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Via Electronic Submission and E-Mail

May 15, 2017

Office of Environmental Information (OEI) Docket
United States Environmental Protection Agency
Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: Request for Comment, Evaluation of Existing Regulations, EPA-HQ-OA-2017-0190-0042

To Whom It May Concern:

The Sediment Management Work Group (SMWG) is an ad hoc group of a diverse cross-section of industry (auto, aerospace, chemical, paper, paint, pharmaceutical and utilities, among others), port authorities and government parties actively involved in the evaluation and management of contaminated sediments on a nationwide basis. The SMWG has long advocated a national policy addressing contaminated sediment issues that is founded on sound science and risk-based evaluation of contaminated sediment management options. U.S. EPA's 2005 *Contaminated Sediment Guidance for Hazardous Waste Sites* ("Guidance") was an important first step in that direction. The next key step is uniform and consistent application of the Guidance. The SMWG, as part of the next step, is monitoring whether and how the Guidance is being applied at contaminated sediment sites around the country.

The SMWG appreciates this opportunity to submit comments on existing regulations and policies. These comments are submitted by SMWG and do not necessarily express the opinion or views of any individual SMWG member.

A. Correcting the Misuse Of Principal Threat Waste Policy At Contaminated Sediment Sites

We request that the United States Environmental Protection Agency (U.S. EPA) amend, revise or supplement the Office of Solid Waste and Emergency Response (now known as the

Office of Land and Emergency Management (OLEM)) Superfund Publication 9380.3-06FS, November 1991, titled "A Guide to Principal Threat and Low Level Threat Wastes" (referred to herein as the "PTW Publication") to correct the misuse and misapplication of the concept of "Principal Threat Waste" (PTW) at Superfund sites involving contaminated sediments.

The concept of PTW set forth in the National Contingency Plan (NCP) and the PTW Publication is a narrow one of highly limited applicability. It pertains only to "source material," defined as material containing hazardous substances that "act as a reservoir for migration of contamination" to environmental media. It reflects a preference for treatment (not removal) only of *certain* "source material": that which "cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur." The PTW Publication specifically acknowledges that "*other* source materials *can* be safely contained and that treatment for all waste will *not* be appropriate or necessary to ensure protection of human health and the environment, nor cost effective." (Emphasis added.)

In recent months, however, we have seen EPA stretch the application of PTW beyond its intended scope, and, moreover, we have seen EPA use this inflated scope of PTW to require increasing mass removal (*i.e.*, dredging) and not treatment. Recent examples include the 2016 Record of Decision (ROD) for the Lower Willamette River and the 2016 proposed ROD amendment for the San Jacinto River Waste Pits site. This use of the PTW designation is inappropriate for several reasons, including:

(1) Not all sites necessarily have PTWs. Only sites at which waste meet the narrow definitions of PTW should have PTW designation. At many sites there are not remaining "source materials," and, even if there are, they may be source materials that can be reliably contained or do not present a significant risk to human health or the environment should exposure occur.
(2) PTW designation does not override the NCP's remedy selection process – The selection of an appropriate waste management strategy is to be determined solely through the remedy selection process outlined in the NCP.
(3) PTW designation establishes a preference for treatment, not removal, and even then the preference for treatment maybe overcome in specific situations that are common at sediment sites
(4) PTW designation applies only to that source material which "cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur", which does not apply to most contaminated sediments
(5) The Sediment Guidance, which is more recent, more detailed and more specifically applicable to sediment sites, states that PTW designation is frequently inapplicable to sediment sites.

At the Lower Willamette Site, the EPA's Feasibility Study (FS) provides no analysis of how the sediment meets the definition of source material, which is key because PTW only applies to source material. To be source material, it must "act as a reservoir for migration of

contamination." (PTW Publication). In addition, U.S. EPA Region 10 inappropriately chose to ignore the PTW Publication's criterion that PTW is source material that cannot be "reliably contained." Region 10 claimed that it was unable to fully assess the containability aspect of the PTW Publication at the FS stage. Even if that were a valid basis for ignoring a key aspect of the PTW Publication, this assertion by Region 10 is contrary to FS Section 5.5.2, 6.2.5.1 and 6.2.6.1 that provide detailed and quantitative containabilitily assessments supported by detailed calculations that demonstrate that the vast majority of the sediments in the Lower Willamette Site are likely to be reliably containable.

Because U.S. EPA Region 10 dispensed with the "reasonably containable" PTW criterion at the Lower Willamette Site, it relied heavily on the identification of "highly toxic" material to designate PTW. However, the PTW Publication explicitly warns against making PTW determinations based solely on potential risk (emphasis added):

> [P]rincipal and low level threat waste **should not necessarily be equated with the risks posed by site contaminants** via various exposure pathways. Although the characterization of some material as principal or low level threats takes into account toxicity (and is thus related to degree of risk posed assuming exposure occurs) characterizing a waste as a principal threat **does not mean that the waste poses the primary risk at the site**.

Moreover, Region 10's analysis – which concluded that some sediments presented a risk greater than 10^{-3}, is contrary to the evidence in the Baseline Human Health Risk Assessment , which found no risks greater than 10^{-3} for dioxin/furan TEQ for any scenario evaluated.

Although risk greater than 10^{-3} was found for PCBs at the Lower Willamette Site, that risk was based on fish consumption scenarios. However, the use of this type of indirect exposure route to designate PTW is contrary to the definition of "source material," which states:

> "Source material" is defined as material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, to surface water, to air, or acts as a source for *direct exposure*. (Emphasis added.)

U.S. EPA's mis-application of the PTW Publication has resulted in cleanup decisions that are flawed and inconsistent with U.S. EPA decisions at other comparable sites.

At the San Jacinto site, EPA's proposed ROD amendment justified its recommendation to remove already capped and contained sediments, in part, based on an inappropriate designation of those sediments as PTW. The existing armored cap was installed at the site in 2011, after a lengthy and detailed evaluation of alternatives. In reviewing the reports generated at the San

Jacinto Site, since that time, except for routine (and expected) maintenance, the cap has remained in place and effectively contained the underlying contaminants. In more than 5 years, less than 0.6% of the cap surface area armor has received maintenance **pursuant** to the monitoring and maintenance plan developed by the potentially responsible parties (but no disturbance of the membrane or isolation layer has been reported).

Capping at upland sites, as well as at sediment sites, is a widely used and accepted remedial technology. In the context of contaminated sediment sites capping has been successfully used to manage contaminated sediments for more than 20 years. Experience has shown that, although a certain amount of monitoring and maintenance is required for any cap, capping technology is both safe and effective. In fact we at SMWG are not aware of any instance in which an armored cap, such as that currently in place at the San Jacinto River Waste Pits site, has ever failed resulting in a release of contained contaminants to the environment. The application of a PTW designation to justify a risky and costly removal of a functioning cap is inappropriate.

Such uses of PTW designations to drive remediation decisions at contaminated sediment sites is both inappropriate and inconsistent with the PTW Publication and other, more authoritative EPA guidance, as discussed below.

1. Not All Sites Contain PTW

As an initial matter, not all sites contain material that meets the narrow definition of principal threat waste, and there is no requirement that EPA stretch to designate material as PTW unless it clearly meets the PTW criteria. Indeed, EPA has recognized that in some site-specific circumstances, the classification of waste as principal threat/low level threat will not be applicable:

> The identification of principal and low level threats is made on a site-specific basis. In some situations site wastes will not be readily classifiable as either a principal or a low level threat waste, and thus no general expectations on how to best manage these source materials of moderate toxicity and mobility will necessarily apply. [NOTE: In these situations waste do not have to be characterized as either one or the other. The principal threat/low level threat waste concept and the NCP expectations were established to help streamline and focus the remedy selection process, not as a mandatory waste classification requirement.]

PTW Publication at p. 2. Accordingly, for sites at which materials do not satisfy the criteria for PTW, the only appropriate action is for EPA not to designate material as PTW. As discussed below, such circumstances are often the case at sediment sites.

2. PTW Determination Does Not Override the NCP Remedy Selection Process

As discussed in the PTW Publication, "remedy selection decisions are ultimately site-specific determinations based on an evaluation of the nine evaluation criteria" in the NCP. PTW Publication at p. 1. The purpose of PTW designation, when applicable, is simply to "streamline and focus the remedial investigation/feasibility study (RI/FS) on appropriate waste management options." Certain past remedy decisions have placed great significance on the designation of contaminated sediments as PTW. However, the designation of contaminated sediment as PTW may not result in a different remedy selection decision than would result from the NCP remedy selection process. Therefore, if a PTW designation is applied to contaminated sediments, the Administrator or other decision maker must take measures to ensure that the NCP remedy selection process has been followed and that the remedy selection criteria have been properly applied. In particular, the "preference for treatment" that a PTW designation entails does not justify choosing a remedy that involves more mass removal (which is not a form of "treatment"). The remedy selection decision ultimately must be justified on the bases of the nine NCP criteria and PTW should not be used to override these criteria and the NCP.

3. The PTW Designation Establishes A Preference For Treatment, Not Removal, And That Preference Can Be Overcome In Appropriate Circumstances, Which Are Often Found At Sediment Sites

The PTW Publication clearly states that the designation of material as PTW creates an "expectation" or "preference" for treatment. However, in recent instances, EPA Regions have cited PTW designation to support *removal* of sediments (i.e., dredging), rather than treatment. This is a clear misuse of the PTW designation. In the case of sediments, in many cases the most applicable "treatment" technique is in situ treatment (e.g., activated carbon amendments). While in situ methods may not be feasible in many instances (as discussed below), when in situ treatment is indicated, the PTW Publication, if anything, expresses a presumption that such in situ methods be used *in preference to removal*. Thus, EPA Regions that have used PTW designations to support removal remedies are plainly misapplying the PTW designation.

The PTW Publication is equally unambiguous that the preference for treatment is **not determinative**: "These determinations, and the application of the expectations, serve as general guidelines and do not dictate the selection of a particular remedial alternative." PTW Publication at p. 3.

The PTW Publication identifies several situations where waste that has been identified as PTW may nonetheless be contained rather than treated "due to difficulties in treating the wastes." Id. Specific examples of such situations include:

- Treatment technologies are not technically feasible or are not available within a reasonable time frame;

- The extraordinary volume of materials or complexity of the site may implementation of treatment technologies impracticable;
- Implementation of a treatment-based remedy would result in greater overall risk to human health and the environment due to risks posed to workers or the surrounding community during implementation; or
- Severe effects across environmental media resulting from implementation would occur.

PTW Publication at p. 3

Each of these situations commonly occurs at sediment sites. As noted above, in many instances, in situ treatment technologies are either not applicable or have not been demonstrated to be effective. Contaminated sediment sites are also notorious for being among the largest and most complex sites (often extending over 20 miles and thousands of acres), with enormous volumes of impacted materials that make implementation of treatment technologies impracticable. In addition, dredging operations frequently involve greater overall risk to human health and the environment than capping or Monitored Natural Recovery (MNR). Finally, dredging (and the risk of resuspension and re-release) is known to carry a great risk of severe effects across environmental media.[1]

4. PTW Designation Applies Only To That "Source Material" Which "Cannot Be Reliably Contained or Would Present a Significant Risk to Human Health or the Environment Should Exposure Occur," Which Does Not Refer To Most Contaminated Sediments At Contaminated Sediment Sites

As discussed above, a PTW designation applies only to a limited subset of the term "source material."[2] "Source material," is defined as "material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to groundwater, to surface water, to air, or acts as a source for direct exposure." PTW is only that source material that "cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur." At contaminated

[1] For a discussion of the risks posed by resuspension and re-release and other considerations, see *The 4 Rs in Sediment Management: A Synopsis and Overview*, Fifth International Conference on Remediation of Contaminated Sediments (2009).

[2] Although the PTW Publication lists examples of "source materials" including "contaminated sediments and sludges," the context makes clear that this refers to sediments and sludges that have accumulated in tanks or impoundments, and not contaminated sediments in rivers, harbors, estuaries, etc. that are part of the general environment. In this regard, it is important to note that the PTW Publication was released in 1991, long before U.S. EPA had significant experience with contaminated sediment sites, and 14 years before the publication of the Sediment Guidance.

sediment sites, the contaminants of concern are generally embedded beneath layers of additional sediment accumulation. Whether through natural sediment accumulation or by the installation of amended or un-amended caps, it is often the case that contaminated sediments do not serve "as a reservoir for the migration of contamination" or "as a source for direct exposure." Moreover, such materials can be reliably contained and do not present a significant risk to human health or the environment should exposure occur. Therefore, in general, contaminated sediments do not fall within the definition of PTW.

5. The Sediment Guidance, Which Is Both More Recent And More Focused Than The PTW Publication, Discourages The Application Of PTW Designations At Sediment Sites

EPA's Contaminated Sediment Remediation Guidance for Hazardous Waste Sites, EPA 540-R-05-012, OSWER 9355.0-85 (December 2005) (the Sediment Guidance) embodies national policy on contaminated sediment and should be followed at all contaminated sediment sites. The Sediment Guidance was issued for use "by federal and state project managers considering remedial response actions or non-time-critical removal actions" under CERCLA (p. 1-1). It was developed over a period of eight years (1998-2005) and was the subject of comments by the U.S. EPA Regions and the public. The Sediment Guidance provides a risk management decision-making framework to assist with selecting appropriate remedies at contaminated sediment sites. As such, the Sediment Guidance constitutes EPA's most comprehensive and authoritative policy guidance on remedial decisions at contaminated sediment sites. The Sediment Guidance is 14 years more recent than the PTW Publication, and at over 200 pages, is far more comprehensive and authoritative than the 3-page PTW Publication.

On the subject of PTW, the Sediment Guidance states:

> For the majority of sediment removed from Superfund sites, treatment is not conducted prior to disposal, generally because sediment sites often have widespread low-level contamination, which the NCP acknowledges is more difficult to treat. However, pretreatment, such as particle size separation to distinguish between hazardous and non-hazardous waste disposal options, is common. Although the NCP provides a preference for treatment for "principal threat waste," treatment has not been frequently selected for sediment. High cost, uncertain effectiveness, and/or (for on-site operations) community preferences are other factors that lead to treatment being selected infrequently at sediment sites.

Sediment Guidance at Section 6.7 (emphasis added).

The increasingly prominent role that PTW designations have made in recent remedy decisions at contaminated sediment sites is directly contrary to recognition in the Sediment

Guidance that contamination at sediment sites is frequently wide-spread and low level and therefore inappropriate for PTW treatment. Moreover, the Sediment Guidance states "in-situ containment can also be effective for principal threat wastes, where that approach represents the best balance of the NCP nine remedy selection criteria" (Sediment Guidance, p. 7-4).

For all of these reasons, PTW designations at sediment sites should not commonly be used to justify dredging as a remedial element.

B. EPA Should Clarify The Applicability Of The PCB Remediation Waste Disposal Requirements (40 CFR 761.50) To Contaminated Sediments

Polychlorinated biphenyls (PCBs) have been a predominant chemical of concern at contaminated sediment sites, including the Hudson, Fox, Housatonic and Kalamazoo Rivers among many others. Generally speaking, remediation waste generated by PCB cleanups that contains more than 50 parts per million (ppm) PCBs must be disposed of in a in a Toxic Substances Control Act (TSCA) licensed landfill at considerable expense. Until recently, the universal practice has been to sample the staged sediment spoils ex-situ and post-dewatering and/or treatment in order to determine if the material must be disposed in a TSCA landfill or in a more available and significantly less costly Resource Conservation and Recovery Act (RCRA) Subtitle D facility. Numerous completed contaminated sediment dredging remedies have followed this environmentally sound approach, including the EPA-implemented Manistique Harbor cleanup, which involved some 187,000 cubic yards of PCB-impacted sediment.

More recently, the U.S. EPA's TSCA Branch (OPPT), prior to its merger into the Office of Solid Waste and Emergency Response (now the Office of Land and Emergency Management or OLEM) had taken the position that the appropriate landfill disposition of PCB contaminated sediment must be based on the PCB concentrations "as found" in the in-situ sediment. In some cases, U.S. EPA has required this determination to be made based on the highest historical sample, even if that sample was collected many years previously and is no longer representative of actual site conditions.

This procedure is scientifically unsound, contrary to existing regulations and does not provide any incremental environmental benefit. On the contrary, this approach creates significant unnecessary expense and delays in implementing cleanups at contaminated sediment sites. The following discussions explains these points in greater detail.

1. Applicable Regulations Indicate That The Appropriate Disposal Method For PCB Contaminated Sediments Should Be Based On The Concentration Of PCBs In The Sediment After It Has Been Dredged And Dewatered And/Or Treated

40 C.F.R. 761.3 defines "PCB Remediation Waste" to include, among other things "dredged materials, such as sediments, settled sediment fines, and aqueous decantate from

sediment." It is noteworthy this definition refers to "dredged" sediment, not in-situ sediment that is "to be dredged." Accordingly, PCB contaminated sediment becomes PCB Remediation Waste only after it has been dredged and, therefore, it is inappropriate to classify the sediment for disposal based on its in-situ (pre-dredging) concentration. Moreover, this definition recognizes the separation of dredged sediments into liquid and solid phases for characterization.

In fact, 40 C.F.R. 761.1(b)(4)(iii) requires the separation of phase in non-liquid/liquid material, and the sampling of each phase separately. Disposal of each phase is then governed by the concentration of PCBs in that phase (40 C.F.R. 761.1(g)(4)(iv)). See also 2001 TSCA PCB Question and Answer Document (at 76), which states:

> **Q: How do I determine the concentration of multi-phasic PCB remediation waste such as sludges?**
>
> **A:** Separate the multi-phasic waste and sample each phase separately. You may either dispose of each phase separately based on the as-found concentration in that phase, or dispose of the waste without separating it based on the highest as-found concentration of any phase." See also *Id*. at 4-5.

Likewise, 40 C.F.R. 761.61(b)(3) authorizes the disposal of material containing less than 50 ppm PCB that has been dredged or excavated from waters of the United States at a non-TSCA facility, subject to approval from the United States Army Corps of Engineers, when applicable.

Accordingly, U.S. EPA's position that PCB remediation waste must be characterized for disposal based on the in-situ concentration of PCBs in the sediment is contrary to other EPA PCB regulations.

2. Requiring PCB Remediation Waste At Contaminated Sediment Sites To Be Characterized For Disposal Based On The In-Situ Concentration Of The Sediment Is Scientifically Unsound, Provides No Incremental Environmental Benefit And Results In Substantial Increased Expense And Delay

There are numerous problems with the requirement to characterize PCB Remediation Waste at contaminated sediment sites based on the in-situ "as found" concentration, including:

- The in-situ data are often old, unreliable and not reflective of current conditions, let alone the ex-situ concentrations

- The d in-situ data do not accurately reflect the contents of the staged materials, which are the materials that will actually be sent for disposal

- The safest, most accurate and environmentally sound approach is to take current samples of the material when it is ready to be disposed

- Because the older in-situ data tend to have higher concentrations, this artificially and significantly increases disposal costs, because significantly more material ends up in a TSCA landfill

- TSCA landfill space is scarce and it does not make sense to use this limited resource on waste not requiring TSCA landfilling

- No incremental environmental benefit results from disposing of material containin less than 50 ppm PCBs in a TSCA landfill

- At large contaminated sediment sites, the incremental disposal costs can run in the millions of dollars and significant delays have and will continue to occur

- At smaller sites, the incremental cost can be considerable and delays also can be expected

3. The Incremental Cost Of Disposal Can Be Excessive

The following example is based on the tipping fee alone – it does not include the cost differential that may result from having to transport TSCA material a greater distance than non-TSCA material due to the limited availability of TSCA landfills (TSCA -$110/ton; non-TSCA - $15/ton)

Volume (tons)	**TSCA**	**Non-TSCA**	**Incremental Cost**
50,000	$5,500,000	$750,000	$4,750,000
100,000	$11,000,000	$ 1,500,000	$9,500,000
250,000	$27,500,000	$ 3,750,000	$ 23,750,000

Confidential sites (Incremental difference between remedies based on in-situ data vs. ex-situ data, based on estimated TSCA landfill costs of $150/cy)

Site	Increase in CY as TSCA Waste	Added Cost
1	500,000	$75,000,000
2	900,000	$ 135,000,000

4. Request For Action

Efforts to resolve this important issue, which arose in about 2004, have not been completed. Resolution is urgently needed because this issue is creating unnecessary delays and significantly increasing costs without any environmental benefit.

Accordingly, we request the EPA Administrator to issue a clarification that existing TSCA rules, guidance and Q&As permit ex-situ sampling of dredged sediments for disposal characterization. The historic practice of ex-situ sampling of dredged PCB contaminated sediments for disposal characterization should be restored. If that is not practicable, then we request EPA to proceed expeditiously with rulemaking to correct this problem.

C. U.S. EPA Must Insist That its Regions Comply With The National Contingency Plan's (NCP) Requirement That Selected CERCLA Remedies Are Cost Effective, Including A Specific Requirement That A "Proportionality" Between Incremental Risk Reduction And Incremental Cost Be Demonstrated

CERCLA requires that any remedial action that is selected must be "cost-effective." 42 USC 9621(a). The NCP states, "[e]ach remedial action selected shall be cost-effective, provided that it first satisfies the threshold criteria set forth in § 300.430(f)(1)(ii)(A) and (B). Cost-effectiveness is defined as when "costs are proportional to [the remedial alternative's] overall effectiveness." 40 CFR §300.430(f)(1)(ii)(D).

As U.S. EPA stated in its Superfund Guidance, "cost-effectiveness is concerned with the reasonableness of the relationship between the effectiveness afforded by each alternative and its costs compared to other available options." U.S. EPA 1999. Moreover, "if the difference in effectiveness is small but the difference in cost is very large, a proportional relationship between the alternatives does not exist." U.S. EPA 1990, Preamble to NCP.

These proportionality requirements were reiterated by U.S. EPA in the Sediment Guidance. Regions must select remedies that are cost effective (p. 7-17) and should "compare and contrast the cost and benefits of various remedies." (p. 7-1).

U.S. EPA has frequently failed to adequately evaluate the cost-effectiveness proportionality requirement of proposed remedies as required by CERCLA and the NCP. This failure has catastrophic impact at large sediment sites, where remedies are being inappropriately selected in ranges of dollars in the billions, such as the ROD for the Lower Willamette River. An example of the disregard of conducting a legitimate cost-effectiveness/proportionality "evaluation" can be found in Region 2's March 2016 Record of Decision for the Lower Passaic River, which consisted of six sentences for this estimated $1.4 billion remedy and constituted a simple conclusory statement that the effectiveness of the selected remedy was "determined to be proportional to cost." The "evaluation" provided no details as to how cost-effectiveness or proportionality were determined and failed to address how the cost-effectiveness of the selected remedy was compared to other alternatives, as required by the NCP.

Similarly, in the 2016 Proposed Plan for the San Jacinto River Waste Pits Site, U.S. EPA Region 6 estimated the cost of the Proposed Plan to be $87 million. However, another alternative (Alternative 3aN) was expected to cost only $24.8 million. The SMWG commented on the Proposed Plan in January of this year and pointed out that Alternative 3aN was likely to be as protective, and possibly more protective, of human health and the environment than the Proposed Plan, which involved substantial anticipated risks of releases during dredging. Therefore, the Proposed Plan recommended by U.S. EPA Region 6 was not cost-effective, contrary to CERCLA and the NCP. In fact, the Texas Commission on Environmental Quality submitted strong comments about the Region's Proposed Plan's lack of compliance with the NCP cost-effectiveness requirement and even pointed out its opinion that Region 6 had significantly understated the likely costs of the more expensive remedy recommended by the Region.

One rare example of the correct application of the cost-effectiveness criterion is the 2016 Proposed Plan Revision for the Nyanza Chemical Waste Dump Site OU4. At this site, the U.S. EPA's comparison of the anticipated incremental risk reduction to be provided by Enhanced Natural Recovery and its cost (at $8.5 million), compared to the incremental anticipated risk reduction and cost for Monitored Natural Recovery ($1 million) in Reach 3 of the Sudbury River was consistent with CERCLA, the NCP and the Sediment Guidance.

The application of the NCP's requirement to use a cost-effectiveness proportionality test has been ignored at virtually all the other sites. Consequently, it is critical in the future to require all CERCLA decisions to undertake a thorough and proper cost-effectiveness/proportionality evaluation and to transparently describe it its decision documents the analysis and justification of cost-effectiveness, including proportionality between incremental cost and incremental risk-reduction, if any.

D. U.S. EPA Should Formally Incorporate Sustainability Analysis In Its CERCLA Remedy Analysis and Decisions

Originally, CERCLA held the basic premise that a site would simply be cleaned up. It was either clean or not. With the growth of risk assessment, however, the realization emerged that there was a spectrum rather than absolutes. This shift to risked-based decisions meant that long-term stewardship would need to be considered concurrently. Sustainability incorporates consideration of social and economic impacts as well as environmental impacts into the remedial alternatives analysis over the life cycle of the remedial action. It is, therefore, a useful concept under which risk and long-term stewardship fit well.

A "reset" of regulations and regulatory approaches has been suggested[3] as a way to adopt disruptive—as opposed to incremental—change. In 2014 the National Research Council (NRC) conducted a Study for U.S. EPA on integration of Sustainability studies into regulatory programs. The result was a recommendation by the NRC for inclusion of the sustainability concept in major regulatory decisions (such CERCLA mega-site RODs). A sustainability evaluation would provide a more transparent evaluation of the uncertainties surrounding environmental decisions and the cost and benefits to society. Parameters typically considered in a sustainability analysis include: (a) time to implement the remedy; (b) the volume of material removed (and waste generated); (c) the total cost of the proposed remedy; (d) the magnitude of disruption to the surrounding community during remedy implementation; and (e) the benefits of quickly making the area around the waterbody available and attractive for beneficial redevelopment. This transparency would also lead to greater consensus regarding remedy decisions and thereby facilitate implementation of the selected remedy (speeding remediation). By explicitly identifying uncertainties (e.g. fish consumption rates and urban background levels of key COCs) and their impact on remedy, U.S. EPA can focus future funding on the key issues that would provide long term improvement to watersheds.

Although Executive Order 13563 (January 18, 2011) called upon U.S. EPA and other agencies to consider Net Environmental Benefits Analysis (NEBA) in major decisions, U.S. EPA has only moved forward with guidance supporting "green and sustainable" remedy implementation but not remedy selection (e.g. using biodiesel in trucks transporting waste vs. dealing with amount of waste produced to begin with). In addition, U.S. EPA has failed to follow through and demonstrate support for implementing sustainability in remedy decisions through the use of NEBA tools. For example, in May 2015 U.S. EPA's Carlos Pachon at the Batelle Remediation Conference in Miami, announced that U.S. EPA would move forward with integration of NEBA into remedy selection starting at two pilot sites (one in NJ and one watershed scale site in Idaho); however, later that same year Mr. Pachon reported that progress had stalled because funds had yet to be appropriated. Additionally, although a

[3] Craig Benson, University of Wisconsin and Consortium for Risk Evaluation with Stakeholder Participation, in 2014 NRC Discussion of "Best Practices;" Workshop 2.

NEBA evaluation was included in PRP-funded draft FS for Portland Harbor and U.S. EPA Region 10 had originally included funding to conduct a NEBA, the Region later reversed its position and removed the NEBA from its evaluation. Therefore, the PRPs conducted their own sustainability study including not only a NEBA but also an economic analysis that corrected the incomplete studies previously conducted and a social benefit analysis. This study has been presented over that last two years at multiple scientific conferences as well as to Oregon DEQ and U.S. EPA on several occasions and was submitted during proposed plan comments to U.S. EPA. Nevertheless, this U.S. EPA Region 10 did not consider this study during ROD selection. Similarly, the Lower Passaic River PRP group has asked and been repeatedly told they could not conduct a sustainability analysis. Newtown Creek PRPs were originally told that they could conduct a sustainability analysis (which was also supported by NGOs), but in May 2017 were told by U.S. EPA Region 2 that they could not. As these examples demonstrate, U.S. EPA has stated repeatedly it is moving in this direction yet has failed to put its words into action.

U.S. EPA has on several occasions stated that integrating sustainability evaluations into the Superfund program can be done without legislative change to CERCLA. Thus, sustainability evaluation could be included without revising CERCLA for remedy selection. The SMWG also concurs that a sustainability framework can fit into CERCLA without requiring any regulatory change and will increase stakeholder engagement and consensus while minimizing litigation and accelerating remedy implementation and should be implemented in the CERCLA program immediately. For sites where RODs have been issued but not constructed, a revisit of the sustainability principles driving design certainly would be appropriate. The SMWG urges U.S. EPA to immediately commence full utilization of sustainability in CERCLA remedy evaluation and suggests that contaminated sediment site would be an excellent place to start.

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The SMWG would be pleased to answer any questions about these comments. For further information, please feel free to contact the SMWG's Coordinating Director, Steven C.

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Sincerely,

Steven C. Nadeau

Steven C. Nadeau, Coordinating Director
Sediment Management Work Group