

Abstract

This *EPA Region III Natural Gas Ambient Air Monitoring Initiative (NGAAMI) in Southwestern Pennsylvania* describes the analysis of air monitoring and other data collected from a late summer through fall of 2012 under EPA's NGAAMI to assess potentially elevated levels of air toxics and PM_{2.5} concentrations around a natural gas compressor station. The document has been prepared for technical audiences (e.g., risk assessors, meteorologists) and their management. It is intended to describe the technical analysis of data collected for this in clear, but generally technical, terms.

Introduction: Pennsylvania has seen rapid development of the Marcellus Shale industry since 2007. The Pennsylvania Department of Environmental Protection (PADEP) has primary environmental regulatory authority over this booming industry. As part of this monitoring initiative, the information collected was used to evaluate the need to mitigate exposures, conduct additional air assessments and identify whether air modeling is needed for this location.

Methods: Air monitoring has been conducted at three residential properties around the Brigich Compressor Station in Washington County, Pennsylvania as part of the EPA Region 3 initiative to monitor specific air toxic compounds in the outdoor air around natural gas extraction facilities. Air monitoring was performed from (August 4, 2012 to November 25, 2012) for the following pollutants: Volatile Organic Compounds (VOCs) also commonly referred to as Hazardous Air Pollutants (HAPs) & Particulate Matter less than 2.5 microns aerodynamic diameter (PM_{2.5}).

Results: Measured levels of VOCs (i.e. 1,3-butadiene and benzene) were compared to associated longer-term concentration estimates to determine if concentrations exceeded the long-term and/or short term risk levels calculated by EPA and Agency for Toxic Substance and Disease Registry (ATSDR). Results from the VOC and PM_{2.5} monitoring did not indicate any level of concern.

Conclusions: Based on the sampling results from the (NGAAMI), EPA Region 3 recommends that no additional VOC and PM_{2.5} monitoring is necessary at the sampling locations around the Brigich Compressor Station. EPA Region 3 has determined, based on the ambient air monitoring data (collected by EPA) that the ambient concentrations near the Brigich Compressor Station in Washington County, PA did not indicate impacts of potential concern. Furthermore, it was concluded that additional data collection would not be pursued. The available air monitoring data and other information provided in this report sufficiently supports this decision.