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Subject:

Polynuclear Aromatic Hydrocarbons (PAH) Work Plan, Determination of Whether Health-Based Direct Contact Exceedances Can Be Attributed to Background Concentrations, Madison-Kipp Corporation (MKC), 201 Waubesa Street, Madison, Wisconsin.
Facility ID No. 113125320, BRRTS No. 02-13-001569

ENVIRONMENT

Date:
December 14, 2012

Dear Mr. Schmoller:

Contact:
Jennine Trask

On behalf of MKC, ARCADIS has prepared this *PAH Work Plan* (Work Plan) in response to the Department's December 7, 2012 letter. That letter directed MKC to submit a work plan "either...for determining whether any of the health-based direct contact exceedances can be attributed to background concentrations or...a remedial action plan to be employed by MKC...". This Work Plan presents an evaluation methodology designed to determine whether any of the health-based direct contact exceedances can be attributed to background concentrations. This methodology is aimed at data analyses, the objective of which is to better understand the source, fate and transport concerning the PAHs present at the MKC property located at 201 Waubesa Street (Site) and on adjoining residential properties.

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This Work Plan summarizes the work necessary to gain a thorough understanding of the current data available for PAHs to assist in making the above-mentioned determination including analysis of the following:

Our Ref:
WI001283.0006

- Total PAHs at the Site
- Specific PAH compounds identified in each sample
- Mixture of PAH compounds found in each sample
- Potential sources of PAHs from the MKC manufacturing facility
- Potential sources of PAHs from outside the Site

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- Transport mechanisms for PAHs including overland water flow and airborne dust particles.

In addition, the recently received expert report from Lorne Everett (December 3, 2012) will be reviewed for insights into the alleged sources, fate and transport of the PAHs at the site. The results of this evaluation will be submitted to the Department on January 21, 2012.

Work Plan Objectives

The objectives of this Work Plan are to use data analyses and source, fate and transport models to determine whether any of the health-based direct contact exceedances can be attributed to background concentrations. Typically a mixture of PAH compounds are identified at sites with PAHs present in the soil. The current data indicates between 1 and 18 specific PAHs in every sample. A number of studies exist, which focus on understanding that certain sources of PAHs produce reproducible mixtures of PAH compounds in environmental samples. By studying the mixture of PAHs in a sample, insight can be gained into the origin of the compounds. The first objective of this study is to analyze the various mixtures of PAHs identified in the Site data set and then compare the data to published references for known sources of PAHs (coal, asphalt, other petroleum products, and combustion sources).

The second objective is to review the many potential on site and local sources of PAHs in the area. The MKC facility has used petroleum based compounds that contain PAHs. An evaluation will be completed to identify other potential sources of PAHs in the area. For each potential source identified, the mixture of expected PAHs will be described. The PAH mixture from the potential sources identified will be compared to the Site data set (PAH mixtures).

The third objective is to understand the fate and transport of the PAHs. Only lower molecular weight PAHs are soluble in water. Most transport of PAHs is through the transport of 'carriers' of the compounds. For example, the PAHs are adsorbed onto small soil particles and the soil particles move with the water overland or in the air as dust particles, taking the PAHs with them. This objective will help define the potential transport mechanisms and their relationship to the Site data set.

PAH Analysis

The Site data set consists of 341 soil samples analyzed for PAHs from both onsite and offsite locations. Each sample has a unique mixture of specific PAH

compounds. The data will be arranged so that individual Site samples can be compared to potential sources from the MKC facility and off-site sources. To complete the comparison, MKC will create a list of materials that have been used at the site that contain PAHs. ARCADIS will create a comprehensive list of major sources of PAHs outside of the Site. Where possible, each potential source will be assigned a PAH signature that would be expected if these sources were released to the environment.

Fate and Transport

ARCADIS will create two maps that show the potential for PAH transport from the Site. Surface water flow patterns will be evaluated at the Site to summarize potential paths PAHs could travel if water was the carrier. The wind patterns at the Site will also be evaluated to determine the path the PAHs could travel if air dust was the carrier.

Schedule

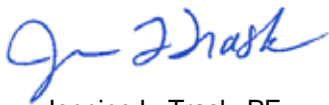
A letter report will be prepared to summarize the findings from this Work Plan. This letter report will be submitted on January 21, 2012.

Closing

Should you have any questions relating to the information presented herein, please call one of the undersigned.

Sincerely,

ARCADIS U.S, Inc.



Jennine L. Trask, PE
Certified Project Manager



Evan Nyer
Senior Vice President