

**REPORT ON THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL
CONSERVATION'S ALBANY SOUTH END COMMUNITY AIR QUALITY
SCREENING**

by

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During May 2014, the New York State Department of Environmental Conservation (“NYSDEC”) collected one-hour air samples simultaneously at three locations in Albany’s South End neighborhood on five days. A citizen volunteer collected six samples during the period from late April to early July. The air samples were analyzed for the presence and concentrations of 43 Volatile Organic Compounds (“VOCs”), including benzene, a known human carcinogen. The results of the air quality screening analysis are set forth in NYSDEC’s Albany South End Air Quality Screening Report dated August 14, 2014 (“NYSDEC Report”).

On the basis of extremely limited air sampling, NYSDEC concluded that “none of the concentrations of toxic air contaminants are considered to be of immediate public health concern and all concentrations are similar to what is measured in other locations in the State.” NYSDEC Report at 2. This conclusion is totally unjustified by the data for the reasons given below.

First, it is scientifically insupportable for NYSDEC to draw any conclusions regarding potential human health risks in the South End based on such meager sampling. In fact, NYSDEC itself characterizes its monitoring program as a “limited, short-term screening assessment.” NYSDEC Report at 34. It is irresponsible, in my view, for NYSDEC to draw any conclusions regarding potential public health risks posed by VOCs in the vicinity of the Global Terminal on the basis of such limited data.

Second, even the limited sampling data show that, contrary to NYSDEC’s claim, the levels of VOCs detected in the samples collected indicate potential human health risks. The VOC of greatest concern is benzene, a known human carcinogen that also has a variety of non-cancer adverse health effects. The values of benzene from the 1-hour samples ranged from 0.037 ppb to 0.21 ppb, with a mean value of 0.111. NYSDEC’s standard for short term exposure to benzene is 400 ppb, and the standard for long term exposure is 0.040 ppb. The air quality

monitoring results show that benzene levels in 20 out of 21 samples exceeded the long-term benzene exposure standard, and the mean value for all samples is nearly three times the long-term benzene standard.

As NYSDEC acknowledges, the long-term benzene standard is a health-based standard; it is “an annual-based concentration that NYSDEC derived to protect the public’s health from long-term (i.e. continuous lifetime) exposure to an air contaminant.” NYSDEC Report at 16-17. For a residential community like Albany’s South End, which includes the Ezra Prentice Homes, the Mount Hope neighborhood, and other significant concentrations of residential development, comparison of the measured benzene levels with the long-term exposure standard is most appropriate. This is because most individuals spend the greatest portion of time at their residences. Thus, the fact that 20 out of 21 individual sample results for benzene exceed NYSDEC’s long-term benzene exposure standard and the mean value for all samples is nearly three times the long-term standard strongly suggests that ambient levels of benzene pose a public health risk to residents of Albany’s South End. Specifically, the sampling results strongly indicate that residents in the South End community are at significantly greater risk of cancer and other diseases because of chronic exposure to benzene and other VOCs.

These results are particularly troubling in light of research showing that even low levels of exposure to benzene may have serious adverse health impacts. For example, Glass *et al.* (Epidemiology 14: 569: 2003) found that low-level benzene exposure of petroleum workers was associated with an elevated risk of leukemia, and could not find any evidence that there was a threshold concentration below which there was no elevated risk.

The NYSDEC report’s conclusion that the sampling results provide no cause for concern is based largely on its comparison of the results to the short-term benzene standard. However, the use of the short term exposure standard is totally inappropriate here. Short term standards are intended to protect human health in instances when there is a brief, intense exposure. Short-term standards are always much higher than standards for longer term exposure, based on the assumption that the exposure is short-term. In this case, where measurements are being taken in a residential community where exposure is reasonably expected to last more than one hour—and in fact is likely to last for many hours over extended periods of time—the short-term standard is not an accurate indicator of potential public health risks. Indeed, use of the short-term standard

is likely to vastly underestimate the health risk to individuals that live or work in the area and therefore spend considerable amounts of time in the South End.

Moreover, the data presented in the NYSDEC report show that measured ambient levels of benzene, as well as alkanes, were higher in most samples from the Gansevoort & Franklin and Ezra Prentice sampling locations than in the background sampling location, Krank Park. NYSDEC Report at 22-27. This strongly suggests that the South End neighborhoods are exposed to higher levels of VOCs than other parts of the city. The VOCs other than benzene that were found at significant concentrations (such as butane, isobutene, pentane, isopentane, and propane) are much less toxic than benzene, at least in so far as acting as carcinogens. However these substances may adversely affect nervous system and respiratory function, and little is known about the health effects of simultaneous exposure to multiple VOCs.

NYSDEC attempts to dismiss any public health concern by noting that there are sources of benzene other than the Global Terminal in the community, coming from traffic, a waste water treatment plant and other industries. While it is correct that there are other sources of benzene, this does not alter that fact that the elevated levels of benzene in the sampling results exceed levels that NYSDEC itself has determined are safe for humans. The residents of the South End should be protected from exposure to excess benzene, regardless of the source.

NYSDEC further claims that “the level of contaminants screened in [the] Albany South End community are similar to levels found in suburban and other urban locations of the State.” NYSDEC Report at 34. This statement provides no basis for discounting or dismissing the fact that measured levels of benzene in the South End exceed the long-term exposure standard for benzene. The NYSDEC report fails to specify where the monitors in other urban areas were located, how close they were to residences, schools, and businesses, or whether individuals lived or worked in those areas. It is simply not good science to attempt to draw comparisons between different urban areas without specifically identifying the characteristics that would make such a comparison tenable.

Moreover, even if the characteristics of the monitor locations in other urban areas were the same as in the South End, that would still not provide a basis for concluding that no public health risk exists for the South End community. The fact that other urban areas may also have

elevated levels of benzene that pose a long-term risk to human health does not, as NYSDEC claims, render that risk less serious or less deserving of actions to eliminate or reduce that risk.