

ENR Committee
February 25th, 2021

After listening to the DEP's presentation 2 weeks ago, we've identified a few issues that we believe need to be clarified.

Misleading pie chart

The pie chart that both the DEP and Global referenced, showed that VOCs from tank farm emissions were an insignificant part of the chart. (about 1%). Plants were referenced as the largest source of VOCs. The pie chart was based on average percentages of emissions for all of Cumberland County. The pie chart, however, does not provide an accurate picture of the actual health threats to South Portland residents. It ignores the fact that the tank farms are not spread out over all of Cumberland County. Instead, 120 of them are concentrated in South Portland, with most of them adjacent to each other. There are residents living and going to school in close proximity to the tanks. The second problem with the Cumberland County chart is that it focuses on volatile organic compounds (VOCs), rather than the portion of VOCs known as Hazardous Air Pollutants (HAPS) that are most harmful to human health. The eye, respiratory and central nervous system symptoms reported by South Portland residents are documented effects of HAPS. When the Cumberland County HAP emissions are reduced to the area occupied by South Portland, a very different picture emerges. The pie chart of HAP sources in South Portland shows that tank farm HAP emissions make up almost half of the total emissions in South Portland (47%). This information stands in stark contrast to the potential impacts on the public reflected in the pie chart of Cumberland County referred to by the MEDEP and Global Partners. (see charts below)

DEP's responsibility

DEP has authority and regulatory responsibility for VOC and HAP emissions. Profound concern for the public lies in health hazards from VOC and HAP emissions. These concerns should be the basis of their oversight and licensing decisions related to oil tank farms. Recently DEP has focused on the abatement of odors in their licensing decisions related to emissions

testing and treatment systems. DEP's authority is over emissions not odors. VOCs and HAPS should be the center of system design and licensing of control systems as we move forward in the attempt to protect the public health.

Because the tank farms are so close together, collectively they should be considered one entity when assessing their emissions. We know that, from a health standpoint, the cumulative effect of exposure to multiple toxins is greater than the total of exposure to individual toxins.. Then, as a major source, all tank emissions should be tested and treated.

Testing for All Tanks

DEP says that they will be requiring testing for new or modified heated tanks over 39,000 gallons. This would indicate that MEDEP already has enough information to see this as a reasonable requirement for new or modified tanks. We believe that testing should be required for all new and existing tanks including those that are less than 40,000 gallons.

The DEP indicated that there are multiple smaller heated asphalt tanks that are going to be installed in Brewer in the near future. There are toxic emissions from smaller tanks which may also warrant direct testing and control technology.

Test and Treat Gasoline Emissions

In the DEP presentation, Jeff Crawford stated that there are significant losses from emissions from gasoline tanks with internal floating roofs. He stated that there is no available technology to test and measure emissions from these tanks because of the way in which they are configured. However these tanks also have a fixed roof and vents from which vapors could be collected for testing. P. 28 of DEP's report says that fixed roof tanks have been retrofitted to use a floating roof so it would seem that a floating roof tank with a fixed roof could be retrofitted to allow for the collection of vapors. The emissions from gasoline tanks have less odor than the heated tanks but create greater toxicity and a higher level of emissions, therefore warranting actual direct measurement and control of those emissions.

In the EPA's 2006 report (Emission Factor Documentation for AP-42 Section 7.1, Organic Liquid Storage Tanks Final Report, Office of Air Quality Planning and Standards Emission Factor and Inventory Group) , data was presented in which direct emissions were measured from an internal floating roof gasoline tank and compared to emissions estimated by AP-42. This shows that methods for direct measurement do exist. The other notable result of that study was that the AP-42 estimates were significantly lower than the measured emissions.

Required Testing

The DEP and the tank farm operators rely on estimated emissions with calculations based on the AP-42 method provided by the EPA. Recently these formulas have changed based on input from the API to make it possible to greatly increase the quantity of gallons processed while lowering the stated emissions. Testing emissions is the only way to know what is really coming from the tanks. Given the health concerns identified by the South Portland community related to tank emissions, we recommend that the tank farm owners be required to test their facilities' emissions. Stack testing measures VOC emissions that are tied to licensing. Fenceline monitors HAPS that are tied to health risks in the neighboring community. Given the age of most of the tanks in South Portland, we recommend that all these facilities be required to do both stack testing and fenceline testing.

Conclusion: Given that the toxic tank emissions have potential for serious health impacts and are an unnecessary and unjust burden on the surrounding community, we strongly urge the ENR Committee and State Legislature to require direct testing, fenceline monitoring and control technology on all tanks in Maine - including major and minor emitters.

Thank you for your consideration of our comments,

Rachel Burger, President - (on behalf of Protect South Portland)