



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

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

Dr. John S. DiSanti
Superintendent
West Allegheny School District
600 Donaldson Rd
Oakdale, PA 15071

July 6, 2011

Dear Dr. DiSanti,

The Agency for Toxic Substances and Disease Registry (ATSDR) was petitioned in 2009 by a citizen of Imperial, PA, to evaluate if exposure to air contaminants and odors from the Imperial Landfill was posing a potential public health impact on the students and staff of the nearby Wilson Elementary School. On May 17, 2010, ATSDR released a Health Consultation for the Imperial Landfill Site and recommended additional steps to better assess the air quality at the School and to mitigate potential exposures. This letter summarizes the steps the regulatory agencies have taken to address air quality at the School and how those steps have protected the health of the students and staff.

Over the past 2 years, the Pennsylvania Department of Environmental Protection (PADEP) and Allegheny County Health Department (ACHD) ordered the landfill operator to take steps to control and monitor emissions. These steps, including design and installation of a synthetic cap and vapor capture system, improvements to the leachate and gas collection system, and more restrictive and selective criteria for incoming waste streams, appears to have greatly improved air quality near the landfill.

In addition to specific monitoring events conducted by ACHD over the past 1.5 years (see ATSDR Imperial Landfill Health Consultation released on May 17, 2010, for further details), ongoing monitoring at the School since May 2010 has shown reduced concentrations of hydrogen sulfide when compared to the previous year (all below ATSDR health-based comparison values). Air monitoring at the school has not reflected any elevated concentrations of methane, except when the instruments drifted and required recalibration. Data from these continuous monitors are consistent with the reduced volume of odor complaints received by PADEP/ACHD and the steps taken at the landfill to mitigate offsite vapor releases.

In May 2010, ACHD conducted carbonyl sampling at the School for landfill-specific chemicals. The results of this assessment indicated that common landfill chemicals were not above the levels found in other areas of Allegheny County. More importantly, all concentrations, except for acrolein, were below ATSDR human health non-cancer comparison values. Further evaluation of the acrolein result by ATSDR indicated the maximum level identified is still well below the lowest observed adverse effect level (LOAEL) observed in humans. The LOAEL is the lowest exposure level of chemical in a study, or group of studies, that produces statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control. Although a hypothetical increased excess cancer risk can be calculated for acetaldehyde and formaldehyde, these estimates fall within acceptable risk ranges (5 hypothetical additional cancers in a million people [5E-6] and 5 hypothetical additional cancers in 100,000 [5E-5], respectively), and are consistent with background levels identified in other areas of the county.

Based on the data available for review, the steps taken by ACHD and PADEP to address the source of landfill vapors and odors, the reduction in odor complaints near the landfill, and the steps taken at the School to monitor and filter indoor air, ATSDR concludes that the air quality at the Wilson Elementary School at this time is not expected to cause adverse health impacts.

**Carbonyl Sampling by ACHD at Wilson Elementary School
Summary Table**

<i>in ppb</i>	Acetaldehyde	Acrolein	Formaldehyde	Propionaldehyde
Location	Maximum	Maximum	Maximum	Maximum
Flag Plaza	2.04	0.35	5.33	0.96
Avalon	2.63	0.23	5.88	0.75
Stowe	2.74	0.30	4.99	0.82
S. Fayette	1.45	0.08	6.13	0.80
Wilson School	1.375	0.08	3.201	0.431
ATSDR CV	4.9 (EPA RfC) 0.272 (CREG)	0.04 (Inter EMEG)	8 (Chronic EMEG) 0.06 (CREG)	0.826 (chronic odor – TCEQ ESL) 3.31 (EPA RfC)

Notes: Sampling was conducted by ACHD from May 2 through June 25, 2010.

ACHD - Allegheny County Health Department, ATSDR - Agency for Toxic Substances and Disease Registry, CV - comparison value, CREG - cancer risk evaluation guideline, EPA - Environmental Protection Agency, EMEG - environmental media evaluation guideline, ESL - effect screening level, ppb - parts per billion, RfC - EPA reference concentration, TCEQ - Texas Council of Environmental Quality

ATSDR recognizes that landfills require continuous monitoring, maintenance and management. The PADEP and ACHD have shown that through enforcement of regulations and oversight of landfill operations, offsite odor and vapor issues can be reduced. The data collected in 2009 and 2010 and evaluated in ATSDR's May Health Consultation and in this letter may not be representative of air quality in the future. Because of the close proximity of the Wilson School to the landfill, ATSDR recommends ongoing landfill vapor monitoring at the School, maintaining an odor report log, and continued enforcement of landfill environmental regulations along with enhanced regulatory oversight of the landfill operator by ACHD and PADEP.

Sincerely,



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