation Services**

22 Complainant does not anticipate requiring translation services to present its direct case.  
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1 **V. Factual and Legal Bases Supporting Complainant's Allegations Denied by**  
2 **Respondent**

3 Complaint provides the following support for its factual and legal positions denied by  
4 Respondent. Paragraph references follow Complainant's Administrative Complaint and  
5 Opportunity to Request a Hearing, filed February 13, 2018.

6 Para. 12: Complaint will use maps to show that the Sacramento Deep Water Ship  
7 Channel connects directly into the San Francisco Bay Delta, then to San Pablo Bay, San  
8 Francisco Bay and the Pacific Ocean.

9 Para. 14: Complaint will use testimony and Respondent's planning documents to  
10 demonstrate that, for the period November 2012 through present, Respondent's facility has had a  
11 total oil storage capacity exceeding 1 million gallons.

12 Para. 17: 50 C.F.R. § 226.204 designates waters as critical habitat for Sacramento  
13 Winter-Run Chinook, which include the Sacramento Deep Water Channel as water of and an  
14 adjacent riparian zone to the Sacramento River.

15 Para. 18: Complainant will use testimony, expert reports and maps to demonstrate the  
16 planning distance for the substantial harm criteria of 40 C.F.R. § 112.20.

17 Para. 22: Complainant will use testimony, Respondent's planning documents and maps to  
18 demonstrate that Respondent's facility is a "non-transportation onshore facility" that reasonably  
19 could be expected to discharge oil into a navigable water of the United States or its adjoining  
20 shorelines in a harmful quantity, consistent with 40 C.F.R. Parts 110 and 112.

21 Para. 23: Complainant will use testimony, Respondent's planning documents and maps to  
22 demonstrate that Respondent's, as the owner and operator of the facility, is subject to the Oil  
23 Pollution Prevention regulations at 40 C.F.R. Part 112.

1           Para. 25: Complainant will use testimony and public records to demonstrate that EPA  
2 conducted inspections of Respondent's facility in November 2012 and September 2016.

3           Para. 26: Complainant will use testimony and public records to demonstrate EPA  
4 reviewed Respondent's SPCC plans of various dates.

5           Paras. 30-33: Complainant will use testimony and Respondent's planning documents to  
6 demonstrate that Respondent's SPCC plans lacked management approval and complete diagrams  
7 and maps to demonstrate Respondent's non-compliance with 40 C.F.R. §§ 112.5 and 112.7.

8           Paras. 36-38: 33 U.S.C. § 1321(b)(6)(B) provides for violations to be subject to separate  
9 penalties for each day of a continuing violation, and Complainant will present testimony  
10 regarding the extent of non-compliance, when or if Respondent came into compliance with the  
11 Oil Pollution Prevention regulations, and the amount of appropriate penalties.

12           Para. 41-42: Complainant will use testimony and Respondent's planning documents to  
13 demonstrate that Respondent's SPCC plans lacked certification of applicable standards by a  
14 Professional Engineer in violation of 40 C.F.R. § 112.3.

15           Paras. 44-46: 33 U.S.C. § 1321(b)(6)(B) provides for violations to be subject to separate  
16 penalties for each day of a continuing violation, and Complainant will present testimony  
17 regarding the extent of non-compliance, when or if Respondent came into compliance with the  
18 Oil Pollution Prevention regulations, and the amount of appropriate penalties.

19           Paras. 49-53, and 55: Complainant will use testimony and Respondent's planning  
20 documents to demonstrate that Respondent put into service Tank #2001 in or about March 2012,  
21 and Tank #2002 in or about July 2015. Complainant will similarly demonstrate that Respondent  
22 did not amend its SPCC plan until within six months of these changes.

1           Paras. 57-60: 33 U.S.C. § 1321(b)(6)(B) provides for violations to be subject to separate  
2 penalties for each day of a continuing violation, and Complainant will present testimony  
3 regarding the extent of non-compliance, when or if Respondent came into compliance with the  
4 Oil Pollution Prevention regulations, and the amount of appropriate penalties.

5           Paras. 63-65: Complainant will use testimony and public records to demonstrate that  
6 Respondent failed to keep records of tank inspections and tests for a period of three years.

7           Paras. 66-67: 33 U.S.C. § 1321(b)(6)(B) provides for violations to be subject to separate  
8 penalties for each day of a continuing violation, and Complainant will present testimony  
9 regarding the extent of non-compliance, when or if Respondent came into compliance with the  
10 Oil Pollution Prevention regulations, and the amount of appropriate penalties.

11           Paras. 70-75: Complainant will use testimony, public records and Respondent's planning  
12 documents to demonstrate that Respondent did not have an FRP at the time of EPA's 2012  
13 inspection, and subsequently prepared FRPs that failed to meet the criteria of 40 C.F.R. §  
14 112.20(h).

15           Paras. 76-78: 33 U.S.C. § 1321(b)(6)(B) provides for violations to be subject to separate  
16 penalties for each day of a continuing violation, and Complainant will present testimony  
17 regarding the extent of non-compliance, when or if Respondent came into compliance with the  
18 Oil Pollution Prevention regulations, and the amount of appropriate penalties.

19 **VI. Facts and Policy Supporting Complainant's Assessment of a Penalty**

20           Included with Complainant's Prehearing Exchange is COMPLAINANT'S EXPLANATION OF  
21 THE PROPOSED PENALTY ASSESSMENT, which states the background law, facts and policies  
22 germane to calculating an appropriate penalty pursuant to 33 U.S.C. § 1321(b)(6)(B)(ii). As  
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1 addressed therein, Complainant proposes a penalty of \$230,958 to resolve all violations alleged  
2 in the complaint.

3 **VII. EPA Guidance**

4 Below are the internet address (URL), of the policies, worksheets or guidance documents  
5 relied on or intended to be relied on by Complainant in calculating the proposed penalty and any  
6 other relief sought:

7 a. The Policy on Civil Penalties (GM-21), February 16, 2984:

8 [https://www.epa.gov/sites/production/files/documents/epapolicy-](https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf)  
9 [civilpenalties021684.pdf](https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf)

10 b. A Framework for Statute-Specific Approaches to Penalty Assessments (GM-22),

11 February 16, 1984 [https://www.epa.gov/sites/production/files/documents/epapolicy-](https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf)  
12 [civilpenalties021684.pdf](https://www.epa.gov/sites/production/files/documents/epapolicy-civilpenalties021684.pdf)

13 c. Civil Penalty Policy for Section 311(b)(3) and Section 311 (j) of the Clean Water Act,  
14 dated August 21, 1998: [https://www.epa.gov/enforcement/civil-penalty-policy-section-](https://www.epa.gov/enforcement/civil-penalty-policy-section-311b3-and-section-311j-clean-water-act-cwa-august-1998)  
15 [311b3-and-section-311j-clean-water-act-cwa-august-1998.](https://www.epa.gov/enforcement/civil-penalty-policy-section-311b3-and-section-311j-clean-water-act-cwa-august-1998)

16 d. Amendments to the EPA's Civil Penalty Policies to Account for Inflation (effective  
17 January 15, 2018) and Transmittal of the 2018 Civil Monetary Penalty Inflation  
18 Adjustment Rule, dated January 11, 2018:

19 [https://www.epa.gov/enforcement/amendments-epas-civil-penalty-policies-account-](https://www.epa.gov/enforcement/amendments-epas-civil-penalty-policies-account-inflation-effective-january-15-2018-and)  
20 [inflation-effective-january-15-2018-and.](https://www.epa.gov/enforcement/amendments-epas-civil-penalty-policies-account-inflation-effective-january-15-2018-and)

21 **VIII. Proof of Public Notice of Proposed Penalty**

22 Pursuant to 40 C.F.R. § 22.45(b), Complainant provided public notice on May 21, 2018.

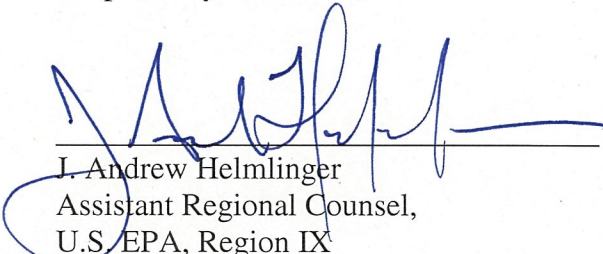
23 The notice is available at: [https://www.epa.gov/publicnotices/vss-international-inc-west-](https://www.epa.gov/publicnotices/vss-international-inc-west)  
24



1 sacramento-california-administrative-complaint-and. Publication of the notice was outside the  
2 period directed by 40 C.F.R. § 22.45(b), but as may be required, Complainant will assert no  
3 substantive prejudice to the Respondent in this matter. Complainant will make available all  
4 comments received and any responses made to comments. A copy of the public notice is  
5 submitted with the Prehearing Exchange documents, along with the return receipt on service of  
6 the Complaint (green card), signed February 20, 2018.

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8 Dated: June 1, 2018.

9 Respectfully Submitted,

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13 J. Andrew Helmlinger  
14 Assistant Regional Counsel,  
15 U.S. EPA, Region IX  
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## **Complainant's Explanation of the Proposed Penalty Assessment** *In the Matter of VSS International, Inc., Docket No. OPA 09-2018-00002*

Pursuant to the March 21, 2018 Prehearing Order in this matter, EPA Region 9 provides this narrative explanation of the administrative penalty it proposes to be assessed against VSS International, Inc. ("Respondent").

For the reasons explained below, the Region has calculated a penalty of **\$230,958**, which is the administrative maximum penalty.

### **I. Relevant Law and Facts**

The Region seeks this penalty pursuant to Section 1321(b)(6)(ii) of the Clean Water Act ("CWA" or "the Act"), 33 U.S.C. § 1321(b)(6)(ii), for Respondent's failure to comply with the Spill Prevention Control and Countermeasure ("SPCC") and Facility Response Plan ("FRP") requirements of the Oil Pollution Prevention regulations at 40 C.F.R. Part 112. The Oil Pollution Prevention regulations were promulgated pursuant to 33 U.S.C. § 1321(j). Respondent owns and operates the facility at 3785 Channel Drive in West Sacramento, California, for the bulk storage and aggregation of petroleum surfacing materials, including asphaltic cement. The facility has storage capacity for more than 4.5 million gallons of petroleum based materials less than 300 feet of the Sacramento Deep Water Channel, a channelized course of the Sacramento River that is habitat for Winter Run Chinook salmon. Because of the size and location of the facility, Respondent is required to comply with the SPCC plan and FRP requirements set forth in the Oil Pollution Prevention regulations.

Section 1321(b)(6)(ii) of the Act, as adjusted by 40 C.F.R. § 19.4, provides for a maximum administrative penalty of \$18,477 for each day during which the violations of the Oil Pollution Prevention regulations continue. For administrative actions, the Act, as adjusted, provides a cap on total penalties of \$230,958.

### **II. The Oil Pollution Prevention Regulations and EPA Inspections**

Since 1973, onshore facilities that are not "transportation related" are required to comply with the federal Oil Pollution Prevention regulations, which include a requirement to prepare and maintain an SPCC plan if the facility is geographically located such that a release reasonably could be expected to discharge oil into navigable waters or adjoining shorelines. 40 C.F.R. § 112.1(b). An "onshore facility" means "any facility of any kind located in, on or under any land within the United States, other than submerged lands, which is not a transportation related facility." 40 C.F.R. § 112.2. California is a state within the United States. Bulk oil storage facilities such as the Respondent's facility are not "transportation related." See 40 C.F.R. Part 112 App. A(1)(F) (from the Memorandum of Understanding between the Secretary of Transportation and the EPA Administrator, dated November 24, 1971). Because of the size of the facility and its location adjacent to the Sacramento Deep Water Channel, Respondent is required to maintain and implement an appropriate SPCC plan.

Among the Oil Pollution Prevention regulations is the requirement for an SPCC plan to maintain secondary containment around an oil storage area that is sufficient to contain the contents of the single largest tank plus sufficient freeboard to allow for precipitation. 40 C.F.R. §

112.7(c). The SPCC plan must have full approval of management at a level of authority to commit the necessary resources to fully implement the plan. 40 C.F.R. § 112.7(a). The SPCC plan also must include a facility diagram to mark the location and contents of each fixed oil storage container, storage areas, connecting pipes, and discharge or drainage controls such as secondary containment. 40 C.F.R. § 112.7(a)(3). Each SPCC plan must be certified by a professional engineer that the plan was prepared in accordance with good engineering practice, including applicable industry standards and the requirement of the Oil Pollution Prevention regulations, that the plan includes procedures for required inspections and testing, and that the plan is adequate for the facility. 40 C.F.R. § 112.3(d). Within six months following any change in a facility's design, construction, operation or maintenance that materially affects its potential for a discharge, the owner or operator of the facility must amend its SPCC plan to reflect the changes. 40 C.F.R. § 112.5(a). The owner or operator of a facility must implement inspections and tests, and maintain records of the inspections and tests with the SPCC plan for a period of three years. 40 C.F.R. § 112.7(e).

When a facility may cause “substantial harm” to the environment by discharging oil into or onto navigable waters or adjoining shorelines, it also is required to prepare and submit an FRP for EPA’s approval. 40 C.F.R. § 112.20(a). A facility may cause a “substantial harm” if the total oil storage capacity is one million gallons or greater, and the facility is located in proximity to navigable waters such that a discharge of oil could cause injury to fish and wildlife and sensitive environments. The Sacramento River, its waters and adjacent riparian zones, which includes the Sacramento Deep Water Channel, is a designated sensitive habitat for Winter Run Chinook Salmon. 50 C.F.R. § 226.204.<sup>1</sup> Respondent’s facility is less than 300 feet from the Sacramento Deep Water Channel. To determine applicability of the FRP requirements, the planning distance to such protected waters is measured assuming a worst-case discharge of the single largest tank and without regard to man-made containment features. 40 C.F.R. Part 112 Appx. C § 5.1. EPA can demonstrate that a worst-case discharge from the single largest tank at the facility, approximately 2,300,000 gallons, would traverse the short distance of less than 300 feet to the Sacramento Deep Water Channel. EPA has prepared an engineering analysis to demonstrate that the potential spread of hot asphaltic cement from a catastrophic release from one of Respondent’s 2.3 million-gallon tanks would impact the adjacent Sacramento Deep Water Channel, even accounting for the sloping topography of the facility. Based on these elements, the facility is required to have an FRP. For existing facilities, the FRP must have been prepared and submitted to EPA no later than six months after any unplanned event or changes at the facility. See 40 C.F.R. § 112.20(a)(2).

EPA conducted two inspections at the facility to gauge compliance with the Oil Pollution Prevention regulations. These inspections occurred on November 27, 2012, and on September 30, 2016. Based on these inspections, EPA determined that Respondent had failed to have had at its facility at the time of the inspections SPCC plans that included indication of management approval and diagrams that included all required references, including large storage tanks. EPA also determined that the SPCC plan, as reviewed in the second inspection, was not certified as

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<sup>1</sup> Compare to protections for Spring-run Chinook Salmon and Steelhead, which specifically exclude the Sacramento Deep Water Ship Channel. 50 C.F.R. § 226.211 (70 F.R. 52488 (Sept. 2, 2005), Table 13).

required by a professional engineer. Each inspection occurred more than six months following Respondent putting into service a then-new 2.3 million-gallon storage tank, but the new tanks were not included in Respondent's SPCC plans at the time of the inspections. EPA observed that Respondent failed to have records of required testing and inspections, failed to adhere to the testing schedule designed to bring the facility into compliance, and continues to use tanks that were found to be unfit for service. Finally, EPA observed that the facility met the substantial harm criteria of 40 C.F.R. § 112.20(a), and required an FRP. EPA provided notice to Respondent of its observed deficiencies, and Respondent ultimately did correct many of the SPCC plan deficiencies, but has yet to demonstrate appropriate training and maintenance as required. Accordingly, Respondent has been in non-compliance with the SPCC obligations of the Oil Pollution Prevention regulations for each day of the 60-month (five year) period of limitations applicable pursuant to 28 U.S.C. § 2463. Respondent also made some effort to obtain an FRP, beginning with efforts in 2014, but Respondent's FRP still is not based on all of the criteria required at 40 C.F.R. § 112.20(h). The obligation to prepare a compliant FRP arose on or about March 2012, when Respondent installed Tank 2001.

### **III. Statutory Penalty Factors and Guidance**

The statutory penalty factors set forth in Section 311(b)(8) of the CWA, are:

[T]he seriousness of a violation or violations, the economic benefit to the violator, if any, resulting from the violation, the degree of culpability involved, any other penalty for the same incident, any history of prior violations, the nature, extent, and degree of success of any efforts of the violator to minimize or mitigate the effects of the discharge, the economic impact of the penalty on the violator, and any other matters as justice may require.

33 U.S.C. § 1321(b)(8)

EPA does not have a penalty policy for applying these statutory criteria in administrative or civil adjudications. EPA has developed a guidance for calculating bottom-line penalties for settlement of Section 311 cases under the CWA, EPA's CIVIL PENALTY POLICY FOR SECTION 311(B)(3) AND SECTION 311 (J) OF THE CLEAN WATER ACT, dated August 21, 1998 ("CWA § 311 Penalty Policy"). However, without a statute-specific penalty policy applicable to administrative adjudications, Complainant looks to two general penalty policies for the limited purpose of identifying and explaining considerations that are relevant for applying the statutory factors of Section 311 of the CWA. The POLICY ON CIVIL PENALTIES (GM-21), and its companion document, A FRAMEWORK FOR STATUTE-SPECIFIC APPROACHES TO PENALTY ASSESSMENTS (GM-22), were written to help EPA develop program-specific penalty guidance by providing an approach for evaluating statutory penalty factors.

Consistent with the statutory factors, these guidance documents provide that penalties should, at a bare minimum, be sufficient to recover the economic benefit of violations. GM-21 at 3-4; GM-22 at 2-4. The penalty must also include a component to account for the gravity of the violation:

The removal of the economic benefit of noncompliance only places the violator in the same position as he would have been if compliance had been achieved on time. Both deterrence and fundamental fairness require that the penalty include an additional amount to ensure that the violator is economically worse off than if it had obeyed the law. This additional amount should reflect the seriousness of the violation.

GM-21 at 3.

The gravity component of the penalty assessment addresses the seriousness of a violation by considering the actual or possible harm, importance to the regulatory scheme, the size of the violator, the sensitivity of the environment, and length of time a violation continues. See, GM-22 at 13-16. The seriousness of the environmental impact is “whether (and to what extent) the activity of the [violator] actually resulted or was likely to result in an unpermitted discharge or exposure.” GM-21 and GM-22 also identify a number of case-specific considerations, including the violator’s degree of willfulness or negligence, level of cooperation, history of noncompliance, ability to pay, and any other unique factors. See, GM-21 at 4-5, GM-22 at 17-24. These considerations closely follow the statutory factors of CWA § 311(b)(8).

In applying the GM-21 and GM-22 framework to the CWA § 311 penalty factors, EPA should: (1) determine the preliminary gravity as the seriousness of the violations; (2) adjust the preliminary gravity using the other statutory factors, then (3) determine economic benefit. The CWA § 311 Penalty Policy states a similarly reasoned methodology for applying the statutory factors in a penalty calculation, and follows the statutory factors by considering the gravity of the violation (collectively based on the statutory considerations of seriousness, culpability, mitigation efforts and history of violations), adjustment factors (including the statutory considerations of the economic impact on the violator and other factors as justice may require), and any economic benefit inured by the violations.

To account for the cumulative significant of multiple violations, Complainant suggests consideration of a single penalty for the multiple violations of the SPCC requirements, Counts 1-4 in the Complaint. Similarly, the facts comprising violations of the FRP requirements, Count 5, may be treated as a separate penalty calculation. Accordingly, Complainant presents an aggregated penalty for the four SPCC-related alleged violations, and one for the alleged violation of the FRP requirements.

Complainant proposes an economic benefit component based on utilizing the established and publicly available economic modeling program, BEN 5.8.0, which can be found at: <https://www.epa.gov/enforcement/penalty-and-financial-models>

#### **IV. Statutory Maximum Penalty**

As stated in the CIVIL MONETARY PENALTY INFLATION ADJUSTMENT RULE, 40 C.F.R. Part 19, the maximum penalties authorized by statute have been adjusted to account for inflation. Pursuant to the most recent inflation adjustment, where violations occurred after November 2, Complainant’s Penalty Analysis – In Re: VSS Int’l, Inc. - 4 **OPA 09-2018-00002**

2015, and penalties are assessed after January 15, 2018, the maximum administrative penalty authorized under 33 U.S.C. § 1321(b)(6)(B)(ii) for violations of the CWA is \$18,477 per day, not to exceed \$230,958. 40 C.F.R. § 19.4. Because the violations at issue have occurred since November 2, 2015, and would be assessed after January 15, 2018, Complainant asserts that Respondent is potentially liable for penalties of up to \$230,958.

## **V. Complainant's Penalty Calculation**

As stated above, Complaint proposes a penalty comprised of an aggregate gravity component for the SPCC-related violations of the Oil Pollution Prevention regulations, a gravity component for the FRP-related violations of the Oil Pollution Prevention regulations (both adjusted for inflation), and an economic benefit component. Complainant proposes this penalty based on the facts that Respondent admits, are uncontroverted or are readily verifiable and subject to judicial recognition.

### **A. SPCC Violations, Preliminary Gravity Penalty Calculation**

#### **Step 1. Seriousness**

a. As stated above, the seriousness component of a penalty consideration considers a may consider the actual or possible harm, importance to the regulatory scheme, the size of the violator, the sensitivity of the environment, and the length of time a violation continues. GM-22 at 13-16. These factors encompass the extent of the violation, the likelihood of a spill, the sensitivity of the environment and the duration of the violation. Additionally, the extent of the violation may depend on the storage capacity of the violator's facility, the existence and adequacy of secondary containment, the degree and nature of the violations of the relevant requirements, and the duration of the violation.

For the alleged violations of the SPCC requirements, Complainant's Counts I – IV, Complaint first considers the risk posed by Respondent's facility noting its size and the extent of deviation from the regulatory requirements. The storage capacity of Respondent's facility exceeds 4.6 million gallons. Respondent has maintained most physical improvements to prevent or respond to oil spills, but it has had an inadequate or incomplete SPCC plan since at least 2012, twice failed to timely amend its plan to account for the addition massive 2.3 million-gallon tanks, failed to have a professional engineer certify the SPCC plan, and significantly, still has not demonstrated adequate testing and inspection. These facts are consistent with the CWA § 311 Penalty Policy examples for "moderate" non-compliance (e.g., "inadequate or incomplete implementation," "failure to certify plan). The failure to demonstrate training and inspections is more significant, certainly leading to the conclusion that the cumulative violations would have a significant impact on the ability to respond to or prevent a discharge. Given the several potential violations at issue and the size of the facility, Complainant proposes an initial penalty of \$45,000.

Because a discharge from the facility may have a potentially significant effect on the Sacramento Deep Water Channel, which is designated critical habitat for Winter Run Chinook  
Complainant's Penalty Analysis – In Re: VSS Int'l, Inc. - 5 **OPA 09-2018-00002**

Salmon, see 50 C.F.R. § 264.204, but which is already reasonably industrialized, Complainant proposes an increase of 30% to account for the sensitivity of the environment. To account for duration, Complainant notes that Respondent's SPCC deficiencies have existed throughout each day of the five-year statute of limitations at 28 U.S.C. § 2463, and proposes another increase of 30%.

In consideration of the Respondent's level of culpability, Complainant notes the degree to which the Respondent should have been able to prevent the violation, considering the resources and information available to it. Knowing the size of the facility and reviewing Respondent's website confirms that Respondent is large, has been in business for many years and boasts to be a leader in the pavement preservation and emulsion manufacturing industries throughout the Western United States. See, <http://www.slurry.com/about-us/>. With this, it is reasonable to assume some level of Respondent's means, sophistication and awareness. Admittedly Respondent has made gains in its compliance since EPA first alerted it to the deficiencies in 2014, but on balance, Complainant proposes a penalty increase of 30% to reflect the degree of negligent culpability, not rising toward higher levels of culpability as may be reflected by grossly negligent or intentional non-compliance.

## Step 2. Adjustments Based on Other Statutory Factors

Section 311(b)(8) of the CWA provides for consideration of other penalty factors not considered above, which include other penalties paid for the same incident, any history of prior violations, the nature, extent, and degree of success of any efforts of the violator to minimize or mitigate the effects of the discharge, the economic impact of the penalty on the violator, and any other matters as justice may require. Complainant is not aware of other penalties paid or previous violations by Respondent. Similarly, Complainant is not aware of any facts suggesting that Respondent was self-auditing or correcting the violations before EPA advised it of the deficiencies. Respondent has not provided any financial records for consideration of the impact of any penalty, and Complainant is aware of no circumstances that require raising the penalty based on this factor. Accordingly, Complainant proposes no further adjustments to the gravity component of the penalty suggested for the SPCC violations. As calculated, the total gravity penalty component for the SPCC-related violations is **\$98,865**.

## B. Preliminary FRP Violation Penalty Calculation

### Step 1. Seriousness

As stated above, the seriousness component for penalty consideration is based on the cumulative risk posed by a facility as a result of a violation, encompassing the extent of the violation, the likelihood of a spill, the sensitivity of the environment and the duration of the violation. In turn, the extent of the violation may depend on the storage capacity of the violator's facility, the existence and adequacy of secondary containment, the degree and nature of the violations of the relevant requirements, and the duration of the violation. The cumulative risk based on Respondent's failure to comply with the FRP requirements of 40 C.F.R. § 112.20 specifically regard not obtaining and implementing any FRP after it put the first 2.3 million-

Complainant's Penalty Analysis – In Re: VSS Int'l, Inc. - 6 **OPA 09-2018-00002**

gallon tank into service, and then not obtaining and implementing a complete FRP after notice from EPA and after it put the second 2.3 million-gallon tank into service. Without an FRP or a complete FRP, an operator risks the additional spill prevention planning, improvements, drills and training required for larger facilities with a proximity to water such as Respondent's facility. Complainant proposes a penalty based on characterizing the cumulative risk based on the non-compliance as "moderate," where the cumulative violations may have a significant impact on the ability to prevent or respond to a worst-case spill. Given the size of the facility, Complainant proposes \$55,000 as the appropriate initial gravity penalty.

In the same manner as for SPCC violations, Complainant proposes increases the penalty by 30% to account for the potential environmental harm of a worst-case discharge into the Sacramento Deep Water Channel, and 30% to account for the long duration of the violations. Because Respondent's facility was not subject to the FRP requirements until it put Tank 2001 into service in or about March 2012, Complainant recognizes that an FRP would not have been required before then. However, considering the size and market share of Respondent, that significant facility modification should bear a reasonable level of diligence, and that EPA had informed Respondent of the need for an FRP after the 2012 inspection, before it put the second 2.3 million-gallon tank in to service, Complainant proposes increasing the penalty by 40% to reflect an appropriate level of negligence.

#### Step 2. Adjustments Based on Other Statutory Factors

In the same manner as for SPCC violations, and considering the same facts discussed above, Complainant proposes no adjustment based on other statutory factors. As calculated, the total gravity penalty component for the FRP-related violations is **\$130,130**.

#### C. Economic Benefit Component

The remaining factor among the statutory penalty considerations is the economic benefit that a violator derives through either delaying or avoiding compliance costs, obtaining illegal profits, profiting from a competitive advantage or by any combination of these. The BEN financial model employed to calculate delayed or avoided costs incorporates cost values for capital improvements, one-time expenses, and annualized costs of compliance, considering the dates that the costs should have been incurred, were incurred and when any penalty was paid, and includes inflation adjustments based on recent data.

Respondent's most significant violations regard its lack of an FRP, and Respondent had incurred most of the costs necessary for it to obtain an appropriate FRP by the time it submitted an FRP in May 2017. The FRP needs additional improvement to fully comply with 40 C.F.R. § 112.20, and Respondent has not demonstrated that it has implemented the training required, but for the purpose of calculating an economic benefit, Complainant proposes using the dates of non-compliance from EPA's November 2012 inspection report to the May 2017 FRP. Respondent has not provided EPA information on the costs it has incurred to date, so for the purpose of completing a valuation of the Respondent's economic benefit, and until Respondent provides more refined information, Complainant proposes using estimated costs stated in its periodic Complainant's Penalty Analysis – In Re: VSS Int'l, Inc. - 7

**OPA 09-2018-00002**



national information requests, used to evaluate the costs and benefits of the Oil Pollution Prevention regulations. As stated in EPA's 2018 RENEWAL OF INFORMATION COLLECTION REQUEST FOR THE IMPLEMENTATION OF THE OIL POLLUTION ACT FACILITY RESPONSE PLAN REQUIREMENTS (40 C.F.R. PART 112) (the "ICR Request"), as valued in February 2018, an average large facility (greater than 1 million gallons, such as Respondent's) would incur approximately \$443 in capital expenses and \$18,009 in one-time expenses to prepare an FRP, and year-to-year recurring costs of \$7,193. ICR Request, p. 24-26. With these inputs for costs, the date of the cost estimate, the time period that the costs were delayed, and assuming a final penalty date of June 1, 2018, the BEN financial model calculates that Respondent gained an economic advantage of **\$28,159**. A copy of the BEN input/output is attached as Appendix A.

EPA proposes that the calculated economic benefit, \$28,159 be added to the balance of the penalty proposed in this matter (\$98,865 for SPCC violations and \$130,130 for FRP violations). Accordingly, Complainant calculates a total penalty of \$257,154. This amount exceeds the maximum authorized in an administrative adjudication, so Complainant reduces its proposal to **\$230,958**.

#### **VI. Total Penalty Proposed for SPCC Violation and FRP Violation, with Economic Benefit**

As stated above, Complainant calculates penalties in this matter consistent with the applicable statutes and policy, and proposes a combined penalty for the SPCC violations, the FRP violation and economic benefit that exceeds \$230,958, which is that maximum penalty statutorily authorized under 33 U.S.C. § 1321(b)(6)(B)(ii), as adjusted by 40 C.F.R. Part 19. Accordingly, Complainant proposes a penalty in this matter limited to the administrative maximum, \$230,958. The difference in the penalty that EPA may justify based on the statutory penalty factors and the maximum authorized in an administrative forum is not so significant that the penalty would otherwise be contrary to public policy, and should not suggest that EPA is undervaluing this case in seeking the economy and efficiency afforded by administrative adjudication.

**Run Name = VSSI FRP**

Present Values as of Noncompliance Date (NCD),	01-Nov-2012
A) On-Time Capital & One-Time Costs	\$10,878
B) Delay Capital & One-Time Costs	\$7,843
C) Avoided Annually Recurring Costs	\$15,965
D) Initial Economic Benefit (A-B+C)	\$19,001
<b>E) Final Econ. Ben. at Penalty Payment Date,</b>	
<b><u>01-Jun-2018</u></b>	<b><u>\$28,159</u></b>

*C-Corporation w/ CA tax rates*

Discount/Compound Rate	7.3%
Discount/Compound Rate Calculated By:	BEN
Compliance Date	01-May-2017

Capital Investment:

Cost Estimate	\$463
Cost Estimate Date	01-Feb-2018
Cost Index for Inflation	PCI
Consider Future Replacement (Useful Life)	y (15)

One-Time, Nondepreciable Expenditure:

Cost Estimate	\$18,009
Cost Estimate Date	01-Feb-2018
Cost Index for Inflation	PCI
Tax Deductible?	y

Annually Recurring Costs:

Cost Estimate	\$7,193
Cost Estimate Date	01-Feb-2018
Cost Index for Inflation	PCI

User-Customized Specific Cost Estimates: N/A

On-Time Capital Investment	
Delay Capital Investment	
On-Time Nondepreciable Expenditure	

Delay Nondepreciable Expenditure

## Discount/Compound Rate Calculation

- Notes: (1) Corporate bond rates averaged across all industries (average of Aaa & Baa); Federal Reserve Statistical Release H.15.  
 (2) Combined state/federal marginal tax rates: federal+(state\*(1-federal)); Federation of Tax Administrators.  
 (3) Calculated as: (1) \* (100%-(2)). [Adjusts for tax-deductibility of interest payments.]  
 (4) Average corporate debt weight; Standard & Poor's Analysts' Handbook, S&P Industrials Sample Balance Sheet.  
 (5) Federal Reserve Statistical Release H.15. [Used as a proxy for the risk-free rate in the Capital Asset Pricing Model (CAPM)].  
 (6) Beta measures risk relative to overall stock market, with a value of 1.00 therefore setting risk at overall market.  
 (7) Differences of average returns between stock market vs long-term Treasuries, 1926 - prior yr; Ibbotson then Duff & Phelps.  
 (8) Calculated as (6) \* (7). [Also equal to (7), since (6) is equal to 1.00 for a company of average risk.]  
 (9) Calculated as (5) + (8). [Reflects risk-free rate of return plus the company risk premium.]  
 (10) Calculated as 100% - (4). [Reflects: total financing - debt = equity financing.]  
 (11) Calculated as (3) \* (4) + (9) \* (10). [Reflects: (debt cost x debt weight) + (equity cost x equity weight).]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
					Long-Term Treasury Notes	Beta	Long- Horizon Risk Prem	Company Risk Premium	Equity Cost	Equity Weight	Final rate: 7.3%
YEAR	Cost of Debt	Tax Rate	After-Tax Debt Cost	Debt Weight							Rate
1987	9.98%	40.1%	5.98%	42.4%	8.49%	1.00	7.4%	7.4%	15.9%		58%
1988	10.27%	40.1%	6.15%	46.3%	8.91%	1.00	7.2%	7.2%	16.1%		54%
1989	9.72%	40.1%	5.82%	42.7%	8.47%	1.00	7.2%	7.2%	15.7%		57%
1990	9.84%	40.1%	5.89%	46.0%	8.58%	1.00	7.5%	7.5%	16.1%		54%
1991	9.29%	40.1%	5.56%	41.1%	8.00%	1.00	7.2%	7.2%	15.2%		59%
1992	8.56%	40.1%	5.13%	49.3%	7.34%	1.00	7.4%	7.4%	14.7%		51%
1993	7.58%	41.0%	4.47%	44.0%	6.29%	1.00	7.3%	7.3%	13.6%		56%
1994	8.29%	41.0%	4.89%	48.0%	7.49%	1.00	7.2%	7.2%	14.7%		52%
1995	7.90%	41.0%	4.66%	41.3%	6.95%	1.00	7.0%	7.0%	14.0%		59%
1996	7.71%	41.0%	4.55%	37.0%	6.83%	1.00	7.4%	7.4%	14.2%		63%
1997	7.56%	40.7%	4.48%	32.1%	6.69%	1.00	7.5%	7.5%	14.2%		68%
1998	6.88%	40.7%	4.08%	27.8%	5.72%	1.00	7.8%	7.8%	13.5%		72%
1999	7.46%	40.7%	4.42%	26.1%	6.20%	1.00	8.0%	8.0%	14.2%		74%
2000	7.99%	40.7%	4.74%	29.3%	6.23%	1.00	8.1%	8.1%	14.3%		71%
2001	7.52%	40.7%	4.46%	33.5%	5.63%	1.00	7.8%	7.8%	13.4%		67%
2002	7.15%	40.7%	4.24%	41.3%	5.43%	1.00	7.4%	7.4%	12.8%		59%
2003	6.22%	40.7%	3.69%	36.8%	4.96%	1.00	7.0%	7.0%	12.0%		63%
2004	6.01%	40.7%	3.56%	37.3%	5.04%	1.00	7.2%	7.2%	12.2%		63%

2005	5.65%	40.7%	3.35%	35.9%	4.64%	1.00	7.2%	7.2%	11.8%	64%	
2006	6.04%	40.7%	3.58%	32.8%	5.00%	1.00	7.1%	7.1%	12.1%	67%	
2007	6.02%	40.7%	3.57%	33.7%	4.91%	1.00	7.1%	7.1%	12.0%	66%	
2008	6.54%	40.7%	3.88%	45.0%	4.36%	1.00	7.1%	7.1%	11.5%	55%	
2009	6.31%	40.7%	3.74%	38.6%	4.11%	1.00	6.5%	6.5%	10.6%	61%	
2010	5.49%	40.7%	3.26%	36.7%	4.03%	1.00	6.7%	6.7%	10.7%	63%	
2011	5.15%	40.7%	3.05%	37.0%	3.62%	1.00	6.7%	6.7%	10.3%	63%	
2012	4.31%	40.7%	2.56%	35.9%	2.54%	1.00	6.6%	6.6%	9.1%	64%	6.8%
2013	4.67%	40.7%	2.77%	30.9%	3.12%	1.00	6.7%	6.7%	9.8%	69%	7.6%
2014	4.51%	40.7%	2.67%	30.9%	3.07%	1.00	6.96%	7.0%	10.1%	69%	7.8%
2015	4.45%	40.7%	2.64%	32.2%	2.55%	1.00	7.00%	7.0%	9.6%	68%	7.4%
2016	4.20%	40.7%	2.49%	32.0%	2.22%	1.00	6.90%	6.9%	9.1%	68%	7.0%
2017	4.09%	40.7%	2.43%	32.0%	2.66%	1.00	6.94%	6.9%	9.6%	68%	7.3%

**Calculations for Specific Cost Estimates**

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	<u>On-Time</u>	<u>Delay</u>
Date:	01-Nov-2012	01-May-2017
<u>Capital Investment:</u>		
Original Cost Estimate	\$463	\$463
	÷	÷
<i>PCI Value as of Cost Estimate Date,</i> <i>01-Feb-2018</i>	578.816	578.816
	x	x
<i>PCI Value as of Specific Estimate Date</i>	570.600	567.300
	=	=
<b>Specific Cost Estimate,</b> reflecting implicit annualized inflation rate of:	<b>\$456</b> 0.3%	<b>\$454</b> 2.7%
 <u>One-Time, Nondepreciable Expenditure:</u>		
Original Cost Estimate	\$18,009	\$18,009
	÷	÷
<i>PCI Value as of Cost Estimate Date,</i> <i>01-Feb-2018</i>	578.816	578.816
	x	x
<i>PCI Value as of Specific Estimate Date</i>	570.600	567.300
	=	=
<b>Specific Cost Estimate,</b> reflecting implicit annualized inflation rate of:	<b>\$17,753</b> 0.3%	<b>\$17,651</b> 2.7%

<b>A) On-Time Capital &amp; One-Time Costs</b>	01-Nov-2012	01-May-2013	01-May-2014	01-May-2015	01-May-2016	01-May-2017	01-May-2018	01-May-2019	01-May-2020
One-Time, Nondepreciable Expenditure	(17,753)								
Capital Investment- Initial Installation	(456)								
Depreciation- Federal	0	(261)	(56)	(40)	(28)	(20)	(20)	(20)	(10)
Marginal Tax Rate (MTR)- Federal	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	21.0%	21.0%	21.0%
Tax Liability Offset- Federal	6,214	91	20	14	10	7	4	4	2
Depreciation- State (CA)	0	(65)	(112)	(80)	(57)	(41)	(41)	(41)	(20)
MTR- State (CA), adj. for fed. deductibility	5.7%	5.7%	5.7%	5.7%	5.7%	5.7%	7.0%	7.0%	7.0%
Tax Liability Offset- State (CA)	1,020	4	6	5	3	2	3	3	1
Net After-Tax Cash Flow	(10,975)	95	26	19	13	9	7	7	4
PV Factor: Adjusts Cash Flow to NCD	1.0000	0.9657	0.9000	0.8387	0.7815	0.7284	0.6788	0.6326	0.5895
PV Cash Flow as of NCD	(10,975)	92	23	16	10	7	5	5	2
Federal Utilized Depreciation Schedule:		57.15%	12.25%	8.75%	6.25%	4.47%	4.46%	4.47%	2.23%
State Utilized Depreciation Schedule:		14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%
Bonus schedules/dates:	MACRS:	14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%
	10-Sep-01 6-May-03	40.00%	17.14%	12.24%	8.74%	6.25%	6.24%	6.25%	3.12%
	5-May-03 1-Jan-05	57.15%	12.25%	8.75%	6.25%	4.47%	4.46%	4.47%	2.23%
	27-Sep-17 1-Jan-23	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Imputed Lease Cost for Interim Period When On-Time (But Not Delay) Equipment Would Need Replacement</b>					Start Date:	End Date:	Years:	Capital Cost:	Annual Lease:
<i>Applicable Only w/ Default Values of Delayed (Not Avoided) Capital and Considered Future Replacement</i>					01-Nov-2027	01-May-2032	4.5	(580)	(65)
Total Imputed Lease Cost:	(292)	x	MTR- Federal/State Combined:	28.0%	=	Net After-Tax Cash Flow:			(210)
PV Factor: Adjusts Cash Flow to NCD:	0.2964								
<u>PV Cash Flow as of NCD: (62)</u>		+	<u>Initial Install. NPV (see above): (10,816)</u>		=	<u>On-Time Total NPV, Install+Lease: (10,878)</u>			
<b>B) Delay Capital &amp; One-Time Costs</b>	01-May-2017	01-Nov-2017	01-Nov-2018	01-Nov-2019	01-Nov-2020	01-Nov-2021	01-Nov-2022	01-Nov-2023	01-Nov-2024
One-Time, Nondepreciable Expenditure	(17,651)								
Capital Investment	(454)								
Depreciation- Federal	0	(259)	(56)	(40)	(28)	(20)	(20)	(20)	(10)
Marginal Tax Rate (MTR)- Federal	35.0%	35.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
Tax Liability Offset- Federal	6,178	91	12	8	6	4	4	4	2
Depreciation- State (CA)	0	(65)	(111)	(79)	(57)	(41)	(40)	(41)	(20)
MTR- State (CA), adj. for fed. deductibility	5.7%	5.7%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Tax Liability Offset- State (CA)	1,014	4	8	6	4	3	3	3	1
Net After-Tax Cash Flow	(10,913)	95	19	14	10	7	7	7	4
PV Factor: Adjusts Cash Flow to NCD	0.7284	0.7029	0.6551	0.6105	0.5689	0.5302	0.4941	0.4605	0.4291
PV Cash Flow as of NCD	(7,948)	66	13	8	6	4	3	3	2
<u>PV Cash Flow as of NCD: (7,843)</u>									
Federal Utilized Depreciation Schedule:		57.15%	12.25%	8.75%	6.25%	4.47%	4.46%	4.47%	2.23%
State Utilized Depreciation Schedule:		14.29%	24.49%	17.49%	12.49%	8.93%	8.92%	8.93%	4.46%

**C) Avoided Annually Recurring Costs***PCI value as of cost estimate date= 578,816*


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	<i>PCI mid-point value:</i>	571.900	564.000	576.900	556.300	544.900	561.900
Period of Avoided Annual Costs; From:		01-Nov-2012	01-Jan-2013	01-Jan-2014	01-Jan-2015	01-Jan-2016	01-Jan-2017
	To:	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	01-May-2017
Annual Costs Avoided		(1,188)	(7,009)	(7,169)	(6,913)	(6,790)	(2,315)
Marginal Tax Rate		40.7%	40.7%	40.7%	40.7%	40.7%	40.7%
Net After-Tax Cash Flow		(704)	(4,156)	(4,251)	(4,100)	(4,027)	(1,373)
PV Factor: Adjusts Cash Flow to NCD		0.9942	0.9542	0.8893	0.8288	0.7723	0.7368
PV Cash Flow as of NCD		(700)	(3,966)	(3,781)	(3,398)	(3,110)	(1,011)

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**NPV of Avoided Annual Costs as of NCD (\$15,965)**