7428 Rockville Road | Indianapolis, IN 46214 | 317.347.1111 office | 317.347.9326 fax

January 30, 2020

Ms. Carolyn Bury
Project Manager
Corrective Action Section 2
Remediation and Re-use Branch
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: **On-Site Sewer Vapor Intrusion Investigation Work Plan**
Franklin Power Products, Inc./Amphenol Corporation
Administrative Order on Consent, Docket # R8H-5-99-002
EPA ID # IND 044 587 848
980 Hurricane Road
Franklin, Indiana 46131

Dear Ms. Bury:

In accordance with the United States Environmental Protection Agency (USEPA) letter dated January 23, 2020, Industrial Waste Management Consulting Group, LLC (IWM Consulting), on behalf of the "Performing Respondent", Amphenol Corporation (Amphenol), is submitting this *On-Site Sewer Vapor Intrusion Investigation Work Plan* (Work Plan). The Former Amphenol facility is located at 980 Hurricane Road in Franklin, IN (Site). The Work Plan outlines the proposed work activities relating to the on-Site investigation of the sanitary sewer lines and sub-slab vapors beneath the former plating room. The objectives of the proposed additional work activities are as follows:

- Determine, through video logging of the on-Site sanitary sewer lines, the condition and construction material of sanitary sewer lines;
- Determine, through sampling and analysis of sewer gas samples, if on-Site sanitary sewer lines are acting as significant preferential pathways for the transport of vapor phase chlorinated volatile organic compounds (cVOCs); and
- Determine, through sampling and analysis of a sub-slab soil gas sample, if the vapors beneath the former plating room are potentially impacting sewer gas.

This Work Plan outlines the proposed methodology and sewer and sub-slab soil gas vapor sampling activities that will occur in order to further evaluate the potential vapor intrusion (VI) preferential pathway associated with the historical release documented to have occurred at the Site. A map displaying the proposed sampling locations is provided as **Figure 1**. A copy of the January 23, 2020 USEPA letter is provided in **Attachment A**.

On-Site Sanitary Sewer Line Video Logging

IWM Consulting will contract with a qualified contractor to complete the video logging of the on-Site sanitary sewer lines which are connected to the sanitary sewer main at off-Site sanitary manhole #250056. The purpose of this evaluation is to determine the construction material of the lines and if there are any breaks, cracks, or other defects in the on-Site sanitary sewer lines where soil vapors may be entering the lines and migrating through the on-Site sanitary sewer lines to the sanitary sewer main on Hamilton Avenue. At least a portion of the lines are constructed of polyvinyl chloride (PVC).

The contractor will utilize CCTV equipment to locate and inspect multiple gravity sewer pipes on the south and southwest portions of the Site. The contractor will provide an all-digital video recording of inside the pipes and a detailed summary report which documents all noteworthy features inside the pipes, such as cracks, bends, etc.

Proposed Sampling Activities, Procedures, and Laboratory Analytical Methods

IWM Consulting proposes to obtain up to six (6) individual composite sewer vapor samples (plus 1 duplicate) from sanitary sewer manholes and cleanouts located on-Site. Additionally, one (1) composite sub-slab soil vapor sample will be obtained from the sub-slab vapor extraction piping located beneath the former plating room floor. The proposed sampling locations include on-Site sanitary sewer manholes OMH-1, OMH-2, and OMH-3; the on-Site sanitary sewer cleanouts OSC-1 OSC-3, and OSC-4; and the on-Site sub-slab soil vapor extraction point (OSV-1). On-Site sanitary sewer cleanout OSC-4 is located approximately 142 feet north of OMH-2. On-Site sanitary sewer cleanout OSC-2 was found to be plugged with concrete during the evaluation of the sampling point and will not be sampled. Sample locations are illustrated on **Figure 1**.

Each manhole will be evaluated prior to sampling. When evaluating the manholes, IWM Consulting personnel will also try to obtain the depth of the sewer line (including inverts) and depth to any fluid within the sewer line. This information will allow for a proper length of sample tubing to be attached to each sampling canister during the future sewer gas sampling event. Since the measurements will require the manholes to be fully removed during the inspection, IWM Consulting will complete these activities approximately 24-hours prior to the sampling event in order to minimize the amount of ambient air being introduced into the sewer manhole prior to initiating the sampling activities.

IWM Consulting will obtain all of the composite vapor samples in individually certified clean, laboratory provided stainless steel 6-liter summa canisters. All of the summa canisters will be equipped with 24-hour flow regulators [~4.17 milliliters per minute (mL/minute) flow rate] and the samples will be obtained over an approximate 24-hour period of time.

All of the samples will be labeled in the field utilizing the sample tags attached to the summa canisters by the laboratory. Information included on the sample labels includes the sample ID, sample date, sample time, and the requested analysis. A site-specific chain-of-custody (COC) will also be completed and includes all of the pertinent sampling information (i.e. sample ID, sample date, sample

start and end time, initial and final field pressure readings, summa canister ID, flow controller ID, field PID readings (if applicable), and the requested analysis).

All of the samples collected will be submitted under chain-of-custody control to Pace Analytical Services, LLC (Pace) located in Minneapolis, Minnesota for laboratory analysis of shortlist cVOCs using analytical method TO-15. The shortlist cVOCs include the following compounds: vinyl chloride (VC), trans-1,2-dichloroethene (trans-1,2 DCE), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis 1,2-DCE), 1,2-dichloroethane (1,2-DCA), methylene chloride, 1,1,1-trichloroethane (1,1,1-TCA), trichloroethylene (TCE), and tetrachloroethylene (PCE). The samples will be analyzed using a combination of EPA Method TO-15 and EPA Method TO-15 SIM. Specifically, EPA Method TO-15 SIM will be utilized when analyzing for VC, 1,2-DCA, and TCE in order to meet the most stringent USEPA Regional Screening Levels. An expedited turnaround time will be requested from the laboratory and the results of the sampling event are anticipated to be received within 2-3 working days from the date the samples are received by the laboratory.

For Quality Assurance/Quality Control (QA/QC) purposes, one (1) field duplicate sample will be collected at a rate of one (1) sample per every ten (10) samples and will be analyzed for the same analytical parameters. All of the summa canisters will also be individually certified clean by the laboratory using a combination of EPA Method TO-15 and TO-15 SIM. The duplicate sample will be attached to the parent sample with a brass tee fitting (ensuring only one common air intake) and Nylaflow or tygon tubing. Both the parent sample and duplicate sample will have their own individual flow regulator set for the sampling period but the start and end time for these samples will be the same.

Pertinent information such as laboratory certifications, a table summarizing the corresponding method detection and reporting limits for Pace, and a copy of the Pace COC which will be utilized during the work activities were previously submitted to the USEPA as part of the *Ambient Air Investigation Work Plan* submitted on July 25, 2018 and are not being resubmitted as part of this Work Plan.

Reporting

Preliminary results (copy of the laboratory report) will be supplied to representatives from the USEPA as soon as possible once the information has been received and reviewed. The results of the on-Site sewer vapor investigation will be included in a report summarizing on-Site investigation activities, as requested in the January 23, 2020 USEPA letter. The sewer gas vapor analytical results will be compared to the IDEM RCG Residential Indoor Air screening levels. The analytical results will be validated by a third party and the validation will be included within the summary report being submitted to the USEPA. The report will summarize the sampling activities, results, and make recommendations regarding the need for additional sampling or investigation activities. A copy of the applicable IDEM RCG Screening Levels (shortened to be Site specific) are included in **Attachment B**.

Contingency Plan/Future Work Activities

If the sewer gas vapor sampling event confirms the presence of vapor phase VOCs in excess of the corresponding IDEM RCG screening level for Residential Indoor Air, then IWM Consulting and Amphenol will work closely with the USEPA to quickly develop the appropriate next steps. If breaks or cracks in the sanitary lines are observed, the next steps may include repairing or replacing some or all of the on-Site sanitary sewer lines to prevent soil vapors from entering the lines and eliminating the potential preferential pathway or additional on-Site soil and groundwater remediation to eliminate the source of soil vapors.

Estimated Timeline

The table below is the estimated timeline associated with implementing this Work Plan.

Task	Anticipated Estimated Completion Date	Comments
Submittal of Work Plan	January 30, 2020	
Evaluate Applicable Sewer Manholes and Video Inspection of On-Site Sanitary Sewer Lines	January 30, 2020	
USEPA Conditional Approval of the Work Plan	January 31, 2020	Anticipated date based upon previous communication with the USEPA
Conduct Sewer and Sub-Slab Vapor Sampling Activities	Week of February 3, 2020	
Receipt of Preliminary Laboratory Analytical Results	Febraury 10, 2020	Expedited analysis required, results anticipated to be received by close of business on Febraury 10, 2020
Submittal of Preliminary Laboratory Results to the USEPA	February 12, 2020	
Submittal of On-Site Soil/NAPL Investigation Work Plan	February 21, 2020	
Submittal of Summary Report to the USEPA	May 22, 2020	

As noted above, IWM Consulting will implement the proposed work activities as quickly as possible upon receiving USEPA approval of this Work Plan. Please do not hesitate to contact the undersigned with questions or if you require additional information regarding this submittal.

Sincerely,

IWM CONSULTING GROUP, LLC

Christopher D. Parks, LPG #2169
Senior Project Manager

Bradley E. Gentry, LPG #2165
Vice President/Brownfield Coordinator

cc: Joseph Bianchi, Amphenol (electronic only)
Bhooma Sundar, U.S. EPA Region 5, RRB CAS2 (electronic only)

Attachments

Figures

OSC-4 - approximately 142 feet north of OMH-2

OMH-2

SLAB ONLY (FORMER BLDG.)

FORMER PLATING ROOM

N

OSC-2

(will not be sampled, line plugged)

OSV-1

OLD

NEW

MW-3

MW-21

MW-28

OMH-3

OMH-1

OSC-1

MW-23

MW-22

EQUIPMENT BUILDING

SS-NORTH

RW-3

MW-24

NEW

FORMER

MW-25

RW-5

OSC-3

RW-1

MW-12R

RW-2

SS-SOUTH

250055

250056

250056

LEGEND

SUB-SLAB VAPOR RECOVERY PIPE

RECOVERY WELL

SANITARY SEWER LINE

NON-RESIDENTIAL STRUCTURE

PRIMARY BUILDING WALLS

0' 30'

SCALE IN FEET

DRAWN BY:	L. STRUM
DATE:	9/27/99
REVISED:	1/28/2020
HWPA #:	111291-01
DWG. NO.	111291S1

FIGURE 1
ON-SITE SEWER SAMPLE LOCATION MAP

FORMER AMPHENOL RFI/CMS
980 HURRICANE ROAD
FRANKLIN, INDIANA

IWM CONSULTING GROUP

Attachments

Attachment A

USEPA Letter Dated January 23, 2020

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

LU-16J

Via E-mail and Certified Mail
RETURN RECEIPT REQUESTED

January 23, 2020

Mr. Joseph M. Bianchi
Group EHS Manager
Amphenol Corporation
40-60 Delaware Avenue
Sidney, NY 13838

Subject: On-site Investigation of Environmental Conditions, Request for Work Plan
Franklin Power Products, Inc./Amphenol Corporation
Administrative Order on Consent, Docket # R8H-5-99-00
EPA ID# IND 044 587 848

Dear Mr. Bianchi:

Under Section VIII, Paragraph N (Additional Work) of the RCRA 3008(h) Administrative Order on Consent dated November 24, 1998 (Order), EPA has determined that Respondents Amphenol Corporation and Franklin Power Products, Inc. (FPP/Amphenol), must perform Additional Work at the facility at 980 Hurricane Road in Franklin, Indiana ("Facility" or "Site"). The Additional Work described in this letter is necessary to meet the purposes of the Order, including but not limited to, assuring the selected corrective measures address the actual and potential threats to human health and the environment presented by the actual and potential releases of hazardous wastes or hazardous constituents at or from the Facility.

EPA requests that Amphenol Corp. prepare a work plan for on-Site investigations of environmental media. The purpose of the investigation is to determine whether source-areas may contribute to any ongoing groundwater and sewer-vapor contamination. This work can be divided into two parts, beginning with the sewer investigation. The sewer work should start by February 17, 2020 and the soil/NAPL investigation should start when conditions permit (for example, when the ground is no longer frozen), but no later than March 31, 2020.

As discussed with you and your consultants on January 23, 2020, the work plan can reference approved SOPs. The sewer investigation can begin with a video-logging of the on-site sewers. EPA approves the video-logging.

Sewer Investigation The on-site work plan must include at a minimum the following components:

1) figure showing all sample/investigation locations,
2) vapor sampling of manholes, sewer cleanouts,
3) video inspection of sewer line conditions, and
4) schedule.

Please provide an interim sample location figure to EPA for discussion in advance of the final work plan proposal. Upon receipt and review, EPA will work with you to identify the final sample locations for these events. The work plan should explain the purpose of the investigation and the sampling rationale.

The sewer investigation must include the on-site building and the groundwater treatment system.

Soil Investigation The soil investigation should build on historical sampling and also include areas that were not sampled previously. Samples must be taken at two-foot intervals to the top of the C-unit where NAPL could have permeated clay. During the March/February 2019 remedial design level sampling, NAPL was found near the western property boundary in one sample at depth. The extent of NAPL must be delineated, including off-site as necessary.

The sewer investigation portion of the work plan is due by January 31, 2020. The soil/NAPL investigation portion of the work plan is due February 21, 2020. To expedite the sewer work, EPA may approve discrete portions via email, as we discussed.

If you have any questions, please contact me at (312) 886-3020.

Sincerely,

Carolyn Bury
Project Manager
Corrective Action Section 2
Remediation and Re-use Branch

ecc: Matt Kupcak, BorgWarner, Inc.
Brad Gentry, IWM Consulting Group, LLC.
Bhooma Sundar, RRB CAS2
Motria Caudill, ATSDR
Bryan Cress, IDEM

Attachment B

IDEM RCG Screening Levels

IDEM - Remediation Closure Guide - Table A-6: 2019 Screening Levels

		Soil Exposure			Ground Water		Vapor Exposure			
		Direct Contact			Soil MTG	Tap	Ground Water		Indoor Air	
Name	CASRN	Residential (mg/kg)	Com/Ind (mg/kg)	Excavation (mg/kg)	Residential (mg/kg)	Residential (ug/L)	Residential (ug/L)	Com/Industrial (ug/L)	Residential (ug/m3)	Com/Ind (ug/m3)
Dichloroethane, 1,1-	75-34-3	50 C	160 C	1700 S	0.16 C	28 C	130 C	550 C	18 C	77 C
Dichloroethane, 1,2-	107-06-2	6.4 C	20 C	730 N	0.028 M	5 M	50 C	210 C	1.1 C	4.7 C
Dichloroethylene, 1,2-cis-	156-59-2	220 N	2300 N	2400 S	0.41 M	70 M				
Dichloroethylene, 1,2-trans-	156-60-5	1900 S	1900 S	1900 S	0.62 M	100 M				
Methylene Chloride	75-09-2	490 N	3200 N	3300 S	0.025 M	5 M			630 N	2600 N
Tetrachloroethylene	127-18-4	110 N	170 S	170 S	0.045 M	5 M	110 N	470 N	42 N	180 N
Trichloroethane, 1,1,1-	71-55-6	640 S	640 S	640 S	1.4 M	200 M	13000 N	54000 N	5200 N	22000 N
Trichloroethylene	79-01-6	5.7 N	19 N	95 N	0.036 M	5 M	9.1 N	38 N	2.1 N	8.8 N
Vinyl Chloride	75-01-4	0.83 C	17 C	1300 C	0.014 M	2 M	2.1 C	35 C	1.7 C	28 C

C = Carcinogenic endpoint
CASRN = Chemical Abstracts Service Reference Number
L = Capped at 100,000 mg/kg (soil direct contact only)
M = Set to maximum contaminant limit (MCL; ground water only) or based on MCL (migration to ground water)
mg/kg = milligrams per kilogram
MTG = Migration to ground water
N = Noncarcinogenic endpoint
R = Capped at 1,000,000 mg/kg (migration to ground water only)
S = Capped at soil saturation limit
ug/L = micrograms per liter
ug/m^3 = micrograms per cubic meter