

Questions submitted by EHS teachers for Mike Dunn concerning soil toxins at EHS property

Meeting date: Thursday May 17, 2018

1. It seems that with all of the known soil contamination on the EHS property, our school would be out of compliance in terms of health & safety standards. Is our school in compliance with all health & safety standards? Please explain.

Response:

Following an initial environmental investigation conducted by the New York State Departments of Health (DOH) and Environmental Conservation (DEC), to assess human exposure risk to historic contamination, the DOH made recommendations to the Elmira City School District (ECSD) to maintain protective systems for indoor air and soil management programs at the Elmira High School (EHS). In 2009, these practices were formalized and updated in an Environmental Management Plan prepared by ECSD.

Protective cover systems (vegetated soil, wood chips, pavement, buildings) are currently in place and reduce the risk of human exposure to PCBs in soils. Volatile organic compounds, specifically TCE, are present in the air beneath the building; however, Sub-Slab Depressurization Systems (SSDS) are preventing exposure to these chemicals. In addition, people are not drinking contaminated groundwater, as the school is served by the city of Elmira's public water system, which is routinely tested and its finished water meets state standards.

Overall, there are no current exposure pathways for students, staff, or community members at the school, and the upcoming investigation involving the football field will further ensure that adequate protection is in place. DEC and DOH staff will continue to oversee Unisys as they conduct additional inspections of air mitigation systems, including conducting additional sampling, to ensure proper functioning. Should any deficiencies be noted, immediate actions will be undertaken to ensure they are quickly addressed and eliminated.

Moving forward, though the Brownfield Cleanup Program Unisys will be developing an Interim Site Management Plan to replace the school's Environmental Management Plan and assume responsibilities for maintaining all protective systems.

2. Why are we not testing the indoor air quality in every room in the building? There are rooms closer to known contaminated sites than room 127, why isn't the indoor air quality tested in those classrooms? In addition, why is the indoor air quality only tested annually (once per year) in Room 127? Why isn't the testing done more often?(perhaps quarterly) And in more varying conditions (different seasons, during heating & cooling, windows & doors open/closed, etc.) And in locations throughout the building?

Response:

Historically, low levels of TCE were detected in room 127 prior to installation of the SSDS. A SSDS is a proven effective system to mitigate soil vapors and we have collected several years of indoor air data from this room to verify its effectiveness.

In 2014, comprehensive testing of both the air underneath the slab of the building and indoor air was completed at EHS for areas outside the range of the existing sub-slab mitigation systems (located in the K-wing, Cafeteria, and Gym). Sample locations included all previous sampling locations and new locations based on new information obtained regarding past uses of the site. The results of this investigation documented that TCE was present at 8 of 23 locations in soil vapor below the floor slab, 5 of which were in F-wing. The remaining 3 locations had TCE concentrations below NYSDOH recommended action values and no TCE was detected in the indoor air at these locations.

TCE was present at 8 of the 23 indoor air sampling locations, 6 of which were in F-wing. The levels of TCE detected in the indoor air are all below the NYSDOH Air Guideline Values; however, the level observed in room 127 was higher than expected despite being less than the Air Guideline Value. As a result, a sub-slab depressurization system (SSDS) was installed in F-wing in 2014 and TCE is no longer detectable in the indoor air in Room 127. The sampling in room 127 is conducted on an annual basis to continue to demonstrate the effectiveness of the system. The effectiveness of the SSDS is not reduced by the opening and closing of doors and windows. Further indoor air testing in the near future will confirm the effectiveness of the SSD in any potential areas of concern.

Out of an abundance of caution, NYSDEC has requested Unisys to inspect the school foundation for cracks and seal them, complete a comprehensive evaluation of the current SSDS(s) and repeat the comprehensive sub-slab and indoor air testing performed in 2014. All information from these tests will be shared with the school and faculty as they become available.

3. Is it safe to have windows and doors open in the building? Does having doors and windows open interfere with the functioning of the positive pressure created by the SSDS & HVAC system? Recently a teacher was told she should never have her windows open. However, staff have not been told this in the past. Are we putting ourselves at risk by opening windows & doors? If so, shouldn't all staff be educated on this policy?

Response:

The effectiveness of the SSDS is not reduced by the opening and closing of doors and windows, as the system is capturing air beneath the slab to ensure it does not enter the building. In addition, outdoor air sampling does not indicate any issues with the quality of the outdoor air at the school property.

Maintenance staff may have directed teachers and other staff to refrain from opening windows and doors for other reasons, for example to increase the efficiency and effectiveness of heating and cooling.

4. What are the red dome-like structures on the south side of the EHS service entrance driveway in the grass that are covered by rip rap? They resemble gas “burping” structures that might be found at a landfill to release excess methane. Are these releasing gases? If so, are these gases being tested for toxic PCEs etc.?

Response:

These structures are groundwater well heads. Gasses or vapors are not a concern and have not been sampled, because nearby groundwater does not exceed standards for Volatile Organic Compounds (VOCs) including PCE.

5. There seems to be quite a difference in opinion from the DEC and Walter Hang concerning the data collected on the EHS property. As an employee and parent, why hasn't the district acknowledged or discussed Walter's findings?

Response: To be clear, the soil and groundwater contamination found on the site is below ground and any potential exposure pathways where students, faculty or visitors could encounter it have been thoroughly investigated and appropriately addressed. Moving forward, the DEC and DOH will continue to work with the Elmira City School District to oversee the careful and coordinated identification and removal of any contamination from the site in a manner that is fully protective of public health and the environment. Protecting the health of the students and faculty of the Elmira High School remain our top priority, and we will keep the Elmira community informed of our ongoing actions.

All of the data Mr. Hang has is data that DEC provided him and the state has used to guide all our actions on the site. This data was also used in our previous community meetings on this site, and DEC and DOH staff are always available to discuss this data with faculty or community members to explain how this has informed our ongoing actions and answer any questions you have regarding this site. In addition, all this information is available on our website and at the document repository for this site:

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Attn: Connie Ogilvie
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Elmira, NY 14901
phone: 607-733-9175

NYSDEC Region 8 Headquarters
Attn: Regina Willis
6274 East Avon Lima Road
Avon, NY 14414
phone: 585-226-5324 call for appointment

6. How does the DEC/District justify the very slow process of the clean-up of hazardous toxins?

Response:

New York State remains committed to overseeing a careful and thorough cleanup of the Elmira High School property, and our top priority is always ensuring that students, faculty and visitors are not at risk from coming in contact with any of the contamination found below ground on the site. While we know that subsurface soils, groundwater and soil vapor contamination exist at the

property, any potential exposure pathways where someone could encounter the contamination have been appropriately addressed:

- contaminated soil is below the ground's surface and cover systems (vegetated soil, wood chips, paving and building foundations);
- groundwater is not used for drinking water or other purposes at the school; and
- the building's heating, ventilating, air-conditioning system, as well as sub-slab depressurization systems are effectively operated in a manner intended to ensure that contaminants beneath the building are not drawn into the school and affecting the indoor air quality.
- Additionally, air quality at the school has been extensively tested and is shown to be consistently below NYS Department of Health guideline values.

DEC and DOH staff will continue to oversee and conduct additional inspections to ensure maintenance and effectiveness of protective measures. Should any deficiencies be noted, immediate actions will be undertaken to ensure they are quickly addressed and eliminated as ongoing development of cleanup actions continue. With appropriate protective systems in place and immediate exposure pathways properly addressed, this has allowed for a careful and coordinated investigation and development of a cleanup plan.

In 2017, Unisys entered into an agreement under the State's [Brownfield Cleanup Program](#) to complete a comprehensive environmental investigation and cleanup at the EHS property. Along with the additional investigation sampling necessary to fully identify all areas of below ground contamination that must be cleaned up, targeted PCB soil removal measures are being conducted ahead of other EHS capital improvement projects at the school. All cleanup and investigation work is being conducted by Unisys with strict DEC and DOH oversight.

Priority actions are those that mitigate the risk of exposure to environmental contaminants at EHS. In 2017, Unisys removed an area of shallow subsurface soils with slightly elevated levels of PCBs from a portion of the track infield and backfilled the area with clean soils. Additional PCB cleanup actions are planned for other portion of the EHS site between June and September 2018. In addition to this year's targeted PCB cleanup, DEC has requested Unisys expedite comprehensive investigations on the athletic field area to delineate the nature and extent of the contamination below ground and guide the design of the cleanup for this portion of the site. DEC and DOH will continue to keep the public informed as this work progresses and as development of cleanup plans are finalized.

It is important to note that during all cleanup activities, community air and dust monitoring is conducted. Dust control measures (e.g., watering) will be undertaken to reduce dust on temporary dirt roadways and open excavations. No visible dust should leave the work areas and if air monitors detect dust above action levels, work is stopped until corrective measures are in place. It is imperative that this cleanup be done thoroughly and correctly, and that is why we continue to carefully plan and implement all remediation efforts on the site.

7. The art rooms & darkrooms have many cracks in the floor that exceed ¼ inch in diameter. Many have been there for years and have even been painted over but not

repaired in previous years. One large crack (one inch diameter) near the fire exit door was recently repaired but had been there since the cafeteria construction (4 years ago). What is the protocol for assessing the danger of these cracks? Why weren't the staff members in these rooms warned about the potential danger these cracks represented? Why haven't staff been educated on these dangers and told to report any new cracks?

Response:

Cracks in the foundation have been inspected and determined to not extend through the foundation slab and do not represent a potential exposure pathway. Though, as described above, out of an abundance of caution DEC has proactively requested Unisys to conduct another inspection of the school foundation for cracks and seal them, complete a comprehensive evaluation of the current SSDS(s) and repeat the comprehensive sub-slab and indoor air testing performed in 2014.

8. According to a preliminary site assessment completed in 1988 (prepared by Dames & Moore, Unisys Corp.) the art classrooms sit directly over or very near sludge beds that contain many toxic chemicals. In addition, these same classrooms have multiple cracks. Why wasn't a sub slab depressurization system installed under these rooms, considering the additional risks these rooms face?

Response:

The sub-slab soil vapor and indoor air was tested in 2014 near the art room and no TCE was detected in indoor air in the hallway outside art rm, Rm 101 and Rm 115. No TCE was detected in the soil vapor beneath the floor in Rm 101 and 115 while a detection of TCE in the soil vapor below Rm 103 was well below recommended values for actions to be taken.

Out of an abundance of caution, NYSDEC has proactively requested Unisys to inspect the school foundation for cracks and seal them, complete a comprehensive evaluation of the current SSDS(s) and repeat the comprehensive sub-slab and indoor air testing performed in 2014.

9. According to our understanding of the information in various reports and presented at the public meeting on 5/2/2018, the fact that some floors have cracks, doesn't this put them at risk to exposure for soil gas vapor, in particular TCE?

Response:

In 2014, comprehensive sub-slab and indoor air testing was completed at EHS for areas outside the range of pre the existing sub-slab mitigation systems (K-wing, Cafeteria, Gym) which confirmed that the systems were effective at eliminating any exposure pathway. This effort is going to be repeated in 2018 as described above.

10. As related to the HVAC system:

-is this system on even when the building is not heating or cooling?

Response: The school can provide further details regarding their operation of HVAC system. However, the 2014 comprehensive sub-slab and indoor air testing confirmed that operation of the HVAC system was not necessary to prevent indoor air exposures. The existing sub slab systems are sufficient to protect the school occupants.

- why isn't the HVAC system on 24 hours a day in the building? Based on the reports and information in the public meeting, it seems that the HVAC is important for maintaining positive pressure to decrease the opportunity for soil gas vapors to come into the building. As we understand it, the HVAC system is turned off when the building is "Unoccupied", however the building is rarely actually unoccupied when you consider teachers working after school hours, meetings for teachers & students after school, sports practices, concerts, custodial staff, night school, credit recovery etc.

Response:

At one time the HVAC positive pressure system was the only mitigation system operated to reduce the risk of soil vapor intrusion at EHS. Based on the 2014 comprehensive sub-slab and indoor air testing the existing sub slab systems are adequately addressing the potential for exposure resulting from soil vapor intrusion throughout the entire building. Additional discussion is on-going with the District about the role that that HVAC system plays

-The HVAC system at EHS is now set to turn on at 6am and off at 6pm, but prior to 5/14/18, the HVAC system was turned on at 8am and off at 3:30 pm or even 12:30pm unless there were specific events scheduled. This seems to have put many individuals at risk – students running indoor track all over the building after school, teachers working late, many hours of play practice, night school, credit recovery etc. Why was this so recently changed and not considered earlier?

Response: The 2014 comprehensive sub-slab and indoor air testing confirmed that operation of the HVAC system was not necessary to prevent indoor air exposures. The existing sub slab systems are sufficient to protect the school occupants.

- According to the Sterling 2016 annual report on page 10, "... pressure differential measurements in areas outside the influence of the SSDS demonstrate that an outward pressure gradient is not necessarily achieved at all locations". And "The EMP requires that a higher indoor air pressure be maintained relative to the sub-slab. The HVAC modifications (modified in 2007) do not appear to meet this objective in all locations" (pages 10 & 11). This seems to state that there are many locations in the building (those with no SSDS) that are not meeting necessary positive pressure standards to keep soil vapors from entering the school building. Has anything been done to fix this problem?

Response:

The 2014 comprehensive sub-slab and indoor air testing confirmed that operation of the HVAC system was not necessary to prevent indoor air exposures. The existing sub slab systems are sufficient to protect the school occupants.

11. The DEC has said that as far as the school grounds are concerned, people are unlikely to come in contact with PCB contaminated soil. Even if it is low risk out there, wouldn't it be better (safest, or best practice) to eliminate the risk altogether by having the contaminated soil removed altogether from the athletic fields? That way you could be absolutely sure no one would be exposed.

Response:

The State's ultimate goal is to fully investigate and remediate the entire site. Currently, as broader site investigations are underway to delineate the nature and extent of the contamination found below ground on the site, any potential exposure pathways where students, faculty or visitors could encounter it have been appropriately addressed. Protective cover systems (vegetated soil, wood chips, pavement, buildings) are currently in place and reduce the risk of human exposure to PCBs in soils allowing the time to carefully design and plan for future cleanup actions. All cleanup plans developed will be communicated to the faculty and community and include the opportunity for the public to provide comments.

Even though the final cleanup plan is still in development and investigations still underway, cleanup actions continue to advance in coordination with school capital improvement projects for areas where there is known contamination. This is being done to ensure that areas of the site get cleaned up and only need to be disturbed once, not because there is an immediate threat to the public for potential exposures.

In addition to the previously planned cleanup actions in the summer of 2018, DEC has requested Unisys expedite comprehensive investigations on the athletic field area to fully delineate the nature and extent of the contamination below ground and guide the design of the cleanup for this portion of the site.

While cleanup actions continue, DEC and DOH staff will continue to oversee and conduct additional inspections of the cover systems and air mitigation systems, including conducting additional sampling, to ensure these are functioning properly. Should any deficiencies be noted, immediate actions will be undertaken to ensure they are quickly addressed and eliminated. This commitment will also be incorporated into Interim Site Management Plan referenced above being developed by Unisys.

12. Why hasn't the district been more proactive in educating the staff at EHS about the potential dangers of the toxic soil under the building?

Response: New York State remains committed to overseeing a careful and thorough cleanup of the Elmira High School property, and our top priority is always ensuring that students, faculty and visitors are not at risk from coming in contact with any of the contamination found below ground on the site. DEC and DOH will continue work directly with the Elmira City School District on these efforts and will ensure that the Elmira community, including EHS staff, are informed of our ongoing actions to advance the removal of any additional contamination from the site in a manner that is fully protective of public health and the environment. DEC and DOH

staff are always available to provide updates, or answer any questions community members or faculty have. Please do not hesitate to contact:

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The ECSD maintains a [web page with additional information](#)

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13. The most recently released DEC document (5/10/18) states that The Elmira High School property has “isolated” areas of contamination located “below ground”. This seems a bit disingenuous when you look at the maps & data from Geosyntec report from May 2017 (Figure 11 and Table 9a) which shows that elevated levels (over 1mg/kg) and hazardous levels (over 50mg/kg) of PCBs are located at 285 out of 467 sites tested in soil only 0-2 feet deep directly surrounding the EHS building & fields. In addition, 24 of those sites contained levels of toxins considered NYS hazardous waste (over 50mg/kg). That means that more than half (60%) of the sites tested in the shallow soil (0-2 feet deep) contain elevated levels of PCBs (greater than 1mg/kg) and 5% contain hazardous waste. Based on this data, the toxins at EHS seems to be much more prevalent than “isolated”. Do you believe that the DEC is trying to mislead the school district and the community about the safety of the soil & air at EHS?

Response: There was no intention to mislead the Elmira community or faculty, and the term was intended to convey that we know the specific areas where the below ground contamination exists, that it is separated from human contact and was not a descriptor to minimize the size or mass of the contamination. The soil and groundwater contamination found on the site is below ground and any potential exposure pathways where students, faculty or visitors could encounter it have been appropriately addressed and will continue to be monitored as described above. Sampling results from soils collected from 0 to 2 feet in depth are not likely representative of surface soil conditions, which is typically 0 to 2 inches.

14. According to the Geosyntec Report (May 2017), areas east of the gym, the “A” wing, and the football field show very high incidences of elevated and hazardous levels of PCBs, and yet, very little mitigation has been done. Currently some of those areas are covered by

11 inches of woodchips, but other areas are not covered at all (football field). Figure 11 and Table 9a show that 66 out of 80 sites tested east of the gym contain elevated levels of PCBs, meaning 83% of the tests in that area contain unsafe levels of PCBs and 5 of those sites are considered hazardous wastes – 2 of which contain PCBs at 5-6x the level considered hazardous waste. Why hasn't more been done in those areas considering the high toxicity of the soils less than 2 feet below the surface? Why hasn't more been done to educate & warn the staff & students about the potential dangers lurking less than 2 feet below the surface?

Response: Protective cover systems (vegetated soil, wood chips, pavement, buildings) are currently in place and reduce the risk of human exposure to PCBs in soils as described above. Moving forward, DEC and DOH will continue work with the Elmira City School District to oversee the careful and coordinated identification and removal of any additional contamination from the site in a manner that is fully protective of public health and the environment and will keep the Elmira community, including EHS staff and students, informed of our ongoing actions.

DEC is working with the School District to schedule an availability session at the school in the near future to keep the community informed of our action and commitments to overseeing a thorough cleanup of the Elmira High School property.