

ALUF update:

Over the course of the past 20 months, our Town has received many complaints from residents who are concerned about odors they believe are coming from Aluf Plastics in Blauvelt; not only do they have concerns with the smell itself, they have concerns about potential chemicals in our air.

The health and safety of our community is the single most important issue to our Town Board. Our families, our loved ones, our friends, our neighbors, our community, and everyone passing through breath the air.

In response to our residents, the Town Board immediately contacted the DEC to commence an investigation. We also reached out to a local group 'Clean Air For Orangetown,' received a recommendation for an independent testing agency to test the air surrounding Aluf, and retained the recommended agency, TRC, for testing. This agency is well regarded in the industry. Finally, the DEC and ZBA required Aluf to install an upgraded ventilation system which the DEC and ZBA believe will control any smells (and if not, future fines will be levied).

The testing was recently completed and revealed concentrations of certain chemicals. Given the fact that we at the Town are not experts in the field, we retained TRC's own expert, Dr. Karen Ventrano, to analyze the results and better explain what, if any, health safety risks are present. Karen Ventrano opined that "TRC does not believe that exposure to these measured concentrations would result in negative health effects." Additionally, the report states that the levels are not out of the norm when compared to other communities throughout the US, and describes how some of these chemicals can be attributed to common activities such as car exhaust and cigarette smoke.

We requested that Dr. Ventrano be available to answer questions so she can better explain to our community. We are fortunate that she is available tonight, and we will have her via conference call to explain her findings and conclusions at 745pm tonight. We welcome any/all residents to attend.

Attached, please find Dr. Ventrano's report.



Tom Diviny



21 Griffin Road North  
Windsor, CT 06095

860.298.9692 PHONE  
860.298.6399 FAX

[www.TRCSolutions.com](http://www.TRCSolutions.com)

October 24, 2017

Mr. Thomas Diviny  
Town Board Member  
Town of Orangetown  
26 W. Orangeburg Rd  
Orangeburg, NY 10962

*Submitted via e-mail  
tdiviny@orangetown.com*

Re: Review of TRC Air Monitoring Results

Dear Tom;

I reviewed the results of the Phase I VOC air sampling, documented in TRC's *Air Quality Monitoring Report. Phase I: VOC Air Sampling & Meteorological Monitoring*, as well as the preliminary results from the resident VOC samples obtained September 15<sup>th</sup> – September 26<sup>th</sup>.

The results from the Phase I VOC air sampling showed that concentrations of Acrolein, Benzene, Carbon Tetrachloride and Hexachlorobutadiene exceeded New York State Department of Environmental Conservation's respective short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs), however, TRC does not believe that exposure to these measured concentrations would result in negative health effects.

The SGCs and AGCs were developed to evaluate the potential for offsite fence line concentrations of toxic air pollutants emitted by a facility by using an USEPA approved air dispersion model. The model calculates worst-case air concentrations at specific receptor locations using measured stack emissions data, stack input data (height, flow rate and temperature) and local meteorology. The SGCs and AGCs do not take into account any background concentrations or additional sources that may be present in ambient air. As stated in the report, stack testing was conducted at the API stack outlets on June 28-29, 2017. Results from that testing and subsequent air dispersion modeling of the maximum short-term and maximum annual average ground concentrations indicated the stack emissions from API do not exceed the corresponding SGCs or AGCs or the Odor Thresholds for any of the pollutants measured, including Acrolein.

Additionally, as stated in the report, the SGC is for comparison against a modeled maximum 1-hour concentration, while the AGC is for comparison against a modeled maximum annual

average air concentration and the Phase I samples were taken over a 24 hour period. Therefore, the direct comparison of the measured concentrations from the 24-hour samples to the AGCs (annual guideline concentrations) are not comparable as it is a comparison of a short-term sample to a long-term average. Although the 24-hour sample is collected over a longer time period than the 1-hour short-term SGC, it is still a short-term sample and therefore, a comparison can be made.

- A. Acrolein was detected in concentrations above the SGC and the AGC in the Phase I VOC sampling. Acrolein is commonly found in car exhaust, cigarette smoke, and is also released from burning wood, other plant material and burning oil (e.g., home heating oil) (Agency for Toxic Substances & Disease Registry (ATSDR) Toxicological Profile for Acrolein, 2007). Measurements of Acrolein in smokers' homes have ranged from 1.6-3.6  $\mu\text{g}/\text{m}^3$  (Nazaroff and Singer 2004, as cited in ATSDR Toxicological Profile for Acrolein, 2007). Irritation of the eyes and nose is the primary effect associated with short-term exposures to Acrolein. Eye irritation has been noticed at levels as low as 137  $\mu\text{g}/\text{m}^3$  in human volunteers in a laboratory setting. The SGC of 2.5  $\mu\text{g}/\text{m}^3$  is calculated by dividing the lowest observable adverse effect level (137  $\mu\text{g}/\text{m}^3$ ) by a health protective uncertainty factor of 60 which takes into account protection of susceptible children.

The ATSDR has developed a short-term minimum risk level of 0.003 parts per million (equivalent to 6.87  $\mu\text{g}/\text{m}^3$ ) for exposures of 14 days or less. The maximum concentration measured during the sampling was 5.4  $\mu\text{g}/\text{m}^3$  which is ~2.2 times higher than the SGC, but lower than ATSDR's minimal risk level. Additionally, as cited by the ATSDR (which is part of the US Centers for Disease Control (CDC)), the average air concentration of Acrolein, in the United States, ranges from 1.145 to 7.3  $\mu\text{g}/\text{m}^3$  (ATSDR Toxicological Profile for Acrolein 2007). All detected concentrations from the Orangetown samples were within this background range. As stated previously, modeled maximum 1-hour and maximum average annual concentrations of Acrolein directly attributable to API, did not exceed the SGCs or AGCs at the facility fence line.

The preliminary results of the resident VOC sampling, which were 1 to 2 hour samples, showed concentrations of Acrolein ranging from non-detect to 5.95  $\mu\text{g}/\text{m}^3$ , which are comparable to the 24-hour monitoring samples obtained by TRC. Three of eight samples exceeded the SGC of 2.5  $\mu\text{g}/\text{m}^3$  but were below the minimal risk level of 6.87  $\mu\text{g}/\text{m}^3$  and within U.S. background concentrations.

Since the measured concentrations of Acrolein are only slightly above the SGC (less than 3 fold), below the ATSDR's minimal risk level and within measured U.S. background concentrations, it is not expected that exposure would cause adverse health effects.

- B. Benzene was detected above its AGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. The SGC value for Benzene is 1300  $\mu\text{g}/\text{m}^3$ . Benzene is a



component of gasoline and is emitted in the exhaust and through evaporation. In 2013, the USEPA Air Quality System (AQS) measurements of average concentrations of benzene from across New York State ranged from 0.33 to 0.91  $\mu\text{g}/\text{m}^3$  (ATSDR Toxicological Profile for Benzene, Addendum 2015). All detected concentrations from the Orangetown samples were either below or within this background range.

The preliminary results of the resident VOC sampling which were 1 to 2 hour samples showed concentrations of Benzene ranging from non-detect to 0.925  $\mu\text{g}/\text{m}^3$ , which are approximately three times higher than the 24-hour monitoring samples obtained by TRC, but within the measured background or comparable to the higher background concentrations.

All detected concentrations of Benzene were well below the SGC of 1300  $\mu\text{g}/\text{m}^3$  and therefore it is not expected that exposure would cause adverse health effects.

Carbon Tetrachloride was detected above its AGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. The SGC for Carbon Tetrachloride is 1900  $\mu\text{g}/\text{m}^3$ . Carbon Tetrachloride is an industrial chemical. According to ATSDR, the typical rural ambient air concentration is 1  $\mu\text{g}/\text{m}^3$ , with somewhat higher concentrations found in urban and industrial areas ((ATSDR Toxicological Profile for Carbon Tetrachloride, 2005). All detected concentrations from the Orangetown samples are well below the rural ambient air concentration. All detected samples were well below the SGC of 1900  $\mu\text{g}/\text{m}^3$  and therefore it is not expected that exposure would cause adverse health effects.

The preliminary results of the resident VOC samples showed no detected concentrations of Carbon Tetrachloride.

- C. Hexachlorobutadiene was detected in one out of 12 samples, and that detected concentration was above its AGC. However, as noted above, since the sample obtained was a 24-hour sample, it is not comparable to the long-term AGC benchmark value. Hexachlorobutadiene is an industrial chemical. According to ATSDR, the background ambient air concentration ranges from 0.02 to 0.12  $\mu\text{g}/\text{m}^3$  (ATSDR Toxicological Profile for Hexachlorobutadiene, 1994). The measured concentration of hexachlorobutadiene exceeds the maximum background concentration by approximately 4 fold. Hexachlorobutadiene does not have a SGC. The detected concentration of Hexachlorobutadiene would not be expected to cause health effects.

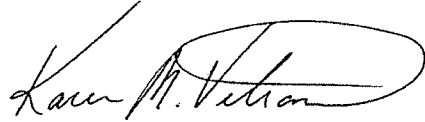
The preliminary results of the resident VOC samples showed no detected concentrations of Hexachlorobutadiene.

Town of Orangeburg  
October 23, 2017  
Page 4

Since these chemicals are often present at low levels in ambient air, TRC will collect background samples during the next phase of sampling to determine the impact of local conditions on ambient air and to determine whether alternative sources are present.

Very Truly Yours,

TRC Environmental Corporation

A handwritten signature in black ink, appearing to read "Karen M. Vetrano". The signature is fluid and cursive, with a large loop at the end.

Karen M. Vetrano, Ph.D  
Manager, Risk Assessment and Toxicology

