



Agency for Toxic Substances and
Disease Registry, Region 3
1650 Arch Street, 3HS00
Philadelphia, PA 19103

John Nagel
East Whiteland Township Manager
209 Conestoga Road
Frazer, PA 19355

April 6, 2016

Dear Mr. Nagel,

In August 2015, ATSDR received a request from the East Whiteland Township Environmental Advisory Council (EAC) to evaluate future onsite residential exposures at the former Bishop Tube site on Malin Road. The 2015 request was in follow up to the 2007 Township request and subsequent 2008 ATSDR health consultation, in which ATSDR assessed offsite exposures and former site worker's concerns.

The township's 2015 request is focused on assessing potential future exposure scenarios at the site. However, redevelopment plans and remediation activities have not yet been completed at this site. It is important to note that the responsible party, under PADEP oversight, has identified a significant source of chlorinated solvents at the site that has not been fully remediated. Given the presence of significant contamination at the site, other uses for the property besides residential should be considered. If the site is developed for residential uses, ATSDR recommends implementing a number of steps to protect future residents from exposures at levels of health concern. It is important to note that even very low levels of trichloroethylene, the primary chlorinated solvent contaminant at the site, may be harmful and great care must be taken to not allow exposures to occur.

There are too many undefined variables at this time for ATSDR to make conclusions about potential future exposures at this site. However, in considering your request, ATSDR completed a number of steps that we hope are helpful to the township. These steps included: (1) a review of the available environmental information about onsite conditions, (2) discussions with the Pennsylvania Department of Environmental Protection's (PADEP) site manager regarding the environmental assessment history and potential remediation steps for the site, (3) attendance and discussions at various township public meetings to better understand the proposed development and potential for hazardous chemicals exposures, and (4) meeting with the township on February 4, 2016, to discuss the EAC's concerns and to define the goals for ATSDR assistance for the former Bishop Tube Site redevelopment.

Based on the information gained through these steps, ATSDR has developed five site-specific recommendations that are intended to mitigate potential environmental exposures for current residents living near the site and future residents who may live on the site after redevelopment.

- **Conduct Targeted Site Assessment** – To fill critical environmental data gaps at the Bishop Tube Site, ATSDR recommends conducting a targeted assessment of the soils (surface and subsurface) and groundwater in the areas proposed for residential development. ATSDR particularly recommends more targeted assessment of the southern portion of the site, where only limited environmental assessment has been conducted to date. Because the majority of site assessments have focused on the primary site contaminant of concern - chlorinated solvents – only the source areas and groundwater plume have been well characterized. There are only limited data for other potential site contaminants outside the primary chlorinated solvent source area.

ATSDR recommends expanding the site assessment both (1) geographically (beyond the chlorinated solvent source areas) and (2) analytically (to include contaminants that may be present due to the site's past industrial activities, including heavy metals, volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC), including polycyclic aromatic hydrocarbons (PAHs)).

Per the PADEP Voluntary Remediation Program guidelines, ATSDR recommends that environmental sampling results then be compared to residential cleanup standards to determine the need for remediation or exposure pathway mitigation due to the proposed future residential use of the site. Should hazardous chemical contamination be identified that exceed residential standards or pose a risk for vapor intrusion, appropriate remediation and mitigation actions should be implemented. For additional information on how agencies complete a targeted site investigation, see EPA's Green Remediation Best Management Practices (BMP) for Site Investigations, attached to this letter and available at [https://clu-in.org/greenremediation/docs/GR Fact Sheet SI 12-31-2009.pdf](https://clu-in.org/greenremediation/docs/GR_Fact_Sheet_SI_12-31-2009.pdf)

- **Safe Conduct of Site Remediation** – Consistent with standard protocols for hazardous site cleanup remediation, ATSDR recommends conducting remediation activities in a way that mitigates potential environmental exposures to current residents living near the site. For example, controlling any releases of solvents vapors from the ongoing groundwater remediation, controlling dust that may migrate from the site, controlling contaminated surface runoff, and controlling access to ongoing remediation systems and un-remediated areas of the site. Appropriate fencing, signage and/or other site access controls should be implemented. For additional information on completing site remediation that reduces or eliminates adverse impacts to the nearby community, please see EPA's Green Remediation BMPs, including:

- a. Clean Fuel & Emission Technologies for Site Cleanup, available at [https://clu-in.org/greenremediation/docs/Clean_FuelEmis GR fact sheet 8-31-10.pdf](https://clu-in.org/greenremediation/docs/Clean_FuelEmis_GR_fact_sheet_8-31-10.pdf);
 - b. Excavation and Surface Restoration, available at [https://clu-in.org/greenremediation/docs/GR_Quick Ref FS exc rest.pdf](https://clu-in.org/greenremediation/docs/GR_Quick_Ref_FS_exc_rest.pdf);
 - c. Landfill Cover Systems & Energy Production, available at [https://clu-in.org/greenremediation/docs/GR factsheet landfill covers and energy .pdf](https://clu-in.org/greenremediation/docs/GR_factsheet_landfill_covers_and_energy.pdf);
 - d. Bioremediation, available at [https://clu-in.org/greenremediation/docs/GR factsheet biorem 32410.pdf](https://clu-in.org/greenremediation/docs/GR_factsheet_biorem_32410.pdf); and,
 - e. Soil Vapor Extraction and Air Sparging, available at [https://clu-in.org/greenremediation/docs/GR factsheet SVE AS 032410.pdf](https://clu-in.org/greenremediation/docs/GR_factsheet_SVE_AS_032410.pdf).
- **Install Appropriate Vapor Mitigation Systems** – Per the preemptive mitigation/early action guideline in EPA Office of Solid Waste and Emergency Response (OSWER)'s Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air at <http://www.epa.gov/sites/production/files/2015-09/documents/oswer-vapor-intrusion-technical-guide-final.pdf>, ATSDR supports the preemptive installation of vapor barrier/mitigation systems in future residential dwellings and other occupied spaces at the site, and other steps that would mitigate this pathway for future occupants on the site. When deciding the type of vapor mitigation system to install, long-term operation, maintenance, and effectiveness of the installed systems should be considered. System effectiveness and modifications can be determined through periodic air testing of the indoor air, ambient air and sub-slab void space where contaminant vapors can accumulate.
 - **Institutional Controls and Deed Restrictions** - To prevent direct contact with contamination that remains on site and to avoid disturbing the subsurface soils and geology near residential dwellings in such a way that may open new contaminant migration pathways (including preferential vapor migration pathways), institutional controls, such as environmental covenants and deed restrictions, are recommended.
 - **Control Surface Water Runoff and Infiltration**– ATSDR recommends implementing a process and/or systems to control surface water flow and rainwater infiltration to reduce the potential for adverse impacts to the selected site remedy (e.g. surface caps, treatment systems), to limit impacts to groundwater contaminant plume dynamics, and to reduce the potential for unhealthy exposures to subsurface contamination. Institutional controls, such as environmental covenants, may be implemented to address long term maintenance requirements.

Should you have any concerns or questions about the contents of this letter, please contact me at (215) 814-3139 or by email at gfu6@cdc.gov.

Sincerely,



Robert H. Helverson
ATSDR Region 3 Representative

cc: Veronica Holmes, E. Whiteland Township EAC
Dustin Armstrong, PADEP Site Manager
Farhad Ahmed, PADOH Epidemiologist/Program Manager Health Assessment Program
Sharon Williams-Fleetwood, ATSDR EB Chief
Lora Werner, ATSDR Region 3 Director