UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL
CLEANUP

SEP 05 2014

Mr. Doug Loutzenhiser
Legacy Site Services LLC
468 Thomas Jones Way
Exton, Pennsylvania 19341

Re: Dispute of EPA Letter dated June 6, 2014, Arkema Inc. Portland Facility
Administrative Order on Consent (AOC) for Removal Action
U.S. EPA Region 10 Docket No. CERCLA 10-2005-0191

Dear Mr. Loutzenhiser:

The U.S. Environmental Protection Agency has reviewed Legacy Site Services LLC's (LSS) letter dated July 3, 2014 which invokes the dispute resolution process regarding EPA's June 6, 2014 letter and a follow-up conference call held between EPA and its partners and LSS on June 19, 2014. We discussed LSS' dispute issues in a Negotiation Period telephone conference on August 27, 2014. The June 6th letter provided the EPA's response to its review of the Draft Sediment Sampling Work Plan (Work Plan) dated April 30, 2014 prepared by Integral Consulting Inc. on behalf of LSS. The June 19th conference call was held to discuss the June 6th letter. LSS is disputing specific items from the June 6th letter and June 19th conference call; however, LSS' overall expectation as stated in your July 3rd dispute letter is that EPA should approve the Work Plan in its entirety.

In responding to this overarching LSS request, it is important to articulate the current status of the Portland Harbor Remedial Investigation and Feasibility Study (RI/FS) and the Arkema Administrative Order on Consent for Removal Action (AOC). EPA and the Lower Willamette Group (LWG) are currently developing the RI/FS under the September 2001 RI/FS AOC. Arkema, Inc. is one of the Respondents to that AOC. The revised RI Report submitted by the LWG is currently being revised and is expected to be finalized by the LWG in early 2015. Additionally, EPA and the LWG are also in the process of revising the FS. We currently are discussing elements of the draft FS related to the development and evaluation of remedial action alternatives. Revision of the draft FS report submitted by the LWG is underway and is expected to be finalized during the second half of 2015. To date, the LWG has not indicated concerns that the sampling it conducted over more than 7 years and the resulting data that it provided to EPA is insufficient for finalizing the RI/FS and selecting a remedy for the Portland Harbor Superfund Site. Under the terms of the RI/FS AOC, Arkema, Inc. cannot dispute the validity of any data gathered under the RI/FS AOC (Section XIV, Paragraph 5), and the time for Arkema to raise a dispute regarding any alleged data gaps for the RI/FS has long past (Section XVIII, Paragraph 1). EPA and Arkema Inc. entered into an AOC for early removal action in 2005. No removal work has been accomplished under that AOC, but additional data at this particularly high concentration area in the Portland Harbor Site has been collected and has provided useful additional data in many respects which EPA will consider in selecting a remedy for the Site. In fact, this data has been incorporated into the Portland Harbor FS data base for use in the development and evaluation of remedial action alternatives. The Portland Harbor RI/FS schedule has overtaken any possibility of early removal work at the Arkema

site, thus, there is no need for finalizing the Engineering Evaluation/Cost Analysis (EE/CA) for the Arkema Early Action Site in response to EPA comments. EPA and LSS came to agreement regarding the termination of the AOC as set forth in Steve Parkinson's March 31, 2014 letter. As agreed, Arkema submitted a work plan for one last round of sampling "for EPA's review and approval or disapproval. EPA and Arkema will execute a termination agreement after any approved sampling is conducted and data report submitted on the approved schedule." (Bullet No. 1, March 31, 2014 letter). In accordance with that agreement, Arkema, through LSS, submitted the Work Plan that EPA has disapproved and which is the topic of the current dispute. Per our agreement, once this dispute process is complete, Arkema and EPA will proceed to terminate the AOC. We also note that in the March 31st letter, Arkema acknowledged its role in the RI/FS AOC and understood that it was responsible for coordinating with the other LWG members regarding performance of the RI/FS work and process for communications with EPA. See Bullets 4 and 5, March 31, 2014 letter.

Specific responses to each LSS dispute position presented in its July 3rd letter are provided below.

1. **Data Needs and Implementation Schedule**
   LSS disputes the following statement made in EPA's June 6th letter: "EPA anticipates significant revision and additional effort is needed on many elements of the Work Plan, such as quality assurance/quality control and health & safety, such that the sampling would not occur for several months and the data received after several more." LSS states it will perform the non-pore water portion of the proposed work under already approved plans leading to expedited agency approval. EPA does not approve this request. EPA acknowledges that some existing plans may be useable, if EPA determined certain types of data were needed, which EPA does not. However, several of the proposed Work Plan elements, including the non-aqueous phase liquid (NAPL) investigation, bioassay testing and pore water sampling are technically complex and would be time consuming to work through EPA comments. As an example, pore water sampling using polyethylene-based passive sampling devices is a non-routine sampling approach that has not been implemented as part of the Portland Harbor RI/FS. From experience, EPA anticipates a time consuming process working through diver health and safety plan requirements that are applied to all diving projects taking place under EPA oversight as well as quality assurance/quality control (QA/AC) comments on the technical aspects of the work. A several month comment/document revision process recently occurred for a pore water study undertaken at the River Mile 11 East site.

2. **Feasibility Study Data Needs/Uses**
   LSS disputes the following statement made in EPA's June 6th letter: "EPA believes sufficient data exists to inform alternatives development and remedy selection for the area adjacent to the Arkema site." In addition to our statements above regarding Arkema's need to have raised RI/FS data concerns through the RI/FS AOC, our positions regarding LSS' specific issues follows:
   (i) "Portland Harbor Remedial Investigation data are severely limited as to benthic toxicity and its apparent causes"
   LSS' July 3rd letter states that the additional benthic toxicity tests were proposed to further evaluate benthic toxicity at the Arkema site, including evaluation of the effects of chloride as a confounding factor. EPA does not approve the proposed bioassay testing. The Work Plan summarized the RI bioassay data offshore of the Arkema site. Sediments upstream and downstream of Dock 1 and the Salt Dock were found to be toxic. EPA acknowledges that sediments between Docks 1 and 2 were found to be non-toxic; however, based on the results of the baseline ecological risk assessment (BERA) conducted during the Portland Harbor RI, the entire area offshore of the Arkema site has been identified as a benthic risk area based on

multiple lines of evidence used to assess benthic risk (See Map 12-1b of the Portland Harbor draft final BERA). Although additional benthic toxicity tests could refine the extent of contamination with respect to benthic toxicity, for remedy selection purposes the extent of contamination requiring remediation offshore of the Arkema Facility is expected to be primarily based on human exposure to DDx[1], polychlorinated dibenzo dioxins and furans (PCDD/F) and, to a lesser extent, polychlorinated biphenyls (PCBs) through the fish consumption exposure pathway rather than solely driven by benthic toxicity. Further, as shown in the previously referenced BERA Map 12-1b, the area of benthic risk is fairly well defined based on multiple lines of evidence including empirical and predicted benthic tissue concentrations, comparison to sediment quality guidelines, and transition zone water results in addition to sediment bioassays. As a result, the proposed bioassay data is not considered necessary to support the Portland Harbor FS for the area requiring cleanup adjacent to Arkema's facility. EPA acknowledges that elevated chloride concentrations may be contributing to benthic toxicity offshore of the Salt Dock and that the proposed bioassay work in the vicinity of the Salt Dock could help determine the cause of the observed toxicity. However, it should be noted that other constituents present in sediments offshore of Arkema could also be contributing to toxicity, and causal relationships for benthic toxicity are difficult to establish and likely could be inconclusive. Finally, it should be noted that because the salt piles have been removed and because chloride moves through groundwater with little or no retardation, any elevated chloride concentrations in groundwater would be expected to decline over time. During remedial design, the effectiveness of the source control efforts on the salt piles should be evaluated.

(ii) "there was demonstrable interference affecting PCB [polychlorinated biphenyl] analysis and detection limits;" and (iii) "thus far, EPA has failed to abide by our previous agreement that EE/CA data would be brought into the Portland Harbor FS"

LSS states it provided EPA with the 2009 EE/CA data in a format that could be used to support analysis in the Portland Harbor FS and to date has not seen any information in the record that demonstrates that this information is being considered. EPA received the EE/CA database file (through LSS consultant Integral Consulting) on May 14, 2014. Integral stated the file is in the LWG FS database format following the protocols in the draft FS (Appendix R of the draft Portland Harbor FS). EPA has integrated the EE/CA data into the database it is using for FS evaluations. The results of the evaluation, which includes the 2009 EE/CA data, have been presented to the LWG during ongoing Technical Workgroup meetings. EPA provided the FS database being used for the FS evaluations to the LWG on July 24, 2014. This database includes Arkema and Gasco EE/CA data sets.

(iv) "much time has passed since the last sampling event and, therefore, the existing surface sediment and benthic toxicity data may not be representative of current site conditions"

Putting aside the fact that the LWG has not raised concerns about the RI data being stale and not representing current site conditions for remedy selection purposes, the proposed Work Plan was so lacking in sampling location information it was not possible to evaluate whether LSS would be focusing on areas of uncertainty or something else. EPA acknowledges that PCB analysis offshore of Arkema has been affected by interferences resulting in elevated

[1] The total of 2,4'- and 4,4'-DDD (dichloro-diphenyl-dichloroethane), -DDE (dichloro-diphenyl-dichloroethene), and -DDT (dichloro-diphenyl-trichloroethane).

detection limits due to high concentrations of DDx in sediments. But given that the extent of cleanup in the Arkema area is driven primarily by the DDx and PCDD/F fish consumption exposure pathways (and to a lesser degree, benthic risk), more PCB analysis is not needed for remedy selection, similar to the proposed benthic toxicity sampling, hence EPA does not approve LSS' request for additional bioassay and contaminants of concern (COC) data. Additional sampling for COCs, such as PCBs, is a worthwhile consideration during design particularly to establish baseline conditions.

3. **Principal Threat Waste (PTW)/NAPL**

LSS disputes the following statement made in EPA's June 6th letter: "LSS may proceed to revise the Work Plan to include only the Section 3.2.1 work scope [Evaluation of Subsurface NAPL/Sheens and COIs]; however, EPA sees this work as a pre-design activity with no relevance to the FS schedule." LSS feels the results of the NAPL work proposed in the Work Plan have a direct effect on the alternatives evaluation and remedy selection in the FS and without direct resolution of EPA's PTW-driving NAPL assumption, treatment and disposal options and cost estimates could be grossly in error and could significantly alter the weighting and selection of the preferred alternative. EPA does not approve LSS' request to investigate for NAPL/sheens for purposes of the feasibility study.

EPA developed an approach for identifying PTW at the Portland Harbor site consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and EPA guidance. A multiple lines of evidence evaluation to determine the presence of PTW incorporates the following criteria:

a) Direct observance of NAPL contamination in Portland Harbor sediments.
b) Indirect evidence of NAPL based on sediment contaminant concentrations greater than the corresponding theoretical solubility limits of the contaminant in pore water.
c) A high concentration threshold based on 1,000 times the lowest risk-based sediment Preliminary Remediation Goals (PRGs) established for the four primary COCs.

It should be noted that source material only needs to meet one of these lines of evidence to be classified as PTW.

EPA's contractor, CDM Smith, evaluated whether NAPL was present in sediment cores collected offshore of the Arkema facility.[2] Sediment core logs were reviewed to determine whether blebs, globules, dark brown oily material, or other terms indicative of the presence of product in greater quantities than what could be characterized as sheen were present in sediment cores collected offshore of Arkema. Based on this review, CDM Smith identified NAPL in six sediment borings located offshore of the Arkema facility based on the visual line of evidence as noted in the core logs. In addition, sediment concentrations offshore of Arkema exceed the theoretical saturated sediment thresholds for chlorobenzene and total DDT, which provide indirect evidence that NAPL may be present. Finally, the high concentration thresholds (based on a 1×10^{-3} risk level) for total DDx and dioxin/furans are exceeded.

[2] The CDM Smith memorandum, dated June 25, 2013, was provided to LSS in an e-mail dated September 18, 2013 transmitting EPA's response to LSS' response to comments on the draft Arkema EE/CA.

Based on its evaluation of the Arkema data, EPA has determined that PTW is present offshore of Arkema based on consideration of multiple lines of evidence consistent with EPA guidance[3] on principal threat and low level threat wastes. Even if NAPL were not there, the area would still be designated as PTW. EPA believes that it is entirely appropriate to carry forward the PTW designation into the Portland Harbor FS for the purpose of developing and evaluating remedial action alternatives. EPA believes that the proposed sampling to refine the distribution of NAPL in subsurface sediments at the Arkema site could be useful for remedial design activities unrelated to work under the removal action AOC. However, as noted in the June 6th EPA letter, a working definition of NAPL needs to be established prior to this work going forward so that all parties agree with the core interpretation.

LSS also disputes three items related to the discussion in the June 19, 2014 teleconference between EPA and LSS:

1. LSS disputes the following: "EPA stated that no data collected outside of an EPA-approved work plan will be considered by EPA." LSS, in their July 3rd letter, identified several studies undertaken by other parties in Portland Harbor that did not have EPA-approved work plans where EPA subsequently used the data. EPA does not approve LSS' request that EPA accept data generated from the Arkema site that was not generated under EPA-approved planning documents, given the many QA/QC, health and safety, and sampling and analysis plan challenges posed by the many types of sample collection proposed. Given these numerous complexities, it is unlikely an independent data gathering effort would meet data quality needs for the project. Further, Arkema is a highly contaminated location within the Portland Harbor site. It is therefore important for EPA to concur with any proposed in-water work and, in fact, approval of such work is required under the terms of the Removal AOC entered into by Arkema and the EPA. Finally, given the current agency focus of resources on completion of the Portland Harbor RI and FS reports, EPA cannot allocate its limited resources to review and approve a work plan to perform sampling that EPA has determined to be unnecessary at this time.

2. LSS disputes the following: "EPA stated that it will proceed with LSS on the NAPL scope but the data will not be on the Portland Harbor FS path, and that EPA will not make a schedule commitment." As described above, EPA believes that characterization activities to refine the extent of NAPL at the Arkema site can be used to support remedial design activities but is not needed for the Portland Harbor FS. EPA does not approve LSS' request to investigate for NAPL/sheens for purposes of the FS. Please refer to EPA's response above regarding the identification and evaluation of PTW for further discussion.

3. LSS disputes the following: "EPA stated that the EE/CA data will be placed in the Portland Harbor administrative record, but may not be included in the RI/FS GIS layers." As described above, EPA has incorporated data generated through the Arkema EE/CA into the Portland Harbor FS. Please refer to EPA's response above regarding EPA's integration and use of the 2009 Arkema EE/CA data in the Portland Harbor FS process for further discussion.

---

[3] United States Environmental Protection Agency, A Guide to Principal Threat and Low Level Threat Wastes, Superfund Publication: 9380-06FS, November 1991.

The LWG is completing the Portland Harbor RI/FS and only through a request under that AOC would EPA entertain the need for additional RI/FS data, and even then we would likely not slow the schedule for finalizing the RI/FS unless there was compelling evidence demonstrating a data gap that fundamentally affects alternative development and/or evaluation. It has always been assumed by EPA that additional investigation will be warranted during remedial design to refine the cleanup areas and establish baseline conditions. EPA believes that it is in both parties' interest to resolve this dispute over the sampling Work Plan expeditiously to allow the Portland Harbor RI/FS to proceed. In summary, EPA disapproves the Work Plan and believes the parties should terminate the AOC in accordance with the March 31, 2014 letter.

If LSS does not agree with EPA's conclusions presented in this letter it should refer to Section XVI, Paragraph 50 of the removal action AOC to initiate formal dispute. LSS should consider receipt of this letter as the end of the Negotiation Period. Please let me know if you have any questions or concerns about this letter at (206) 553-4166 or via email at Blocker.Shawn@epa.gov.

Sincerely,

Shawn Blocker
Unit Manager
Superfund Site Cleanup Unit #3
Remedial Cleanup Program

cc: Ms. Kristine Koch, EPA
Mr. Sean Sheldrake, EPA
Ms. Lori Cora, EPA
Mr. Matt McClincy, ODEQ
Mr. Lance Peterson, CDM/S