Supporting Stakeholders through Vapor Intrusion Response Actions in a Large Active Military Manufacturing Building

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Background/Objectives. Trichloroethylene (TCE) was identified in down-gradient groundwater monitoring wells at Building 8 on the Corpus Christi Army Depot (CCAD). CCAD is an Army tenant command on the Corpus Christi Naval Air Station, employing a unionized workforce to conduct mission-critical military manufacturing; Building 8 covers nearly 1 million square feet. The US Navy, as site owner, refined the conceptual site model (CSM) through indoor field investigation and found that less than 10% of Building 8 overlies sources of TCE in vadose zone soil and shallow groundwater. The Navy elected to mitigate both the vapor intrusion (VI) pathway and the subsurface TCE sources beneath active manufacturing and office space using a combination of targeted sub-slab venting, and soil and groundwater treatment; however, implementing and optimizing these mitigation measures requires navigating complex stakeholder relationships, manufacturing shift work, production deadlines, and security constraints. In this presentation, the authors will discuss the approach used to support multiple stakeholders during mitigation, while maintaining continuity of mission-critical operations.

Approach/Activities. Though the Navy (property owner) is responsible for remediating historical releases to the subsurface at Building 8, CCAD's lead Industrial Hygienist has responsibility for worker health and safety regardless of a chemical's source. Therefore, the Navy is working in partnership with the Army (tenant command) to plan and conduct the invasive work as rapidly as possible without affecting mission-critical manufacturing. To minimize interference with Building 8 operations, the Navy is conducting regular briefings to Army commanders, Army Occupational Health and state regulators. Army environmental officials are keeping the labor union apprised and providing operational windows for work to proceed around the manufacturing schedule.

Results/Lessons Learned. Historically, TCE was widely used at Department of Defense sites. Therefore, implementing a successful response to TCE VI is of great interest and relevance to the military. The Navy used a variety of tools through the investigation and early phases of mitigation at Building 8, including High Volume Sampling of sub-slab soil gas, forensic background source evaluation, deploying carbon filters, sealing foundation cracks and modifying HVAC operation. These efforts have set the stage for stakeholder coordination through the more invasive construction work to come. By April 2018, predesign data, a revised VI-CSM and preliminary system designs will have been reviewed and vetted by stakeholders, and plans will be in the works for implementation.