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Manager, Southern California Region and Infrastructure Issues

VIA ELECTRONIC MAIL

October 29, 2012

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Subject: Comment Letter- State of Washington's Proposed Sediment Management Standards (SMS) Rule Amendments

Dear Ms. Dorrah,

Western States Petroleum Association (WSPA) is a non-profit trade association representing twenty-seven companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California, Arizona, Nevada, Oregon, Washington and Hawaii. WSPA appreciates the opportunity to comment upon Ecology's proposed SMS Rule Amendments.

WSPA recognizes and appreciates efforts that Ecology staff has put into the development of the proposed SMS Rule Amendments. As detailed below, WSPA supports certain aspects of the proposed Rule Amendments, but has concerns with other portions.

WSPA supports several key clarifications in the proposed SMS Rule amendments and would like to provide recommendations for further strengthening those clarifications, as follows.

1. WSPA supports Ecology's clarification that sediment cleanup standards should not be used as sediment quality standards in WAC 173-204-500 (a)<sup>1</sup>.

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<sup>1</sup>"Sediment cleanup standards and the other cleanup criteria of WAC 173-204-500 through 173-204-590 are not sediment quality standards and shall only be used for purposes specified in chapter 70.105D RCW [Hazardous waste cleanup — model toxics control act]]. Sediment quality standards are established under Part III of this

Recommendation: WSPA recommends that these clarifications be strengthened by adding language to specify the sediment cleanup standards shall not be used for the development of effluent limitations in NPDES permits.

2. WSPA supports the continuous use of the two-tier framework for establishing site specific cleanup standards, especially as it includes consideration of regional background and natural background levels.

Recommendation: WSPA recommends that Ecology conduct special studies to establish regional and natural background levels that are representative and scientifically sound. WSPA also recommends that the term “area background” (which appears in the definition of regional background) be defined within the proposed SMS Rule Amendments.

3. WSPA supports Ecology’s clarification that a person or party conducting an initial cleanup action will not be responsible for cleaning up recontamination by others in WAC 173-204-500 (b)<sup>2</sup>.
4. WSPA supports Ecology’s emphasis on source control. WSPA believes source controls can be just as important as cleanup of sediments, depending upon the pollutant(s) at issue. WSPA would like to emphasize that source control efforts should be based on sound science; for instance, sediment fate and transport modeling should be conducted in order to identify other sources and to estimate loading from these sources to a site. Without this type of analysis or a modeling effort, the appropriate role of source control measures cannot be defined. WSPA recommends adding language specifying this.
5. WSPA supports Ecology’s definition of sediment recovery zones, which clarifies that a sediment recovery zone should be determined using sediment cleanup standards and not sediment quality standards.<sup>3</sup>

WSPA also has serious concerns regarding issues, and requests that Ecology modify the proposed amendments to address these concerns, as follows.

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chapter [Sediment Quality Standard in Chapter 173-204 WAC] under the authority of chapters 70.105D [Hazardous waste cleanup — model toxics control act] and 90.48 RCW [Water pollution control].” [WAC 173-204-500 (a)]  
<sup>2</sup>“(b) Recontamination. Recontamination of sediment at remediated sites or sediment cleanup units may occur from ongoing discharges. It is the department’s expectation that further cleanup of recontamination will not be required by the person(s) conducting the initial cleanup when the person(s) can demonstrate, upon department approval, that the recontamination is caused by a source or a permitted release not under the authority or responsibility of the person(s) conducting the initial cleanup.” [WAC 173-204-500 (b)]

<sup>3</sup>“(46)“Sediment recovery zone” means an area established by the department within a site or sediment cleanup unit where the department has determined cleanup actions cannot achieve the applicable sediment cleanup standards within ten years after the start of the cleanup action.” [WAC 173-204-200 (46)]

6. WSPA believes that cost should be incorporated into the definition of “technically possible.” The proposed definition of “technically possible” in the proposed SMS Rule Amendments is “capable of being designed, constructed and implemented in a reliable and effective manner regardless of cost” [WAC 173-204-200(49)], and technical possibility is one of the factors that can be used to adjust a cleanup level.<sup>4</sup> The degree of risk reduction and the cost of achieving a specified degree of risk reduction should always be considered in the determination of cleanup levels and selection of cleanup alternatives.

Recommendation: WSPA recommends that the phrase “regardless of cost” be removed from the definition of “technically possible.”

7. WSPA believes proposed requirements of use of tribal fish consumption patterns as a maximum exposure scenario is too broad and overly protective. The new sediment cleanup standards for the protection of human health do not contain fixed fish consumption rates for sediment cleanup, but they do require the use of tribal fish consumption patterns as a default maximum exposure scenario in calculating sediment cleanup standards for the protection of human health.

Tribal consumption rates can be found in a recently released new fish consumption rates technical support document<sup>5</sup>, and the rates are higher than rates for the general public and for recreational fishers (see **Table A**). The requirement to use tribal fish consumption rates appears to be overly protective. Even though the proposed SMS Rule Amendments would allow consideration of an alternative maximum exposure scenario other than tribal fish consumption patterns<sup>6</sup>, WSPA believes that it is highly unlikely that alternative maximum exposure scenarios would be allowed because the new standards require consideration of “historic, current, and potential future tribal use of fish and shellfish from the general vicinity of the site” for the human health risk assessment (emphasis added). The requirement to consider “historic and potential future” tribal use is overly broad. Further, only current use is relevant to the risk assessment.

Recommendation: WSPA recommends replacing “historic, current, and potential future tribal use of fish and shellfish ...” with “current tribal use of the fish and shellfish...”. Any extension of tribal use areas for future conditions should be determined on a case-by-case basis. WSPA also recommends revisions of the new standards to include more site-specific consideration of fish consumption rates.

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<sup>4</sup> “The sediment cleanup level shall be adjusted upward as required based on what is technically possible and whether meeting the sediment cleanup objective will have an adverse impact on the aquatic environment, including natural resources and habitat.” [WAC 173-204-500(5)(a)(i)]

<sup>5</sup> WSPA is referring to fish consumption rates proposed by Ecology in a new technical support document currently out for public review. See <http://www.ecy.wa.gov/toxics/fish.html>.

<sup>6</sup> “The department may approve an alternate reasonable maximum exposure scenario for the site in accordance with WAC 173-340-708 [human health risk assessment procedures] and 173-340-702 (14) through (16) [general policies – burden of proof, new scientific information, criteria for quality of information].”

**Table A. Reproduced from Table 1 at p. xvi in Fish Consumption Rates Technical Support Document – Public Review Draft August 27, 2012 Version 2.0.**

**Table 1. Summary of Fish Consumption Data, All Finfish and Shellfish (g/day)**

Population	Source of Fish	Number of Adults Surveyed	Mean	Percentiles		
				50 <sup>th</sup>	90 <sup>th</sup>	95 <sup>th</sup>
General population	All sources: EPA method	2,853	56	38	128	168
	All sources: NCI method	6,465	19	13	43	57
Columbia River Tribes	All sources	464	63	41	130	194
	Columbia River	–	56	36	114	171
Tulalip Tribes	All sources	73	82	45	193	268
	Puget Sound	71	60	30	139	237
Squaxin Island Tribe	All sources	117	84	45	206	280
	Puget Sound	–	56	30	139	189
Suquamish Tribe	All sources	92	214	132	489	797
	Puget Sound	91	165	58	397	767
Recreational Fishers (compilation of multiple studies)	Marine waters, WA State	–	11–53	1.0–21	13–246	
	Freshwater, WA State	–	6.0–22	–	42–67	

Sources: Adapted from Polissar et al., 2012, Table E-1. Data for recreational fishers is from Table 3, Technical Issue Paper: *Recreational Fish Consumption Rates* (Ecology, 2012).

8. The proposed biological criteria in the new numeric freshwater sediment cleanup standards for benthic community protection are based on insufficient science. The proposed new numeric freshwater sediment cleanup standards, consisting of chemical and biological criteria, would replace the current narrative standards. Unlike the biological criteria in the marine sediment standards, which are based on a comparison to reference sediment, the biological criteria in the freshwater standards are based on a comparison between test sediment and laboratory control sediment "... because of the lack of established reference sites in Washington and the highly variable responses observed in reference sediments."<sup>7</sup> Because the biological test results of test sediment could be affected by "natural physical and chemical characteristics, e.g., grain size, organic content,"—i.e., by factors other than contaminants in the sediment—the marine biological criteria are based on a comparison to reference sediment.<sup>8</sup> In other words, test sediment from a clean, reference site may show more adverse biological responses than would be observed in clean control sediment prepared in a laboratory.

<sup>7</sup>p. 3-26 of the draft sediment cleanup user manual II: guidance for implementing the sediment management standards, Chapter 173-204 WAC.

<sup>8</sup>"Reference sediment sample" means a surface sediment sample which serves as a laboratory indicator of a test animal's tolerance to important natural physical and chemical characteristics of the sediment, e.g., grain size, organic content." (p. 34 of the proposed SMS Rule Amendments)

Additionally, according to Michelsen 2011<sup>9</sup> Ecology requested a review of the method and draft report from four national-level scientific peer reviewers. To our knowledge, the reviewers' comments have not been made available for public review.

Recommendation: WSPA believes that the biological criteria are not sufficient for the intended purpose and recommends that the proposed biological criteria not be included in the proposed amendments until adequate freshwater reference sediment conditions are established.

WSPA also requests that the peer reviewers' comments and Ecology's responses to the comments be available for public review.

9. The chemical criteria in the freshwater sediment cleanup standards for benthic community protection should be used, along with adequate confirmatory procedures, in the determination of cleanup sites. WAC 173-204-520 contains a procedure to determine a cleanup site. According to WAC 173-204-520(3)(b), (freshwater/marine sediment) biological criteria would be used as a confirmatory test if a site exceeds (freshwater/marine sediment) chemical criteria. If the site exceeds both chemical and biological criteria, the site would be considered to be a cleanup site. As discussed above, the biological criteria in the freshwater sediment cleanup standards for benthic community protection are based on insufficient science and are not reliable to be used for the cleanup determination.

Recommendation: WSPA recommends that Ecology develop new confirmatory procedures as an alternative to the use of biological criteria in the confirmatory test.

As detailed below, WSPA also identified portions of the proposed amendments that appear to be ambiguous or contradictory, and WSPA believes that the proposed rule would be improved by addressing these concerns, which are detailed below.

10. Human health targets for non-carcinogens are summarized in Figure 1 (p. 11 of the proposed SMS Rule Amendments), but these targets appear not to match WAC 173-204-561(3)(b)(i) and WAC 173-204-561(2)(a)(ii). In Figure 1, a hazard index (HI)  $\leq 1$  for total site risk is proposed for cleanup screening level (CSL), and a hazard quotient (HQ)  $\leq 1$  is proposed for individual substances for the sediment cleanup objective (SCO). However, the text in both WAC 173-204-561(3)(b)(i) and WAC 173-204-561(2)(a)(ii) does not match Figure 1. WSPA recommends that the figure and accompanying text of these sections be reconciled.
11. The biological tests presented as part of the biological criteria in WAC 173-204-562 are for marine sediment. There is no mention of biological criteria for low salinity sediment. WSPA recommends that Ecology clarify if the biological criteria for low salinity

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<sup>9</sup>Michelsen, 2011. Development of benthic SQVs for freshwater sediments in Washington, Oregon, and Idaho. Report to Washington Department of Ecology and Oregon Department of Environmental Quality. Publication No. 11-09-054. Prepared by Avocet Consulting.

sediment would be determined on a case-by-case basis or would be the same as the biological criteria for low salinity sediment.

12. WAC 173-204-520 contains procedures to determine a cleanup site, but insufficient detail is provided to understand what type of tests should be conducted for the cleanup site determination. Further, if biological test results trump chemical test result according to WAC 173-204-520(3)(b), there is no apparent reason to require chemistry tests as part of the cleanup site determination. WSPA recommends Ecology provide further clarification on this.
13. WSPA recommends that tables be revised/re-organized to match the corresponding text. Information summarized in newly added Tables V and VIII for marine and freshwater sediment biological criteria do not appear to match the corresponding text, with examples provided here as follows:
  - Biological tests that are defined in the text mostly overlap with those in Table V of the current SMS; however, the microtox test is not included in the text (but is included in Table V), while the benthic abundance test is included in the text but not included in Table V.
  - In Tables V and VIII, information presented for ‘Sediment Cleanup Objective for each biological test’ and ‘Cleanup Screening Level for each biological test’ is neither the SCO nor the CSL itself, but rather the method of determination to be used to assess an exceedance of the SCO or CSL for each biological test.
  - In Table V, WSPA suggests that the entry ‘ $N_T/N_R > 0.70$ ’ in CSL for bivalve or echinoderm abnormality/mortality should be ‘ $N_T/N_R < 0.70$ ’.
  - Table VIII specifies only a mean difference between a test and a reference for each biological test. However, neither the table nor the corresponding text specifies the additional requirement of a statistical test. The legend to Table VIII simply states “[a]n exceedance of the sediment cleanup objective and cleanup screening level requires statistical significance at  $p = 0.05$ ,” which implies that a statistical test is required. Ecology should revise both the corresponding text and the table to clarify that a statistical test is required.
  - Table VIII contains a column for a performance standard for reference even though no reference conditions for freshwater sediment have been identified for use with the biological criteria, and the biological criteria are based on the comparison between control sediment and site sediment in the proposed SMS Rule Amendments. Ecology should revise the table by removing the column for reference to avoid confusion.

14. Minor edits are required for the following;

- In Table VII, a CSL for endrin ketone is zero, but WSPA believes that this value should be higher than the SCO value of 8.5 in Table 5.
- In WAC 173-204-564, “SCO and CSL based on protection of higher tropic levels species shall not be established at concentrations that do not have the potential for minor adverse effects.” (#2791-2793). This sentence should contain single not.

In summary, WSPA supports many of the key clarifications in Ecology’s proposed amendments. WSPA recommends revisions to the sediment cleanup standards for human health protection, especially to the requirement to use tribal fish consumption patterns. WSPA also recommends that Ecology defer adoption of the freshwater sediment cleanup standards until issues regarding the biological criteria are adequately addressed.

Please contact me if you have any questions regarding the comments provided in this letter.

Sincerely,



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