



***P.O. Box 502
Williamsport PA 17703-0502
info@responsibledrillingalliance.org***

May 1, 2017

Muhammad Zaman
Environmental Program Manager
Dept. of Environmental Protection
Air Quality Program
North Central Regional Office
208 W. Third St., Suite 101
Williamsport, PA 17701

Re: Transcontinental Gas Pipe Line Company, LLC:
Compressor Station 520 Expansion Permit Application

Dear Mr. Zaman,

The Responsible Drilling Alliance (RDA), a 501(c) (3) corporation based in Lycoming County, PA respectfully submits the following comments on Compressor Station 520 expansion.

RDA would like to commend the Department for your efforts to minimize emissions from the proposed new equipment to be added to the station. We appreciated the additional capacity is designed to have much lower NO_x and Formaldehyde emissions than the reciprocating engine equipment currently

operating there, despite the fact that the capacity of the station will be greatly increased with the addition.

While we understand the new turbine equipment with emission controls does appear to meet the department's best available technology requirements, and that the formaldehyde emissions allowable from the additional capacity are close to 1/10 of those listed as emitted from the facility as recently as 2014, as found in the department's eFacts Air Emissions records, we question whether the department has adequately sampled for formaldehyde levels at the nearby Salladasburg Elementary School. If not, the Department therefore may not have sufficiently considered the effects of the increase and overall formaldehyde exposure danger to young, vulnerable members of the community.

Even though the school facility and grounds appear to be close to ½ mile from the compressor stacks, we base our concern on a study published in 2014, **Air concentrations of volatile compounds near oil and gas production: a community-based exploratory study** by Macey, Carpenter, et al,

[https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-13-82 - CR70](https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-13-82-CR70)

Quoting from the study:

“We found high concentrations of volatile compounds at greater distances, including formaldehyde (up to 2,591 feet)... Six of the ten passive samples contained formaldehyde at levels that exceeded ATSDR MRLs or EPA IRIS risk levels...”

It may seem counter intuitive, given what appears to be the distance between Station 520's stacks and the school property,

to be concerned about formaldehyde exposure there. However, the Macey, Carpenter study measured levels of concern in multiple locations near compressor stations in the region, specifically, in Susquehanna County. Given the measurements obtained in the study were in a Pennsylvania dry gas region similar to Lycoming County, RDA requests the department delay a decision on the expansion application approval until sampling can be done on the Salladasburg Elementary School ground over a period of time deemed adequate by atmospheric chemistry experts.

Although we note that NO_x emissions are also approaching levels of concern with the additional capacity. We understand that NO_x emissions from a distance of close to 1/2 mile, or even exceeding 1,100', should not be a problem. We believe formaldehyde is well worthy of study.

Again, according to the Macey, Carpenter, et al study,

"...Formaldehyde is a suspected human carcinogen. It can affect nearly every tissue in the human body, leading to acute (dermal allergies, asthma) and chronic (neuro-, reproductive, hematopoietic, genetic and pulmonary toxicity and cellular damage) health effects. The science of childhood exposure to formaldehyde is progressing rapidly. State agencies and international organizations continue to lower exposure limit values and guidelines for formaldehyde. Our results exceed those guidelines. Symptoms reported by community members mirror the effects of acute formaldehyde exposure, which causes irritation of the eyes, nose, throat, and skin....*

(* NOTE: Both IARC and NTP now list Formaldehyde as a known human carcinogen.)

Health-based risk levels provide only a limited sense of potential human health impacts from air emissions. They do not fully account for vulnerable subpopulations The levels that we found for the above chemical(s) of concern suggest that state monitoring studies are incomplete...

Although our samples represent a single point in time, we compared concentrations to acute as well as chronic risk levels as many of the activities that generate volatile compounds near UOG operations are long-duration...

RDA urges the Department to consider the extra vulnerability of young children and risk erring on the side of caution before issuing the expansion permits. Let's insure you have data, not just projections, in this unusual situation of an elementary school in such close proximity to such a large source of methane and formaldehyde emissions.

Thank you for your consideration of this comment,

Responsible Drilling Alliance
501(c)(3) Tax ID #27-088-2901
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