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June 12, 2015

Stephanie Vaughn
17-mile LPRSA RI/FS Remedial Project Manager
U.S. Environmental Protection Agency, Region 2
290 Broadway
New York, NY 10007-1866

Via Electronic Delivery

Re: **Invocation of Dispute Resolution - Benthic Community Exposure Depth -*Lower Passaic River Study Area (LPRSA) Region 2's June 1, 2015 Letter — May 2007 Administrative Agreement and Order on Consent for Remedial Investigation/Feasibility Study – CERCLA Docket No. 02-2007-2009 (AOC)***

Dear Ms. Vaughn:

This letter responds to the USEPA Region 2's (Region 2) June 1, 2015 letter (Region's June 1 Letter) to the Cooperating Parties Group (CPG) and seeks dispute resolution of the conclusion regarding benthic community exposure depth.

The Region's June 1 Letter provides: *"EPA has concluded that use of the average model results from the 15 cm horizon, consistent with the RI data, is most appropriate to represent contaminant concentrations in the benthic community exposure zone for use in the bioaccumulation model for the 17 Mile RI/FS".* The CPG was disappointed by both the tenor and lack of support for the assertions contained in Region 2's letter. Region 2's response largely relies on an invocation of uncertainty; it does not comport with a four-month period of deliberation on such a significant matter as the exposure of the LPR biota to contamination, and is contradicted by data and Region 2's own modeling.

Region 2's conclusion is based on a series of unsupported assertions made in the EPA June 1 Letter including:

- *"...we do not support the use of a zone as shallow as 2 cm."*
- *"Modeling contaminant concentrations in a zone without empirical data will not yield accurate predictions."*
- *"... a 15 cm composite reasonably represents concentrations at shallower depths."*
- *"... predicting concentrations over a significantly shallower and thinner horizon than [the 15 cm interval that] the model is calibrated to would add unquantifiable uncertainty to the future projections."*
- *"... this inability to reliably predict bed elevation changes at 2 cm scales would further add to the uncertainty in the predicted contaminant concentrations in the 2 cm layer."*

These assertions lack scientific support and are contradicted by data and Region 2's own modeling used to support its April 2014 8-mile FFS-RI and Proposed Plan. The FFS model reflects that:

- The top 15 cm average is no less sensitive to inaccuracies in erosion/deposition than the 2 cm average;
- The computed vertical profiles indicate the 15 cm average is a poor representation of concentrations at shallower depths; and
- The 2 cm average is constrained by data because the model must predict reasonable water column concentrations that are largely determined by concentrations in the top few cm of the sediment bed.

Moreover, the Region's assertions are self-contradictory. For example, the following two statements are made in the same paragraph: *"The top 2 cm of sediment is a very thin layer that is subject to constant change ...;"* and *"a 15 cm composite ... is a reasonable representation of the surface concentration at any point in time"*.

In addition, the Region's letter fails to address the point of the CPG's February 6, 2015 presentation and discussion with Region 2 and USEPA Headquarters representatives. The CPG has used existing site-specific ecological and biological data to draw conclusions regarding the transfer of chemicals in the food chain within the LPRSA. These observations are based on existing data collected under Region 2-approved QAPPs regarding the benthic community and fish community within the LPRSA. The CPG's conclusions are also based on sound ecological principles from decades of foundational benthic ecological work on community structure, function, and behavior.

The CPG's interpretation, that the exposure zone for most benthic invertebrates is primarily limited to the upper centimeters of sediment, is based on site-specific data, which provide multiple lines of evidence that fully support the CPG's conclusions. These LPRSA data also include the survey of the lower 15 miles of the river using Sediment Profile Imaging technology conducted by Region 2's and the Partner Agencies' contractor (Germano 2005). Importantly, Region 2's letter does not rebut the CPG's conclusion on the benthic community exposure zone because it cannot; rather it simply refers to *"additional material germane to their proposal"* as the basis for rejecting the multiple lines of evidence provided by site-specific data. Noteworthy, is the lack of reference to and discussion by the Region with regard to its primary line of evidence (*Burial and Burrowing Depth of Infaunal Organisms from the Passaic River, New Jersey* prepared by Region 2's consultant Robert S. Prezant, Ph.D. in May 2014) for deeper exposure depths and provided to the CPG earlier this year.

Furthermore, given Region 2's assertions regarding uncertainty, its offer *"...to discuss with the CPG their collection of new SPI data to more accurately determine the benthic community exposure depth for the LPRSA followed by the conduct of additional sediment sampling from appropriate depths, as identified during the new SPI survey"* seems disingenuous. That is, even if

such data were collected, it would not change the Region's conclusions as additional empirical data on benthic community exposure depth and sediment chemistry are unlikely to adequately address the uncertainty factors alleged in Region 2's June 1 letter. Further, Region 2 is fully aware that this work could not be completed in a timely manner and would require at least a year for planning, conducting the work, reporting, Agency review, and reaching agreement on exposure depth(s).

In sum, Region 2's decision regarding benthic exposure depth lacks technical merit and is not being based on either sound science or site-specific data. Unfortunately, this determination seems consistent with a larger pattern by the Region of ignoring site-specific data (including its own) and refusing to engage in fulsome discussions on the total RI data set that Region 2 directed the CPG to collect at a cost of more than $100 MM over the last 8 years. As such, the CPG objects to the finding presented in the Region's June 1 Letter and hereby invokes dispute resolution pursuant to Section XV, paragraph 64 of the LPRSA AOC.

The CPG requests that Region 2 include this letter into the Administrative Record for the 17-mile LPRSA operable unit of the Diamond Alkali Superfund Site.

Please contact Bill Potter or me with any questions or comments.

Very truly yours,
de maximis, inc.

Robert H. Law, PhD
CPG Project Coordinator

cc: Ray Basso, EPA Region 2
Walter Mugdan, EPA Region 2
Sarah Flanagan, EPA Region 2
James Woolford, EPA HQ
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