



October 29, 2012

Adrienne Dorrah
Washington Department of Ecology
Toxics Cleanup Program
PO Box 47600
Olympia, WA 98504-7600

RE: Draft Sediment Management Standards, Chapter 173-204

Nippon Paper Industries USA appreciates the opportunity to comment on the proposed changes to the SMS standard. A great deal of effort has gone into the development of the initial proposals, especially the work of the stakeholders and professional community. Nippon strongly encourages Ecology to go back and re-consider the advice of the stakeholders and professionals as you will see enumerated in the attached comments.

Nippon endorses the comments submitted by Georgia-Pacific dated October 25, 2012 and attached hereto.

Nippon endorses the comments submitted by the National Council For Air And Stream Improvement (NCASI) dated October 25, 2012 and attached hereto.

Sincerely,

A handwritten signature in black ink that reads "Paul F. Perlwitz".

Paul F. Perlwitz
Environmental Manager



Georgia-Pacific LLC
Traylor Champion
Vice President, Environmental Affairs
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October 25, 2012

Washington Department of Ecology
Toxics Cleanup Program
Adrienne Dorrah
PO Box 47600
Olympia, WA 98504-7600

RE: Draft Sediment Management Standards Chapter 173-204 WAC Amendments

Ms. Dorrah;

Georgia-Pacific LLC (Georgia-Pacific) appreciates the opportunity to submit the attached comments on the Draft Sediment Management Standards Chapter 173-204 WAC Amendments. Georgia-Pacific and its subsidiaries have more than 200 locations across North America, South America and Europe, ranging from large facilities, such as pulp, paper and tissue operations; to moderately sized facilities, such as gypsum plants, chemical plants, and building products complexes; to small facilities, such as Dixie® product plants, corrugated container plants, warehouses and sales offices, including several operating facilities in Washington.

A copy of our comments were also sent via e-mail to RuleUpdate@ecy.wa.gov. If you have further questions or clarifications regarding these comments, please contact myself or Mike Hassett 404-652-6874.

Sincerely,

Traylor Champion
Vice President – Environmental Affairs
Georgia-Pacific LLC

Draft Sediment Management Standards Chapter 173-204 WAC Amendments Public Comment Form

Name of Commenter:		Georgia-Pacific LLC
Version of Document Reviewed:		<input type="checkbox"/> Review Version (Reader Friendly) <input checked="" type="checkbox"/> Official Version
Date:		October 19, 2012
Page Number	Line Number	Comment
General Comment	N/A	Georgia-Pacific (GP) has been following the development of the SMS rule revisions for several years, and while the proposed amendments contain a number of improvements over the current rule language, other elements of the proposed revisions have the potential to exacerbate, rather than alleviate, some of the practical challenges posed by the current rules.
General Comment	N/A	<p>The current draft of the SMS rule demonstrates that Ecology is trying to address many of the technical and policy issues and comments received previously in ways that meet the over-riding goal of making the SMS protective and implementable, including:</p> <ul style="list-style-type: none"> • A multi-phase approach for sediment recovery over a long timeframe and broad geographic areas; • A regional background approach to allow incorporation of technical feasibility, cost considerations, and net environmental benefits in cleanup decisions; • Provisions for discrete sediment cleanup units and/or sites within larger bay-wide areas of sediment impact; • Consideration of practical incentives to encourage potentially liable parties (PLPs) to take action regarding problems they can control and potential cash-out settlements for larger bay-wide problems; and • Strategic analysis of how the SMS update will be interpreted and implemented by different federal, state and local environmental regulatory programs (e.g., Water Quality Program, NPDES industrial and municipal permits, MTCA, CERCLA, etc.).
General Comment	NA	<p>Ecology undertook a great deal of outreach and involvement with knowledgeable professionals and other stakeholders leading up to the proposed SMS amendments, including several advisory committees. From GP's perspective, it appeared that both Ecology and the committee members put a great deal of time and energy into reaching workable solutions to problems that have posed a genuine impediment to moving forward with sediment cleanups. Based on sample rule language distributed in October 2011 and other materials Ecology presented at the last meeting held with advisory committee members in December 2011, the agency appeared to have charted a course for focused rule amendments that would create a workable path through some very thorny MTCA/SMS issues and help in expediting needed sediment cleanups.</p> <p>However, while the proposed rule amendments include some aspects of the pragmatic approach that resulted from the advisory committee process, other portions of the amendments represent very significant changes to the current rule that GP understands were either never discussed, or were discussed and quickly put aside by the advisory committee as unworkable. The changes needed to align these rule amendments with a more practicable approach are fundamental enough that new draft language needs to be proposed.</p>
17	65 – 69	The new requirement to establish sediment recovery zones at sites and cleanup units where cleanup levels cannot be met within ten years of the start of the cleanup is highly problematic. GP understands that the final advisory committee made clear to Ecology that including the sediment recovery zone standards of WAC 173-204-590 in the new SMS rule revisions would stymie cleanup, as this element of the existing SMS regulations has proved totally unworkable in the real world because of "technical impracticability" and other similarly difficult criteria that need to be achieved to use this element of the SMS rule. Given that the highly conservative background or practical quantitation limit (PQL)-based sediment cleanup levels for bioaccumulative chemicals such as PCBs, dioxins/furans, and PAHs are anticipated to be exceeded at nearly every sediment cleanup site in part because of uncontrollable, diffuse non-point source inputs of these regional contaminants, the entirety of subsection (4) discussing sediment recovery zones needs to be deleted.
26	223 - 227	The proposed language of WAC 173-204-200(1) is problematic because it, combined with the provisions of WAC 173-204-570(3)(h), establishes "active" cleanup as the presumptive remedy at all sites. Please see our comment on the revised language of WAC 173-204-570(3)(h) below. The inadvisable presumptive approach to require "active cleanup" will only further stymie cleanup progress. Thus, the entirety of WAC 173-204-200(1) needs to be deleted. Similar edits need to be made to related parts of the SMS rule.
29	283 - 285	The definition of "contaminant" needs to be expanded to explicitly recognize that the bioavailability of sediment contaminants may vary significantly both within and between sites based on site-

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		<p>specific geochemistry and other factors. Sub-section (15) and other related sections and sub-sections need to be re-written to clarify that site-specific bioavailability considerations should be incorporated into the development of site-specific cleanup levels using approaches developed by the Interstate Technology & Regulatory Council (ITRC) and discussed in other relevant Agency guidance documents. Note that the ITRC's February 2011 Technical/Regulatory Guidance (which Ecology helped co-author): "<i>Incorporating Bioavailability Considerations into the Evaluation of Contaminated Sediment Sites</i>" states:</p> <p><i>"Overall, this guidance establishes that bioavailability considerations should be incorporated in the exposure assessment process to obtain a clearer understanding of contaminant toxicity and exposure pathways such that remedy selection decisions can be focused and resources efficiently used. By incorporating bioavailability considerations into the early stages of site characterization, the risk assessment process, and remedy selection, a more effective remediation may be accomplished, which may well optimize overall cost. This web-based technical and regulatory guidance can help the user understand the proper application of these tools to assess bioavailability and more effectively protect human health and the environment."</i></p>
34	389 - 393	<p>While the general definition of "regional background" in sub-section (38) is workable with revisions (see below), the utility of this approach will be entirely dependent on how regional background is ultimately calculated, which presumably will be described in detail in the Sediment Cleanup User Manual. We understand that Ecology is developing a pilot study to examine this issue in greater detail, but we have significant concerns that the regional background calculation approaches that Ecology is currently considering are all too stringent to be practical. Previous case study applications using approaches similar to what Ecology is now considering do not allow sufficient differentiation between existing or prospective SMS site units and bay-wide contamination problems. This creates gridlock in the processing of the current backlog of sediment sites.</p> <p>Regional background should include contaminants contributed to the region from multiple urban stormwater sources, in order to distinguish those pollution problems from more discrete sediment sites that can be linked to a more specific, and likely historic, past practice. For example, detailed national and regional studies of dioxin sources have concluded that: 1) currently, the largest quantified source of dioxin emissions throughout the U.S. is the uncontrolled burning of household trash (backyard burning; http://www.epa.gov/wastes/nonhaz/municipal/backyard/health.htm); and 2) common non-point source inputs such as those resulting from historical roadside weed control have been identified as important sources of dioxin to regional sediments. The similarity of both soil and sediment dioxin concentrations and congener profiles in urbanized areas of Puget Sound to those found throughout the region provides further evidence that existing sediment dioxin concentrations are the product of a wide range of historical point and non-point source legacy releases, as well as ongoing non-point source inputs.</p> <p>Regional background problems should be addressed under the appropriate regulatory tool (e.g., Phase II municipal permits) and not site-specific MTCA/SMS enforcement. Calculation of regional background should allow for inclusion of certain contaminants if they are due to the influence of multiple urban sources. The concept of regional background should be specifically used to determine discrete SMS sites or site units.</p>
36	435 - 442	<p>The proposed revisions significantly and unrealistically shorten the maximum restoration timeframe for a cleanup. Informed by the committee members' collective experience with how long many cleanup projects take to implement, GP understands that the final advisory committee considered and rejected the option of changing the rules from the current requirement that cleanup standards must be met with 10 years following completion of cleanup, to requiring that cleanup standard must be met within 10 years of <i>initiating</i> cleanup. However, the August 2012 proposal ignores the committee's recommendation. Thus, the next to last sentence of sub-section (46) needs to be revised to read: "<i>within ten years after the start of completion of the cleanup and construction.</i>" The last sentence of this sub-section referring to sediment recovery zones needs to be deleted, consistent with the comment above regarding page 17.</p>

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Page Number	Line Number	Comment
xcv	1500 - 1507	Given the complexities of permitting and coordinating beneficial reuse opportunities at sediment cleanup sites it is unrealistic for Ecology to expect that sediment cleanup construction within sediment cleanup units (let alone entire sites) can be completed within a single construction season. This sub-section needs to be re-written to more simply state that: <i>“restoration will be completed as soon as practicable, consistent with the general requirements of WAC 173-204-570.”</i>
xcvi	1508 - 1511	Similar to the comment on page 36 above, the entirety of this sub-section either needs to be deleted or the text of sub-section (d) revised to read: <i>“...within ten years after the start completion of the cleanup action construction,”</i> .
cxxxix	2190-2203	Ecology’s October 2011 sample rule language specified that, in determining where to set cleanup levels between the sediment cleanup objective (“SCO”) and regional background, three factors should be considered: technical feasibility, cost and net environmental benefit. The document distributed in late 2011 to the final advisory committee titled <i>“Framework for Sediment Cleanup Decisions”</i> stated at p. 7 <i>“The current SMS framework allows consideration of cost, technical feasibility and net environmental effects both when setting cleanup standards in a range between the upper and lower bounds and during remedy selection. This has been successful because the system provides needed flexibility...In the revised rule, this paradigm will remain.”</i> Yet, despite this, the cost criterion has been dropped in the proposed amendments. This change is difficult to understand given that, by Ecology’s own admission, the current rule’s consideration of cost in setting cleanup standards is one of the parts of the rule that works well because of the flexibility it provides. Furthermore, the inclusion by reference in the proposed rule of WAC 173-340-360’s disproportionate cost analysis (“DCA”) in selecting cleanup actions does not take the place of cost consideration in setting cleanup standards, because the threshold requirement that cleanup standards must be attained within a reasonable restoration timeframe dictates which potential cleanup actions can be considered in the DCA. In order to preserve the flexibility that Ecology admits is afforded by the current rule, cost should be restored as a criteria for setting site specific cleanup levels under WAC 173-204-560.
clxxv	2906 - 2910	The August 2012 proposal appears to have ignored the Committee’s advice and includes the requirement in WAC 173-204-570(3)(h) that <i>“Cleanup actions shall not rely primarily on monitored natural recovery or institutional controls and monitoring where it is technically possible to implement a more permanent cleanup action.”</i> The proposed language is problematic because it establishes “active” cleanup as the presumptive remedy at all sites, despite years of collective experience demonstrating that the unique challenges posed by sediment sites often make “active” remedies impracticable. This opinion is not confined to Washington; EPA’s current sediment guidance states there is no presumptive remedy for sediment contamination. Consistent with this widely held position, GP understands that the final advisory committee that addressed this issue held the consensus view that there is no presumptive sediment remedy, including a requirement for “active” cleanup, for any contaminated sediment site, regardless of the contaminant or the level of risk. Given the widely differing sediment cleanup situations in Washington State, the sediment cleanup remedy should always be the product of careful site-specific evaluations. With lower and lower cleanup levels for constituents like dioxins and PCBs, leading to very large sites, exchanging the site-specific evaluation for a presumptive remedy can and will lead to impracticably broad mandates for active cleanup – for instance, under the proposed rule language, for a 1,000 acre site an active remedy may have to be implemented on more than 500 acres, regardless of how great or small the exceedances of cleanup levels might be. Because the proposed language is both ignores real-world nature of sediment cleanups and partially discards the MTCA process by mandating an active cleanup in advance of compiling and evaluating all available options and data, GP believes this portion of the proposed amendments is fatally flawed. The inadvisable presumptive approach to require “active cleanup” will only further stymie cleanup progress. Thus, the entirety of WAC 173-204-200(1) needs to be deleted. Similar edits need to be made to related parts of the SMS rule.
clxxviii	2957 - 2962	Refer to comments regarding pages 17 and 36. The entirety of sub-section (b) needs to be deleted.
clxxxix to clxxxvii	3007 to 3136	Refer to comment regarding page 17. The entirety of WAC 173-204-590 Sediment recovery zones needs to be deleted.



NATIONAL COUNCIL FOR AIR AND STREAM IMPROVEMENT, INC.

West Coast Regional Center

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Dr. Jeff Louch
Principal Scientist
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October 25, 2102

Toxics Cleanup Program
Ms. Adrienne Dorrah
PO Box 47600
Olympia, Washington 98504-7600

Dear Ms. Dorrah:

The National Council for Air and Stream Improvement, Inc. (NCASI) is an independent, non-profit membership organization that provides technical support to the forest products industry on environmental issues. An important part of our mission is to ensure that regulatory decision making is based on sound science. In this capacity, NCASI has reviewed the August 15, 2012, proposed amendments to the Draft Sediment Management Standards (SMS) rule (Chapter 173-204 WAC).

Based on this review, it is clear that Ecology has put significant thought and effort into making the SMS rule simpler and more effective. Shifting from a narrative standard to chemical-specific numeric criteria as the means of addressing potential impact(s) of freshwater sediments on benthic organisms and incorporation of the concept of regional background are clear examples of this, and NCASI fully supports both additions to the rule. However, NCASI has some concerns about specific aspects of this proposal. These concerns are detailed in the attachment, and can be summarized as follows:

1. It would be scientifically indefensible to include salmon in any fish consumption rate (FCR) used in risk assessments associated with site-specific sediment cleanups.
(see comment specific to Section 173-204-561(2)(b)(i)(D) in the attachment)
2. Ecology should not arbitrarily expand the definition of what constitutes a bioaccumulative chemical beyond the criteria already codified in WAC 173-333-320(2)(b).
(see comment specific to Section 173-204-564(2)(iii)(B) in the attachment)

Please do not hesitate to contact me if you have any questions concerning these comments.

Sincerely,

Jeff Louch
Principal Scientist

Attachment

cc: Steve Stratton, NCASI
Paul Wiegand, NCASI
Christian McCabe, Northwest Pulpa & Paper Association

**COMMENTS ON SPECIFIC SECTIONS OF WASHINGTON STATE DEPARTMENT OF
ECOLOGY'S AUGUST 15, 2012, PROPOSED AMMENDMENTS TO THE DRAFT
SEDIMENT MANAGEMENT STANDARDS (SMS) RULE (WAC 173-204)**

Section 173-204-561(2)(b)(i)(D)

It is inappropriate to include salmon in any fish consumption rate (FCR) used in risk assessments associated with site-specific sediment cleanups.

Section 173-204-561(2)(b)(i)(D) states that the size of a site relative to an organism's (fish or shellfish) home range will be taken into account as part of the default human health risk assessment, but does not explain the relevance of this adjustment or how it will be implemented arithmetically.

As a consequence of Ecology's silence, NCASI can only assume that the goal of this language is to allow some accounting for the fact that the contaminant dose to a human being (or any higher trophic level organism) received from consuming a single organism (or single species) cannot be assumed to be totally dependent on the concentrations of contaminant(s) at any one site. Put another way, the contaminant body burden of an individual organism cannot be assumed to be dependent solely on the concentrations at any one sediment site.

Obviously, the extent to which contaminants at any one site impact the body burden in individuals of a specific species will increase as the geographic range of the species decreases. For truly sessile benthic species, it might even be logical to assume that 100% of the contaminant body burden is obtained from a single site. However, this is an assumption, and it becomes more tenuous as the home range of a species increases and/or the size of the sediment site decreases. It also becomes more tenuous as the prey base for a species expands.

Ultimately, any attempt to correct a site-specific exposure assessment to account for contaminants originating outside the geographic scope of a contaminated site is subject to significant uncertainty, and NCASI recognizes that using some metric characterizing the relative size of the site vs. an organism's (or species') home range may be the only transparent means of effecting such a correction. Assuming that this is, in fact, Ecology's intent, NCASI fully supports the language proposed for Section 173-204-561(2)(b)(i)(D). However, the most defensible means of addressing this issue is through study of contaminant uptake by the relevant species. Certainly, when these kinds of data are available they should be used.

As a specific example, results from studies examining the accumulation of bioaccumulative chemicals in salmon have consistently shown that >90% of the body burden present in adult salmon is acquired in the open ocean, and not in estuaries or freshwater¹. A recently released Ecology Technical Issue Paper² effectively summarizes these data.

¹ Note that this statement is fully consistent with the understanding that some contaminant uptake occurs in estuaries and freshwater.

² Salmon Life History and Contaminant Body Burdens. In *Supplemental Information to Support the Fish Consumption Rates Technical Support Document*.
<https://fortress.wa.gov/ecy/publications/publications/1209058part1.pdf>

Thus, in the case of adult salmon specifically, attempting to account for the fraction of the ultimate body burden associated with a specific site through use of some correction factor based on geographic size or time spent at or near the site is both unnecessary and unjustified. Instead, Ecology should accept the results obtained by multiple researchers who have studied this issue. These results show that, when considering the impact of estuarine or freshwater sediments in general, a multiplicative factor of 0.1 would be conservative; that is, assuming that 10% of the contaminant body burden in returning adult salmon is derived from exposure to sediments actually overstates the impact of all estuarine and freshwater sediments in the home range of any specific salmon run. This means that the contribution of any one contaminated sediment site to the overall body burden found in adult salmon is truly *de minimis*. Because of this, salmon should not be included in the FCR used in any risk assessment associated with site-specific sediment cleanups.

173-204-564(2)(iii)(B)

Ecology is proposing to arbitrarily expand the definition of what constitutes a bioaccumulative chemical.

Overall, the language in Section 173-204-564 suggests that detection of any bioaccumulative chemical in any sediment will trigger a risk assessment to determine if the specific contaminant poses some risk to higher trophic level species, and Section 173-204-564(2)(iii)(A) requires that detection of any chemical currently listed as a persistent, bioaccumulative, or toxic (PBT) chemical on Ecology's PBT list (WAC 173-333-310) be subject to such a risk assessment. As defined by Ecology's PBT rule, a chemical is considered bioaccumulative if it has a bioconcentration factor (BCF) or bioaccumulation factor (BAF) greater than 1000, or a pK_{ow} ($\log K_{ow}$) greater than 5 ($K_{ow} > 100,000$).

Section 173-204-564(2)(iii)(B) proposes to expand the scope of this to include chemicals with a $pK_{ow} > 3.5$ ($K_{ow} > 3162$), but offers no justification for why this is necessary or useful. This proposed change to the criteria defining what constitutes a bioaccumulative chemical is significant for many reasons. First, although there is some subjectivity in setting the threshold for defining what constitutes a bioaccumulative chemical, setting the threshold at a pK_{ow} of 3.5 is inconsistent with the scientific consensus (this specific issue was debated extensively during development of Ecology's PBT rule, and the result was setting the pK_{ow} threshold at 5). Second, because the proposed modification to the definition does not mandate the existence of a measured pK_{ow} , it opens the window to allowing a chemical to be defined as bioaccumulative based on a predicted (i.e., modeled) pK_{ow} . Finally, and most importantly, because pK_{ow} is simply a physico-chemical parameter not reflecting any limitations to uptake by organisms and/or metabolism by organisms, basing the definition solely on pK_{ow} would allow a chemical to be defined as bioaccumulative without any evidence that the chemical actually does bioaccumulate (as the proposed alternate definition does not require a specific threshold for a BCF or BAF). Thus, this section has the potential to allow decisions about sediment cleanup(s) to be driven by the presence of chemical(s) that may in fact not bioaccumulate. It is incumbent upon Ecology to provide some justification for making this proposal. Absent this the proposal is totally arbitrary.

Considering the deliberative consensus-driven process leading to adoption of the criteria given in Ecology's PBT rule, these should remain the only criteria defining a bioaccumulative chemical. Thus, Ecology should delete Section 173-204-564(2)(iii)(B) from the proposed rule.