August 15, 2014

To: Gary Miller
United States Environmental Protection Agency
EPA Remedial Project Manager
1445 Ross Avenue
Dallas, Texas 75202

Subject: Independent Review Scope of Work Request by EPA of San Jacinto River Waste Pits Superfund Site

Dear Gary,

The United States Environmental Protection Agency ("EPA's) has requested suggestions from the Technical Review Team of Harris County ("Technical Review Team") and other stakeholders regarding the scope of work topics for an independent review of the San Jacinto River Waste Pits Superfund Site, which EPA indicates may include the evaluations/assessments of river hydrology/modeling, containment issues, removal options/dredging, and other considerations. The Technical Review Team incorporates the comments and suggestions previously provided at EPA's requests in letters to the agency dated November 2013, April 2014, May 2014, July 15, 2014, and July 21, 2014, and also provides the following additional topics as requiring an independent analysis.

**Analysis of River Hydraulics and Contaminant Sediment Transport Modeling**

In light of this site being located in the highly charged and very dynamic San Jacinto River, which is a major floodway, shipping lane and recreational area, it is very important to provide the best simulation modeling possible. This area is very susceptible to hurricanes, and tropical storms making it difficult to design in stream containment/cap remediation areas that will withstand these potentially violent weather events over a long period of time with adequate maintenance. These storms could easily erode away any protective cover and distribute highly contaminated dioxins downstream, where they would become bioavailable in a major bay system, designated as a National Estuary Program, which has a very high economical and recreational value. Therefore we request the following modeling aspects be independently reviewed:

- Review model assumptions regarding bed shear stress, water velocities, and scour.
- Provide an uncertainty analysis of model assumptions (boundary representation, sediment transport, initial bed properties, etc.). Uncertainties should be clearly identified and assessed including sediment loads at the upstream Lake Houston dam.
- Modeling of various removal actions of the contaminated sediment in the Time Critical Removal Action ("TCRA") cap utilizing appropriate engineering controls as recommended by Harris County.
- Simulation of sediment transport and representation of hard bottom areas along the river channel downstream of Lake Houston to the silty sediment conditions upstream of the site, when a wide range of flow and salinity conditions exists throughout the year.

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- Modeling of resuspension of dioxins during/after active remediation alternatives and long-term impact on water quality concentrations. Model runs should include appropriate engineering controls to minimize impact of resuspension on water quality.
- Modeling and measurement of sediment pore water exchange with overlying water column under tidal and bioturbated conditions.
- Model severe weather events that could expose deeper, more contaminated sediments still instream.
- Evaluate floodplain management and impact considerations of construction in the floodplain and floodwaters pathway and how that would impact flood control, water flow issues and obstructions in navigable waters. This includes impact on changes to potential flooding and any offsets that are needed due to displacement of the water caused by construction in the floodway (height or overall footprint) including effect at the current temporary TCRA cap and any potential future remedial measures.

**Assessment of Groundwater and Pore Water Concentrations**

There is considerable question over the adequacy of groundwater, surface water, surface sediment and sediment pore water sampling. It would appear that the samples that were collected for groundwater or pore water samples did not utilize appropriate sampling or analytical methods to determine if groundwater or pore water was contaminated. Therefore the following should be evaluated and or sampled.

- Groundwater from the northern areas as well as from adjacent to or within the TCRA area should be sampled using high volume samplers to obtain detection levels equal to or less than the appropriate water quality standards. In this way, evaluation of groundwater can be made to see if it is impacting the San Jacinto River.
- Pore water should also be sampled in a manner in which detection/quantitation levels can be achieved that are equal to or below surface water quality standards. In this way, it can be determined if the TCRA cap is leaking or diffusing dioxins out of the containment area. Such sampling may involve the use of semi permeable membranes or similar devices to reach these required levels.
- Surface water over the cap should also be measured. The Feasibility Study ("FS") stated that 2,3,7,8 TCDD and TCDF were not present in surface water over the armor cap; however the limitations of the sampling technique and the detection limits did not allow for an adequate determination. The solid phase microextraction samples, at best only accounts for the free dissolved fraction of dioxins and not any associated with suspended particles. Thus total dioxins at adequate detection levels were not measured during the Remedial Investigation ("RI") and should be reviewed, reevaluated and resampled.
- There is considerable difference between the levels of TCDD and TCDF in surface sediments reported as part of the site investigation versus those reported by the Texas TMDL program.[1] In many cases these sampled were virtually co-located, but the levels measured by the TMDL program were much higher. This difference should be evaluated, and additional samples collected as necessary to resolve differences and establish the true levels.

[1] University of Houston, 2008. Total Maximum Daily Loads for Dioxins in the Houston Ship Channel – Contract #582-6-70860/Work Order #582-6-70860-02 – Quarterly Report 3.

**Analysis of Remedial Alternatives**

The United States Army Corps of Engineers ("USACE's") documentation of multiple design, instability, and construction flaws with the interim cap in an aquatic environment subject to constant waves, tides, flooding and storm events shows that a capping remedy is not suitable for this site. Harris County believes a permanent solution to significantly reduce the risk to human health and the environment is the best solution. The Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") requires and expresses a statutory preference for remedies that permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances, so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. Leaving such toxic materials in place in a floodplain and aquatic environment is not a permanent or appropriate solution given the frequency and severity of tropical storms, floods, tidal action and hurricanes that affect the areas, as well as subsidence activity. An independent review of those issues and the following remedial alternatives should be accomplished. This review should include:

- Review of appropriate levels of protection for containment, if any, within a highly charged and dynamic tidal system subject to frequent tropical storms and hurricanes. Is it appropriate to leave any contamination (by volume or concentration) within such a dynamic system for the next 200 years? What is the risk associated with this and what is the resulting impact of even a 0.01 chance of a release of highly contaminated substance to downstream estuary with national prominence?
- Review appropriate levels of cleanup as seen from other contaminated dioxin sites where 1 ng/kg is a common cleanup level established by EPA. This information can be found in our previous comment submittals.
- Review and detail appropriate remedial actions where dredging and engineering controls are common for dioxin and PCB compounds in an aquatic environment Superfund sites. This information can be found in our previous comment submittals.
- Consider the effectiveness of temporary barriers around the dredging area for protection of surface water quality during dredging, as well as the precedence of barriers such as steel sheet piles and earth cofferdams
- Review and evaluate the reported long-term impacts and long-term risk of potential releases of contaminated sediment during dredging operations, particularly in light of successful large-scale remediations in rivers that have successfully dredged to remove contaminants such as dioxin and other pollutants from sediment and waterways.
- Review suggested remediation techniques and approaches previously provided by the technical Review Team and other stakeholders that can ensure a permanent long term solution of the site. These include complete removal of dioxin contamination existing under the TCRA cap, without contamination release during construction, using appropriate engineering controls.
- Review and develop accurate remedial cost information. Much of the previous cost estimates were not consistent between alternatives and they were believed to not be consistent with current industry pricing.

**Risk Assessment**

- An independent review should be undertaken of the risk assessment. It did not use subsistence fishermen and it did not utilize the most recent data from TCEQ. Instead it relied on limited sampling provided by the PRPs and discounted state data. The risk assessment also did not take into account commercial fishing and the sale of seafood to retail outlets.
- The risk assessment also did not utilize site specific bioaccumulation factors that were developed in the vicinity by TCEQ and their TMDL researchers. Instead it relied on minimal data set results collected from a minimum number of species.

**Investigate Integrity of RI/FS, test results, data and analysis and interpretation in light of conflict of interest.**

If responsible parties use consultants for conducting or assisting with the RI/FS – such as Anchor and Integral in this case – the consultants cannot have a conflict of interest with respect to the project.[2] By letter dated July 15, 2014 (courtesy copy attached), information in the form of sworn affidavits was reported to EPA documenting that work performed by Anchor and Integral as part of the RI/FS process was actually done to defend and protect the Responsible Parties in connection with litigation and was done as part of their litigation strategy. The July 15, 2014 letter also identified documents reflecting Anchor, Waste Management and International Paper's efforts and intention to implement their "global plan" to influence the community to promote the cheapest remedy that they had pre-selected before they even undertook the FS testing and work that is not being questioned. Now, Anchor and Integral project members have refused to answer questions as to whether they were independent scientists when authoring the FS reports or were advocates for their clients in promoting the least expenses alternative desired by their clients. This conflict of interest raises serious questions about the objectivity of the underlying reports and information being provided to EPA and the public by the Responsible Parties and their litigation consultants. To evaluate the integrity of the reports turned into the Government and the integrity of the process as a whole, it is recommended that EPA:

- Conduct an overall investigation regarding the objectiveness and integrity of the work done in connection with the RI/FS pursuant to the Unilateral Administrative Order compelling the Responsible Parties to perform an unbiased RI/FS.
- Identify all persons who wrote, contributed to, edited, changed or deleted language in reports ultimately provided to the EPA as part of the RI/FS work under the Unilateral Administrative Order.
- Determine whether those persons were acting as independent scientists or whether they were advocates for the responsible parties so that the public can identify during public comment whether the work and reports are objective reports based on science or are instead part of advocacy or litigation efforts to defend the Responsible Parties' interests. This is critical to the integrity of the public comment process, since the public cannot comment meaningfully without full disclosure of the relevant facts.

[2] "Revisions to the Interim Guidance on PRP Participation in Remedial Investigations and Feasibility Studies," (OSWER9835.2a, February 1989) at A-13 – A-15 9 ("EPA Guidance").

- Determine whether Anchor and Integral actually agree with and adopt all of the information contained, prepared for and submitted to the government under the names of their respective companies.

The above information is critical to the integrity of the public comment process.

**Identify and review all relevant data, information and site remediation documents that have been found to be withheld regarding the work conducted at the Site.**

Under the circumstances, EPA should review all relevant information that formed the basis for the conclusions in the FS report. The Unilateral Administrative Order provides that all records and documents in the possession of the Responsible Parties and their consultants that relate in any way to the Site shall be preserved, including requiring the Responsible Parties to acquire and retain all documents relating to the Site in the possession of its attorneys and others. Harris County has been put on notice that more than 45,000 documents, test results, data and other information directly related to and generated as a result of the RI/FS site remediation work have been withheld from disclosure and has identified this critical information to the EPA. The stated basis for withholding the information from the public is that 45,000-plus documents forming the basis of the Feasibility Study work that the EPA and the public are being asked to review, comment on and ultimately accept as objective work, were actually done as part of the Responsible Parties' litigation strategy for purposes of defending against their liability for the Site. A copy of the 3,886-page index of the 45,000-plus site-related remediation testing and analysis that have been withheld from the public are identified in the attached disk.

Thousands of documents prepared by Integral and Anchor regarding the site remediation work are withheld from public disclosure on the basis that they were actually prepared as part of the defense of the Responsible Parties. Documents from Columbia Analytical Services, Inc., the laboratory that conducted testing and analysis that is the basis of the conclusions of the RI/FS submitted by the Responsible Parties and their consultants, are withheld on the basis that their work was actually prepared as part of the defense of the Responsible Parties. Examples of the type of site remediation work and testing that is being withheld from the public are shown on just a few of the attached pages of the 3,886 page index identifying those documents. As can be seen from the full index on the attached disk, the Responsible Parties admit that site remediation work is being done as part of their legal strategy, as opposed to the objective, unbiased work that is required by the UAO. The site remediation and testing work cannot be both independent as required by the UAO and the statutory process, and at the same time also be done for the litigation strategy purpose of protecting the Responsible Parties from liability associated with the site. The two are inconsistent and cannot result in an objective result that does not raise issues of bias.

This raises fundamental questions about the objectiveness and integrity of the site investigation work, testing, analysis, laboratory data and the interpretation of that information because it is now known that it was conducted to advance the Responsible Parties' defense and interests, as opposed to being unbiased, objective work as required by the UAO. EPA cannot evaluate or select a site remedy based upon the responsible party's litigation strategy, so will need to review the 45,000-plus documents being withheld to determine whether the strategy, testing protocols, and decisions made identified there impact the integrity and conclusions of the RI/FS work

submitted to the government. Accordingly, EPA should identify and review all relevant data, information and site remediation documents that have been found to be withheld regarding the work conducted at the Site to determine the integrity of the process. In particular, information concerning test results cannot be withheld and factual information regarding such testing and the potentially subjective choices that can affect the end results should be reviewed, including, but not limited to:

- Detection limits used and basis for selection of same
- Documentation of all tests and analysis run and whether any other testing/analysis was done that was not identified to EPA
- Dilution and other factors that may have been utilized in testing
- Analytical Laboratory Data Validation and Calibration reports
- The content of the hundreds of Anchor and Integral documents regarding site remediation that are being withheld from public review and how they impact the conduct and ultimate conclusions of the RI/FS work.

The Technical Review Team of Harris County appreciates EPA's request for input on this important matter.

Attachments:
CD to be mailed separately