MEMORANDUM

TO: City of Fort Smith Mayor and Board of Directors

FROM: Jeff Noel, Vice President, Whirlpool Corporation

DATE: October 7, 2013

RE: Study Session Presentation Preview

Mayor Sanders and Fort Smith Board of Directors:

Whirlpool Corporation appreciates the opportunity to attend the upcoming Fort Smith City Directors Study Session and provide an update on our ongoing efforts to address the TCE in the groundwater under and near the former Whirlpool manufacturing facility.

Overview

We have prepared a presentation designed to address questions raised at the City Directors meeting earlier this year, as well as what we have heard from City staff over the past few months as we have worked with the Arkansas Department of Environmental Quality (ADEQ) on our remediation efforts. The questions include:

- **Is the TCE plume staying in the same place? Are residents safe? The answer to both questions is yes.**
- **Does Whirlpool have a plan to aggressively attack the TCE and remove it from the groundwater? Yes.**
- **Will Whirlpool stay around until this issue has been fully addressed? Yes.**

We are aware there are questions about the claims raised by affected property owners. Because lawsuits have been filed around these claims, it would be inappropriate to get into the issues raised in the litigation. At this time, Whirlpool is in discussions with attorneys for the property owners who are making these claims in an effort to reach a reasonable and appropriate resolution. Consistent with what we communicated to City staff earlier in the year, Whirlpool Corporation is committed to treating the residents over and immediately adjacent to the plume fairly and will offer compensation for a voluntary well drilling restriction and access to the property for monitoring if needed.

Joining me at the Study Session will be several colleagues from ENVIRON, the environmental consulting firm responsible for ensuring the TCE plume is under control, attacked, and carefully monitored on behalf of Whirlpool. We have included a set of biographies for these professionals in the addendum of this document.

Background on the TCE

As you know, the Whirlpool plant in Fort Smith operated for more than 60 years. TCE was used as a degreaser to periodically clean equipment in a small building separate from the main manufacturing facility from approximately 1967 to the 1980s. This practice was commonplace at many manufacturing

plants at the time.[1] Whirlpool stopped using TCE in the 1980s as better materials became available on the market. TCE is still used in industrial applications and present in retail household products today such as correction fluids, paints, paint removers, adhesives, spot removers and other cleaners.

Control – Plume Not Expanding and No Risk to Residents

We know where the TCE is, and we know that the outer boundaries of the plume north of Whirlpool's property have not expanded during the last eight years of monitoring. We have a network of monitoring wells around the entire area that show where the plume is located. Under ADEQ guidelines, we conduct regular sampling of these wells to verify the location of the plume and to ensure that it is not expanding.

Recently, questions have been raised about the southern boundary of the plume and whether the monitoring is showing any expansion to the south on Whirlpool property. ADEQ and Whirlpool are in full agreement that the plume is a long way from the southern border of Whirlpool's property. The network of monitoring wells in this area has shown some fluctuations in concentrations, which is expected. The monitoring wells south of the known plume boundary continue to register non-detect. Under ADEQ's oversight, we are closely monitoring these fluctuations, but do not believe the monitoring indicates expansion of the plume boundary on the south.

ADEQ has stated publicly that there is no risk of exposure to the TCE – and thus no risk to human health. *You can't touch it, drink it or breathe it*.

We know there is no risk of exposure because of the geology in the area. Immediately below the ground surface is a layer of dense silt and clay extending above the ground water, which is generally 12-15 feet below the surface in the neighborhood to the north of the plant. Below the clay and silt are layers of sand, gravel, and at the bottom, shale / bedrock. This is important for a few reasons:

1. First, due to the depth of the impacted groundwater, residents are not coming in contact with – or touching – groundwater under any normal circumstances. It is not coming to the surface.

2. Second, because of the nature of the dense clay in the area, TCE vapors are not being released through the soil to the surface or into people's homes. We know this from ongoing vapor monitoring. To address questions from some residents, Whirlpool requested and received permission from ADEQ to begin additional soil vapor monitoring prior to the approval of the final Remedial Action Decision Document (RADD). We understand that licenses are required by the City of Ft Smith, and are requesting those from the City. Once completed, the results from these tests will be shared four times per year with ADEQ, the City and on WhirlpoolFortSmith.com.

Finally, all homes in this area use city water – nobody is using this groundwater. The water that comes out of the tap or used to water residents' lawns and gardens is completely separate and does not come into contact with the impacted groundwater. It is safe for residents to use and enjoy their property.

Attack

We have submitted a plan to ADEQ to aggressively attack and remove the TCE. Because we know where the plume is located and where the areas of higher concentrations of TCE are, we know where we need to attack.

Our attack will oxidize and destroy the TCE at the source area and target areas of concentration. We will utilize a process of targeted chemical oxidation. Small wells will be inserted in known areas of higher concentration, which will be used to inject a proven, safe chemical that eliminates the concentrations of TCE in that area. The injection process will target the areas of highest concentration, while at the same

[1] http://ntp.niehs.nih.gov/ntp/roc/twelfth/profiles/Trichloroethylene.pdf

time helping to facilitate the already occurring natural breakdown of the remaining TCE through a process called natural attenuation.

We have chosen this method for three reasons: 1) it is a proven method that allows us to attack the plume at various points and utilize natural attenuation in order to reduce the plume, 2) is more effective than other available options, and 3) it is not as intrusive in the community and to the residents in the neighborhood as some other less effective methods would be.

Monitor

Whirlpool is committed to working closely with the City of Fort Smith, ADEQ and the residents of the community until we meet the remedial action goal. To ensure the long-term success of remediating the site, we will conduct regular monitoring and provide a written report to ADEQ every three months. All of these updates and reports will also be made available to the public at the web site we created: WhirlpoolFortSmith.com.

This ongoing monitoring is an important part of the proposed plan. All monitoring will be authorized by ADEQ and executed with ADEQ oversight. We will have a lasting presence to ensure that the TCE plume has been appropriately mitigated and that there continue to be no risks to human health.

Next Steps

We expect a rapid implementation of the first part of remediation plan; however, it is important to understand that the remediation process takes time. We have to make sure we get this right, and that all regulatory requirements are met. ADEQ will be monitoring all of our efforts throughout the process and ensuring that we are meeting all work and timeline targets along the way.

Following the public comment period and ADEQ hearing, the agency will address questions raised and finalize the RADD. Once this has been completed and ADEQ provides written approval to begin work, Whirlpool will begin to implement the approved remedial actions.

Site Redevelopment

Whirlpool is confident in the redevelopment opportunities the 152 acre plant site affords the residents of Fort Smith. We are currently speaking with interested buyers who have stated they will clarify their intentions once the ADEQ has published the RADD for Corrective Action. While we will not know exactly what will happen until a sale is finalized, we anticipate that the use of the property may be mixed – green space, industrial, commercial, and retail – to maximize the full use of the site. The prospective buyers have all expressed the benefits they see in the quality of the local workforce and the opportunities that exist doing business in a community with such a strong reputation as Fort Smith. We will keep the community updated on the progress of these efforts.

Conclusion

Is the plume expanding? *No.* Are people safe? *Absolutely, yes.* Is there a plan to attack and destroy the TCE? *Yes.* Is Whirlpool going to stay in Fort Smith and see this through? *Yes.*

We appreciate the City Directors offering us the opportunity to answer your questions, and once the draft RADD has been released, we encourage all interested residents to provide feedback to ADEQ during the public comment period.

We remain committed to keeping the City Directors and the residents informed as our remediation efforts continue. We have posted a significant amount of information about our findings and proposals to date on WhirlpoolFortSmith.com - including all of the documents submitted to ADEQ as part of the creation of the remediation plan, as well as thousands of pages of background documents. We will continue to update our website with new documents as they become available.

Addendum: ENVIRON Team Biographies

Gregory R. Gillespie
Principal Consultant
Grand Rapids, Michigan
+1 616 822 1591
ggillespie@environcorp.com

Gregory Gillespie has more than 34 years of experience as an environmental professional. He has extensive project and program management experience leading multidisciplinary teams of professionals on large, complex environmental projects within the automotive, chemical, dairy, electronics, fermentation, food processing, iron and steel, personal care, petroleum, tanning and white goods industries. Greg has completed acquisition and divestiture due diligence, environmental health and safety compliance audits, environmental liability reserve portfolio program development and management; federal and state regulatory program site investigations, remediation and closure; brownfield redevelopment; and industrial wastewater treatability, pilot study, process design and construction management, including long-term wastewater facility operation projects. While he has primarily worked with private-sector clients, Greg has experience completing projects with various units of government, including cities, townships, utility authorities and various state and federal agencies.

EXPERIENCE HIGHLIGHTS

- Served as project and program manager, technical lead and field lead for site investigations, remediation and closures in the US, Canada, Mexico, Brazil, Europe, India and China. Experience includes initial site investigations through efficient expedited closure of sites with multiple impacted mediums in complex regulatory frameworks.

- Served as project manager, program manager and field team lead for merger and acquisition (M&A)/divestiture, environmental due diligence, liability/reserve estimating, reserve management, legacy liability management program development and implementation, including project management for high risk site closures.

- Served as project manager and technical lead for treatability, process selection, pilot plant design and operation, process design, construction management, start up and contract operations of industrial wastewater treatment facilities. Experience includes both pretreatment and direct discharge.

- Served as project manager and technical lead for brownfield redevelopment projects in the US. Many projects completed in complex regulatory, citizen and NGO frameworks.

- Served as project and program manager, technical lead, multi-party potentially responsible party (PRP) technical committee representation for river and estuarine sediment investigation, delineation, design and construction management projects.

- Served as project manager, program manager and auditing team field leader for EHS compliance auditing. EHS compliance program experience included developing and implementing action item closure assurance programs to minimize future risk of noncompliance in long-term auditing programs. Developed programs to incorporate electronic data acquisition and facility management systems to automate the audit process, safeguard findings integrity and closure assurance while minimizing repetitious handing of data and assuring consistency.

- Served as project manager and technical lead in developing information management system program frameworks and long-term management of EHS data management systems. Programs and projects included data platforms using Excel, Access, Lotus Notes and enterprise-based platforms including integration into existing enterprise wide frameworks.

Tamara R. House-Knight, PhD
Manager
Little Rock, Arkansas
+1 501 907 9437
thouseknight@environcorp.com

Tamara House-Knight has over seven years of experience specializing in human and environmental risk assessment. She has been involved in project planning, development of risk assessment work plans, management and implementation of risk assessments, and community relations/public participation on sites from New Jersey to California. She also has extensive experience in evaluating adult and child lead exposures in groundwater, soil and dusts using USEPA's Integrated Exposure Uptake Biokinetic (IEUBK) model and the Adult Lead Model (ALM).

EXPERIENCE HIGHLIGHTS

- Participated in planning environmental investigations of outdoor and indoor air quality and the investigation of contaminants in soil, sediment and surface water.
- Provided emergency toxicology service to answer questions regarding human health and ecological concerns resulting from accidental chemical releases.
- Developed numerical criteria for cleanup of volatile and semi-volatile compounds, pesticides and metals in soil, water, sediment and surface dusts.
- Provided risk-based input to recommend removal of hotspots of chemical contamination in various media to reduce overall risks to human and ecological receptors below levels of concern.

Kerry Stonestreet, PG
Senior Associate
Kansas City, Kansas
+1 816 891 3494
kstonestreet@environcorp.com

Kerry Stonestreet has over 11 years experience as a geologist and the Senior GeoSpatial Analyst on large projects, including multimillion dollar remediation projects. He specializes in applying his background in geology and geospatial technologies to environmental remediation projects and environmental impact studies. He has extensive experience with ESRI's ArcGIS suite of software and C-Tech's Environmental Visualization System (EVS).

EXPERIENCE HIGHLIGHTS

- Advanced subsurface visualizations of multiple one mile long TCE plumes, sample locations and subsurface strata were created in EVS, a state-of-the-art subsurface visualization application. Animations were created which were instrumental in depicting a complex subsurface process. Animations were displayed during presentations to the regulatory agency and at public meetings.
- ArcGIS and EVS were applied to evaluate the result of a landfill's planned vertical expansion. Using ArcGIS and EVS Mr. Stonestreet created an animation of the proposed facility before and after expansion. The resulting animation was well received by the stakeholders.
- Project Manager evaluating eight Metropolitan Community Colleges for their risks to flooding and earthquake damages using FEMA's HAZUS loss estimation application.
- GIS project lead on a multimillion dollar environmental litigation project for a major chemical company. Oversaw the management and analysis of vast amounts of environmental data spanning 100 years at a large historic railyard.

- Senior GIS analyst on two large refinery projects for a major chemical company. Both projects required management and the spatial/temporal analysis of large amounts of geospatial data. Technologies employed included ArcGIS, 3D analysis, Spatial Analysis, ArcSDE, and ArcIMS.

- Senior geospatial task leader for an Interstate I-70 NEPA project which required the identification, mapping, and spatial analysis of features such as wetlands, prime farmland, HAZMAT sites, archaeology, displacements, and right of ways to name a few. GIS capabilities included digital field data collection utilizing GPS and management of data within an ESRI geodatabase. The project had a $1.2 million budget.

- Conducted a defensible landfill siting analysis completely within GIS. Working within guidelines set forth by the state regulatory agency multiple potential sites were identified for the new landfill.

- Using detailed topographic data derived from LiDAR, conducted sinkhole and subsidence analysis of 600 acres of heavily forested land over an active limestone mine. 3-D analysis and the creation of an accurate 3-D virtual mine with overburden revealed hidden subsidence events and suggested water infiltration routes.

- Created subsurface visualizations of preferential pathways using geophysical transect data. Visualizations were instrumental in identifying pathways for a one mile long petroleum plume in fractured bedrock.

- Lead GIS analyst for a school district's vulnerability assessment. Created individual comprehensive maps for each facility depicting potential threats, visibility analysis, summary of residents and identification of potential hazardous materials and facilities.

Steve L. McGinnis, MEng, PE
Senior Manager
Overland Park, Kansas
+1 816 891 8232
smcginnis@environcorp.com

Steve McGinnis has 14 years of experience in site investigation and remediation, contaminant fate and transport, environmental due diligence, and technical support for litigation. He has served as lead engineer for investigation and remediation of sites under various state and federal cleanup programs, as well as a technical advisor for review and oversight of such activities. He has also managed and conducted Phase I environmental assessments to identify environmental conditions industrial and commercial facilities, and has provided environmental compliance assistance.

EXPERIENCE HIGHLIGHTS

- Project manager/lead engineer for the investigation and remediation of several contaminated sites located in Arkansas, Oklahoma, Illinois, Alabama, and Florida. Sites are in various stages of investigation and remediation and are being addressed under state (e.g., Voluntary Cleanup Program) and federal (e.g., CERCLA, TSCA) regulatory frameworks.

- Provided technical expertise with regard to remedial requirements for over 150 industrial facilities impacted with various contaminants, including chlorinated solvents, agrichemicals (e.g., pesticides, nitrates), PCBs, petroleum hydrocarbons, dioxins, furans, VOCs, heavy metals, and MGP byproducts. Properties evaluated ranged from operating industrial facilities to former industrial areas assessed for redevelopment in waterfront and downtown areas.

- Third-party technical reviewer for the Remedial Investigation/Feasibility Study (RI/FS) of an Illinois Superfund site impacted by metals and fuels from former zinc smelting. Impacts include metals, as well as organics (e.g., fuel, PCBs).

- Conducted and coordinated Phase II site investigations of numerous industrial and commercial facilities, including soil, sediment and groundwater sampling, geophysical and electromagnetic surveys and soil gas sampling. Modeled indoor air concentrations of contaminants in residences located near subsurface contamination sources associated with the sites. Provided ongoing technical guidance to clients regarding investigation and remediation of the sites.

- Conducted a hazard assessment associated with the management of equipment and chemical distribution systems that had contacted hazardous substances as part of the decommissioning of a two million square-foot semiconductor facility; evaluated options for the salvage, decontamination and disposal of the materials, and assessed the costs and benefits of each option. Prepared detailed bid and proposal and work plan materials for potential contractors.

- Prepared detailed assessments of the use of mercury in the form of dental amalgam and the discharge of that mercury from dental offices to publicly owned treatment works and surface waters at the national, state and local levels. Evaluated the fate of mercury in the form of dental amalgam in land-applied biosolids, dental office plumbing, municipal sewer lines and septic systems. Published and presented the assessments in several national and international technical journals and conferences.