October 23, 2015

Preliminary Questions and Concerns on the ATSDR Health Consultation for the West Lake Landfill

The Community Advisory Group (CAG) Technical Committee has the following preliminary questions and concerns that we hope will be addressed at the CAG meeting on October 26, 2015. The ATSDR Health Consultation was released on October 16, 2015, and we have not had an opportunity to fully assess all of the information in consultation with other health experts. A more detailed document will be submitted to the ATSDR in the future.

Groundwater Concerns

The ATSDR did not consider food/agriculture as a possible pathway at the West Lake Landfill even though ATSDR describes how these are possible pathways. Of particular concern, the ATSDR did not take into consideration water use for agriculture. The groundwater conclusions reached by the ATSDR only review public drinking water supply. We recommend the ATSDR or EPA investigate agricultural usage of water in the West Lake area.

a. Pg. 8: When evaluating exposure pathways, ATSDR identifies whether, through ingestion, dermal (skin) contact, or inhalation, exposure to contaminated media (e.g., soil, water, food, air, waste, or biota) has occurred, is occurring, or could occur.
b. Pg. 9: Internal exposures result from radioactive sources taken into the body through the inhalation of radioactive particles or through the ingestion of contaminated food or water.

The ATSDR, when reviewing radioactivity in groundwater, only uses averages to assess the contamination (pg. 13). This is troubling because it minimizes the real changes in radioactive contamination of the groundwater over time. The EPA's 2008 Record of Decision responsiveness summary says radium contamination only exceeded the Maximum Contaminant Level (MCL) four times with the highest reading 6.33 pCi/l (pg. 3)[i]. Recent groundwater tests that were evaluated by the United States Geological Survey (USGS) found radium above the MCL at 31 different monitoring wells (pg. 19)[ii] while well PZ-101-SS shows radium exceeding 20 pCi/l. It also does not appear the ATSDR takes into consideration that radium at West Lake will continue to increase in radioactivity by 100 times over the next 9,000 years. We think this is relevant information as it relates to increase in radioactivity in the groundwater and the potential for offsite groundwater contamination to become a complete possible pathway.

Air Concerns

The ATSDR says that radon has exceeded the regulatory limits by as much as 10 to 25 times at individual surface test locations (pg. 2). Regarding sampling from 2014 by the EPA, the Health Consultation indicates radon was detected at 2 times the limit established by the United States Nuclear Regulatory Commission (pg. 16). We think further explanation is necessary as to why the ATSDR says there is no public health risk and that radon from the landfill will not be detected off-site.

Questions

There is no author listed in the Health Consultation. Who at the ATSDR wrote this report?

Why did the ATSDR not investigate how water is used for agriculture near the landfill as a part of the Health Consultation?

Why did the ATSDR reference a 1988 memo regarding the contents of the radioactive materials at the West Lake Landfill instead of the 1974 Atomic Energy Commission (AEC) report that details the mixing of 8,700 of leached barium sulfate with the top 12-18 inches of soil at the Latty Avenue/Hazelwood Interim Storage Site (HISS), which was contaminated with more than just leached barium sulfate? Why does it not state that those soils were contaminated with radioactivity in the background and history of the report? Does the ATSDR acknowledge that the soils from Latty Ave. contained radioactive contamination?

The ATSDR says that contaminants could reach the Missouri River in 57 years at the highest flow rates. Given the Radium at the West Lake Landfill has greatly impacted the groundwater at the West Lake Landfill compared to pre-EPA 2008 Record of Decision, and that radium will become up to 100 times more radioactive over the next 9,000 years, does the ATSDR believe that groundwater could become a complete pathway for human exposure if the radioactivity remains at the West Lake Landfill?

Conclusion 3 says "ATSDR concludes if any surface disturbances occur on the landfill, it may release dust particles containing uranium and thorium decay products which include radium-225, radon 222, and radium-228 to the atmosphere." Does this conclusion from ATSDR also mean that the mobilization of the identified radioactive materials would likely occur if a surface fire were to impact the known areas of radioactive materials?

The Health Consultation says "ATSDR is concerned with the health impacts of radon gas to any past, current, and future on-site workers of the landfill. Radon gas could harm people's health," yet the report goes on to say "in outdoor situations, radon is not a health issue," (pg. 16). Does the ATSDR have health recommendations for workers given radon has been detected at the landfill exceeds regulatory limits by 10 to 25 times (pg. 2)?

Conclusion 4 says that even though offsite radon is greater than typical regional and national background levels, that ATSDR does not believe these levels are sufficient to harm people's health as they are well below radon concentrations associated with elevated lung cancer risks (pg. 3). Does the ATSDR apply the linear no-threshold model in this case, which the EPA recognizes as the preferred health model for exposure to low-level ionizing radiation? If the ATSDR is not using the LNT model, can it explain the model is uses to determine chronic low level exposure to radioactivity?

Why is the limit for radon from the Nuclear Regulatory Commission (NRC) 0.1 pCi/L for its sites while the EPA's action limit is 4 pCi/L?

How can the ATSDR be confident that radon associated with the landfill will not migrate beyond the site boundaries while recognizing radon sampling confirms there are elevated radon levels and at the same time recommending long-term radon testing?

Is there any difference in effects/risks/outcomes if the radioactive site is hit by a smoldering fire or surface fire?

If the smoldering fire reagmches OU-1, what will be the effects at the site? (such as chemicals released?)

If OU-1 was impacted by a surface fire (or the smoldering fire became a surface fire after reaching it) how might that change the conditions? (Ash, smoke, Contamination reach)

What further information might help St. Louis county disaster preparedness planners create a more robust strategy for public safety given these alternate scenarios?

What other scenarios should be considered?

Besides the 2005 soil samples and the haul route, which soil samples is ATSDR referring to? Does the ATSDR stand by the statement that "due diligence" needs to be done in regards to off-site soil testing? We ask because radioactive materials are regularly found in vicinity areas to FUSRAP sites. The landfill moved the radioactive material around when it received the wastes and it has sat at the landfill uncontained for more than forty years. The "haul routes" did not test along the perimeter of OU-1 Area 2.

Does ATSDR know that Dames and Moore 1991 Ford Property testing document showed off site contamination in the Ford Property and other areas to the West of the radiological area 2? If so, was this taken into consideration in their report? Does ATSDR acknowledge that the PRP's asked for this to be cleaned and were denied by EPA?

The International Agency on Research for Cancer and the World Health Organization just put out a new report with incredible findings that even low doses of radiation increase the risks of cancers. Has ATSDR read the findings? Has EPA read the findings? Does ATSDR and EPA agree with the statement from this report that:
"Current standards used for radiation protection remain primarily based on acute high-dose exposures, derived from studies based on atomic bomb survivors in Japan," says IARC Director Dr Christopher Wild. "This assessment of the carcinogenic impact of low-dose exposures strengthens the evidence on which to base radiation protection measures. These new findings are important when considering radiation exposure in different settings, including use in medical diagnosi"?

If EPA is currently doing further testing and characterization of the wastes at West Lake Landfill, why didn't it wait until all the new data was collected before having ATSDR right their report?

Is EPA going to ask for the testing of the **entire** North Quarry as a grid?

Has EPA ever tested the trees or vegetation on Boenker Farm?

Has EPA ever tested vegetation off site to the South of the Superfund Site?

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[i] EPA Responsiveness Summary: http://www3.epa.gov/region07/cleanup/west_lake_landfill/pdf/ResponsivenessSummaryWestLake05-29-08.pdf
[ii] USGS Groundwater Report: http://www3.epa.gov/region07/cleanup/west_lake_landfill/pdf/west-lake-usgs-gw-rpt-12-17-14.pdf