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Via E-Mail and U.S. Mail

January 12, 2017

Gary Miller
Remedial Project Manager
United States Environmental Protection Agency
Region 6 (65F-RA)
1445 Ross Avenue
Dallas, TX 75202-2733

Re: *Sediment Management Work Group Comments On Proposed Plan For The San Jacinto River Waste Pits Site, Harris County, Texas (the "Proposed Plan")*

Dear Mr. Miller:

The Sediment Management Work Group¹ ("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 the Proposed Plan. The Proposed Plan fails to provide an appropriate evaluation of the remedial alternatives particularly the comparison of Alternatives 3aN and 6N, which is contrary to CERCLA and the National Contingency Plan ("NCP") (40 CFR Part 300). Moreover, the Proposed Plan does not comport with the Principles for Managing Contaminated Sediment Risks at Hazardous Waste Sites (U.S. EPA 2002a) nor U.S. EPA's Contaminated Sediment Guidance (2005). The Proposed Plan's inconsistency with the NCP and national sediment policy, as embodied in the Sediment Guidance, concerns the SMWG because these regulations and policies are in place to ensure that site investigations are appropriately scoped, and that the evaluation and selection of remedial alternatives are risk-reduction focused and effectively protect human health and the environment, all in a consistent manner at all contaminated sediment sites.

¹ The views expressed in these comments are those of the SMWG as a group, and not of any individual Member. See Exhibit "A" for a list of SMWG Members.

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The SMWG is very concerned that the Proposed Plan's unprecedented and inappropriate proposal to completely remove an existing engineered cap that was constructed with U.S. EPA approval under the CERCLA Time Critical Removal Program, despite the fact that it has been proven effective in containing the existing waste and contaminated sediment, would undermine one of the key, well-accepted Superfund remediation tools -- capping. We are not aware of any precedent for the removal of an installed engineered cap. Such a decision would set a terrible precedent, which could have serious repercussions at many other sites nationally, not the least of which would be at least two "mega sites," the Lower Passaic River and the Willamette River. Among other things, potentially responsible parties will be less likely to participate in time critical removal actions or other interim remedies when there is so little assurance that the work performed (and costs incurred) will be consistent with the final cleanup plan. In addition, the SMWG strongly believes that requiring the removal of this cap, at a substantial additional expense, will trade a working remedy that has been demonstrated to be effectively controlling the risk, for a removal remedy that the Army Corps has confirmed will result in unavoidable releases of contaminants during its construction. This trade-off is not acceptable, nor is it consistent with CERCLA's nine remedy selection criteria, or the NCP.

In addition, SMWG is troubled that the standard U.S. EPA Region 6 is using to reject retaining the existing cap – that there must be virtually complete certainty about the permanent integrity of the cap – establishes an unrealistic and unachievable standard for risk-based cleanup decisions to meet. In fact, based on the Army Corps Report, the ONLY certainty is that removal of the existing cap and underlying waste WILL result in some releases, and that there is a likelihood that significant releases of dioxin could occur based on historical heavy rain frequency and major storm events. Not only is this inconsistent with the approach applied by all U.S. EPA Regions at all other contaminated sediment sites, the SMWG is concerned that this standard will amount to a *de facto* mandate for complete sediment removal at all contaminated sediment sites – a result that would be disastrous for the many sites, including the San Jacinto River Waste Pits, where the environment and the local community can be better protected from risk by enhancing the existing engineered and installed cap.

The SMWG also believes that U.S. EPA Region 6 has not applied the NCP's cost-effectiveness criterion correctly in its Proposed Plan. In particular, U.S. EPA Region 6 has proposed a remedy, Alternative 6N, that will cost substantially more than an alternative remedy (Alternative 3aN) but will not provide any meaningfully greater risk reduction. In fact, the implementation of the Proposed Plan would have the unenviable distinction of resulting in significant incremental cost to achieve significantly LESS incremental protectiveness, in violation of the NCP's cost-effectiveness requirement. Accordingly, U.S. EPA Region 6 has failed to demonstrate that the Proposed Plan's remedy is cost-effective when compared to Alternative 3aN.

I. U.S. EPA's National Contaminated Sediment Policy, As Embodied In The NCP And The Sediment Guidance, Must Be Appropriately Applied To All Contaminated Sediment Sites As A Matter Of U.S. EPA Policy

In December 2005, U.S. EPA issued the *Contaminated Sediment Remediation Guidance for Hazardous Waste Sites*. This Guidance embodies national policy on contaminated sediment and should be followed at all contaminated sediment sites. The 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). The Guidance provides a risk management decision-making framework to assist with selecting appropriate remedies.

There are at least five key remedy selection principles in the Guidance applicable to this site:

- The focus of remediation should be on risk reduction, not simply on contaminant removal or on the number of cubic yards of dredged sediment (p. 7-1, 7-16).
- A realistic, site-specific evaluation of the potential effectiveness of each sediment management option, including dredging, capping, and monitored natural recovery, should be incorporated into the selection of remedies at a site (p. 7-3).
- An appropriate evaluation of the comparative net risk reduction potential of the various sediment management options, including a realistic evaluation of their respective advantages and site-specific limitations should be conducted (p. 7-13, 7-14). (This requires the evaluation of the decreased effectiveness of the proposed remedy if there is a risk of releases during remedy implementation, as is the case here.)
- The requirement to “compare and contrast the costs and benefits of various remedies. (p. 7-1)
- Comparing and contrasting the costs and benefits (proportionality) of the various remedies is part of the risk management decision-making framework (p. 7-1).

These principles all focus on risk reduction. These principles, if applied appropriately, will lead to protective remedies that are also cost effective as required by CERCLA and the National Contingency Plan (NCP).

In its Guidance on National Consistency in Superfund Remedy Selection (U.S. EPA 1996), U.S. EPA emphasized the “critical importance of maintaining appropriate national consistency in the remedy selection process.” (p. 2). In this context, appropriate consistency means “applying decision-making processes recommended in national policies and guidance using the criteria they lay out, and exercising the built-in flexibility as appropriate to address site-specific circumstances.” (p. 2). As noted above and in greater detail below, several aspects of the Proposed Plan fail to comply with EPA Superfund Remediation Policy, as embodied in CERCLA, the NCP and the Contaminated Sediment Guidance. These include its unprecedented

requirement to remove the existing TCRA cap, the virtual 100% certainty applied to evaluation of potential capping effectiveness, the misapplication of the Principal Threat Waste Guidance, the failure to evaluate and apply extensive data required to be collected by EPA that confirms the existing cap's effectiveness, and the failure to comply with the NCP's proportionality test for cost-effectiveness evaluation, among others.

II. U.S. EPA Has Inappropriately Selected A Remedy That Requires An Existing, Approved And Properly Performing Cap To Be Precipitously Removed At Great Expense And With No Incremental Benefit

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 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.

Moreover, sediment, porewater, groundwater, surface water and fish tissue data collected by the PRP Group during 2016 at the requirement of and under the direction of U.S. EPA, demonstrate that the existing cap is effective. In each of these media, dioxin concentrations were found to be lower than previous studies conducted before the installation of the cap (or in some cases, were non-detect). These data clearly demonstrate that the existing cap is effectively containing the contamination and protecting human health and the environment. Removal of this well-functioning cap is unreasonable and unjustified by the existing data.

Additionally, the SMWG finds that the maintenance activities between 2012 and 2015 cited in the Proposed Plan do not support the conclusion that the existing cap is inadequate. As noted above, over this nearly 5-year period, less than 0.6% of the cap surface area required any maintenance. The maintenance activities described on page 4 of the Proposed Plan depict minor and routine maintenance activities involving small areas of cap that appear to have been quickly corrected by the PRP Group. Moreover, SMWG understands that the PRP Group supports enhancements to the cap as provided in Alternative 3aN. These enhancements would be expected to further improve cap integrity and performance, providing a large additional design safety factor. It is inappropriate to evaluate the performance of a capping alternative (Alternative 3aN), based on the performance of a cap that has not yet been fully constructed and armored.

III. Failure Of The EPA To Evaluate And Utilize The Extensive Sediment, Surface Water, Porewater And Groundwater Data Required By The Region To Be Collected By The PRPs Is Inconsistent With The CERCLA RI/FS Guidance

In addition to the substantive concern noted above that the extensive sediment, porewater, groundwater, surface water and fish tissue data collected by the PRP Group during 2016 contradict the need to remove the existing TCRA cap and underlying material, the apparent failure by the Region to utilize critical data it required to be collected under the direction of EPA (at great expense) is a serious disregard of CERCLA's RI/FS procedures and requirements. This is particularly disturbing because these data demonstrate that the existing cap is effectively containing the contamination and protecting human health and the environment

IV. The Principal Threat Waste (PTW) Guidance Is Misapplied At This Site, Distorting The Remedy Selection Process

The PTW Guidance was created "to streamline and focus the RI/FS on appropriate waste management options" (PTW, p.1), NOT to supersede or pre-empt the NCP's nine remedy selection criteria. The PTW Guidance focuses the scope of the preference for treatment, but is not a preference for removal and does not override the NCP's remedy selection criteria, as follows:

"The selection of an appropriate waste management strategy is determined solely through the remedy selection process outlined in the NCP (i.e., all remedy selection decisions are site-specific and must be made on a comparative analysis of the alternatives using the nine criteria in accordance with the NCP." (PTW, p. 3)

At this site, the NCP's mandatory criteria on protectiveness, short-term and long-term effectiveness, implementability and cost-effectiveness support an enhanced cap, as demonstrated by the Army Corps Report.

V. U.S. EPA Has Failed To Adequately Account For Implementability Issues That Are Likely To Arise With The Proposed Plan

U.S. EPA has underestimated the implementability challenges that face the Proposed Plan. Issues of implementability include significant unknowns posed by the prospect of removing an armored cap with contaminated media below it – something SMWG believes has never before been performed at any site. In addition, although the Proposed Plan indicates that much of the work can be performed under dry conditions, the dewatering that will be required to obtain such dry conditions presents significant implementability issues, including the siting and construction of dewatering facilities in a manner that prevents the release of contaminants. Moreover, the wastewater that is generated by dewatering must be treated. The Proposed Plan fails to take into account these obstacles to implementation.

Perhaps most significantly, the dredging and removal of some 150,000 cubic yards of material will overwhelm the available construction infrastructure. SMWG understands that there is only a single roadway to access the Northern Impoundments and that this roadway can become flooded during high water. Therefore, it appears that some additional surface access will have to be constructed, along with obtaining the necessary right(s)-of-way. In addition, off-site transportation facilities will need to be built to accommodate the Proposed Plan. These implementability issues have not been adequately evaluated in the Proposed Plan. U.S. EPA should withdraw the Proposed Plan while it reconsiders the very significant implementability issues posed by the proposed remedy.

VI. U.S. EPA Has Not Adequately Considered The Risks Posed By Resuspension/Release Of (Currently Contained) Contaminants During Cap Removal

The Guidance requires resuspension losses and releases to be estimated as part of the remedy evaluation process:

“To the extent possible, the project manager should estimate total dredging losses on a site-specific basis and consider them in the comparison of alternatives during the feasibility study. “ (p. 6-23)

Reasonable estimates of the resuspension and releases that inevitably would result from each remedial alternative are necessary to permit reasoned comparisons of the net risk reduction associated with each alternative. The risks associated with resuspension and releases may be substantial because, as the Guidance notes, sediment resuspension losses “generally range from less than one percent to between 0.5 and 9 percent.” (p. 6-23) These estimates and their incorporation into the remedy evaluation process are mandated by the Sediment Guidance (Sections 6.2, 6.5.5, 6.5.6, 6.5.7, Highlight 6-11, and Highlight 7-3). Here, the Region appropriately requested the evaluation of potential releases at this Site during the proposed removal of the cap and underlying waste in order to benefit from the world renowned expertise of the Army Corps on this subject and should heavily rely on the Corps’ conclusions that some releases are inevitable despite use of Best Management Practices (BMPs) and that significant releases are likely to occur during heavy rain events or other storms that have been documented to occur locally at a regular frequency. In fact, the Army Corps Report notes that contaminant mobilization from resuspension is expected to release 400,000 times as much contaminants as currently occurs with the intact cap (U.S. Army Corps Report at p. 6) and possibly five times higher than that if a flood event occurs (Id. at p. 7). SMWG knows from experience at other sites that the resuspension and release of contaminants during dredging events can have long-term effects on the aquatic ecosystem. For example, the dredging in Commencement Bay in Seattle in 2004 caused a spike in fish tissue concentrations that persisted for years (Patmont, et al., Battelle 2013). After two major dredging projects were completed, concentrations of PCBs in fish tissue are still higher than they were over 20 years ago before dredging began (38 ppb before and 70 ppb after). Simply hoping to “do a better job” dredging than in all past projects is not a realistic expectation and does not constitute sound decision-making.

VII. U.S. EPA Region 6 Failed To Conduct An Adequate Cost-Effectiveness Evaluation

The Proposed Plan is not cost-effective as required by CERCLA, the NCP and the Sediment Guidance. 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).

EPA has estimated the cost of the Proposed Plan to be \$87 million. However, Alternative 3aN is expected to cost \$24.8 million. The SMWG believes that the technical reports at the Site confirm that Alternative 3aN is likely to be as protective, and in all likelihood, more protective of human health and the environment than the Proposed Plan, which would result in substantial risks due to the inevitable resuspension and release during the unprecedented removal of the existing armored cap, as discussed above. Consequently, the incremental (and total) cost of the Proposed Plan is not only disproportionate to the risk reduction, it appears to be inversely proportional (causing more risk rather than risk reduction) for more cost, and, therefore, the Proposed Plan fails to meet the cost-effectiveness requirement of CERCLA and NCP Section 40 CFR §300.430(f)(1)(ii)(D).

VIII. Conclusion

The CERCLA, the NCP and the *Sediment Guidance* provide a scientifically sound, risk-based approach to addressing contaminated sediment sites. Sediment sites present challenging problems, but following the policy and procedures in the *Sediment Guidance* at all contaminated sediment sites, across the country is critical to ensure that an appropriate remedy is selected which follows U.S. EPA’s National Contaminated Sediment Policy and is capable of being successful in reducing risk, based on site-specific conditions. In contrast, the Proposed Plan deviates from CERCLA, the NCP and the Sediment Guidance in several critical ways.

The Proposed Plan recommends an unprecedented action of the complete removal of an Agency-approved engineered cap installed under the CERCLA TCRA program and proven to be effective. On the other hand, there is a complete absence of any quantifiable unacceptable risk or exposure as documented by the significant and conclusive 2016 data that environmental conditions have improved since its installation. In contrast, when Alternative 3aN’s substantial armor enhancements (that would add a several-fold safety factor) are coupled with the extensive long term Operations, Maintenance and Monitoring of the preferred enhanced cap, together with EPA’s retained oversight authority and its formal 5 Year Review protectiveness evaluation, there

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is absolutely no risk to the environment or to the Agency by virtue of selecting Alternative 3aN. In contrast, under the Proposed Plan there will be virtual certainty that significant and unnecessary releases of contaminants will occur, causing harm to the environment. Such an approach would be not only be unprecedented, it would undermine one of the Agency's most significant remediation tools- capping, which could seriously damage EPA's national Superfund remediation program.

Accordingly, EPA should select Alternative 3aN in the Record of Decision for the San Jacinto Site. Alternatively, the Proposed Plan should be withdrawn and reissued to correct the identified errors and other deficiencies, the public should be given an opportunity to comment on the revised Proposed Plan, as required by law, and the remedy proposed in the Proposed Plan should be replaced with a proposed remedy which is fully consistent with CERCLA, the NCP and the *Sediment Guidance*, Alternative 3aN.

* * *

The SMWG would be pleased to answer any questions about its comments on the Proposed Plan. For further information, please feel free to contact the SMWG's Coordinating Director, Steven C. Nadeau, c/o Honigman Miller Schwartz and Cohn LLP, 2290 First National Building, 660 Woodward Avenue, Detroit, MI 48226, (313) 465-7492, snadeau@honigman.com.

Sincerely,

Steven C. Nadeau

Steven C. Nadeau, Coordinating Director
Sediment Management Work Group

Enclosure

- c. Ron Curry, U.S. EPA Region 6 Administrator
- Gina McCarthy, U.S. EPA Administrator
- Lisa Feldt, U.S. EPA Acting Deputy Administrator
- Mathy Stanislaus, Assistant Administrator, OSWER, U.S. EPA, HQ
- Barry N. Breen, Principal Deputy Assistant Administrator, OSWER, U.S. EPA, HQ
- James Woolford, Director, OSRTI, U.S. EPA, HQ
- Barnes Johnson, Deputy Director, OSRTI, U.S. EPA HQ
- Stephen J. Ells, U.S. EPA, HQ

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Exhibit A

SMWG Members

Arconic
Ashland, Inc.
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Dow Chemical Company, The
DTE Energy/MichCon
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