

November 19, 2015

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

RE: CP14-497, New Market Project

Dear Secretary Bose:

The Southwest Pennsylvania Environmental Health Project (EHP) has reviewed the information presented in the Federal Energy Regulatory Commission's (FERC) October 2015 environmental assessment (EA) for the New Market Project. Specifically, Dominion Transmission (DTI) proposes to construct and operate two new compressor stations in Chemung and Madison Counties, New York; add compression, a new meter and regulatory station, and other facilities to one existing compressor station in Montgomery County, New York; add facilities to two existing compressor stations in Tompkins and Herkimer counties, New York; and modify an existing meter station in Schenectady County, New York.

EHP has several concerns with the Environmental Assessment and the Human Health Risk Assessment.

Our comments are based in part on EHP's experience directly assessing exposure and human health impacts in Washington County, Pennsylvania and in the assessment of health impacts and exposures at the compressor station in Minisink, New York. Further the EHP (Thimble Creek Research) evaluation of the proposed Madison County Compressor Station on behalf of the County Health Department extended EHP's understanding of pipeline projects. EHP is the only organization addressing the Public and Human Health Hazards from development and transport of natural gas derived from shale fracturing.

1) The Exposure Assessment cannot be substituted for an Environmental Impact Assessment

The National Environmental Policy Act (NEPA) allows that, in cases where there is demonstrated minimal risk, an Exposure Assessment may be substituted for an Environmental Impact Assessment. Based on EHP's four years of experience directly studying the health impacts produced by the extraction, processing and transport of natural gas, it is clear that the Exposure Assessment provided here is not adequate to address the determination, with regard to health, of "no significant Impact". The following comments outline specific concerns related to human health and emissions from the DTI project.

The Exposure Assessment fails to meet NEPA requirements in three areas:

- 1) The identification and nature of the chemical exposures to human health is incomplete.
- 2) The discussion of human health impacts lacks structure, omits important EJ populations, and conclusions are not supported by the data shown.
- 3) The Human Health Risk Assessment and responses to comments has incorrect data, methodology showing inappropriate comparisons, and fails to address the comments from the public and local agencies.

2) Human Health Risk Assessment does not consider the full range of emissions and exposures that will occur.

a. The definition and characterization of the chemical exposures is incomplete:

Acute and chronic health risk is based on modeled exposure estimates listed in sections 4 and 5 of the Risk Assessment. This is in turn based on logic in sections 2 and 3. Discussion on pages 3 to 5 in the Human Health Risk Assessment and Table 2 list average percent by weight for eight chemicals measured at four New York compressor sites. The interstation averages vary by as much as 50%.

The Assessment goes on to omit other compounds for consideration based on the following logic (page 6). “While we acknowledge that HAP concentrations may have been documented in communities in close proximity to natural gas production areas, ... production areas in general, are not comparable to transmission pipeline compressor stations.” Instead of listing the components of the transported gas, it is concluded that the gas is “Pipeline Quality,” which simply means the gas is consistent with the individual’s pipeline tariff and processed to ensure that hydrocarbons and contaminants are within acceptable limits for safe and efficient operation of the pipeline.”

There needs to be an explanation for this logic, which fails to consider the components in the gas that is vented and used to power the compressor equipment. Specifically it is necessary to define the constituents, quality and source of pipeline natural gas which is then used to model the emissions leading to the comparisons in sections 4 and 5, Tables 7 to 11.

Further, the Assessment omits a range of VOCs, saying, “VOCs are limited to butane, propane, pentane, and hexane in the case of transmission-quality gas in the pipeline.” In one case, EPA’s definition is cited for exclusion of VOCs determined to have negligible photochemical activity. There are more serious omissions cited. In the modeling on page 7 section 3.0 (Human Risk Model from Normal Operations), potential natural gas combustion by-product emissions and fugitive emissions were evaluated for acute (1-hour) and chronic (long-term) exposure, while potential natural gas emissions as a result of blowdowns and venting were evaluated for acute (1-hour) exposures only.

What is the justification for excluding venting from the long term exposure modeled concentrations? Instead, blowdowns and venting are evaluated only for the acute (1 hour

exposures) in section 5. Venting a continuous process at both compressors and metering stations near residents.

b. Risk comparison tables are incomplete and based on flawed application of EPA guidance.

A complete explanation of what is represented in the modeled air concentrations in each of the acute and chronic risk tables is needed. Section 4 Quantitative Risk Characterization contains a series of tables -- 7 thru 11 -- showing Modeled Air Concentrations. What exactly is the basis for the model estimates? Why is venting excluded? Are the chemical concentrations in the tables based on AP 42 data, or the actual averages reported in Table 2? What is the source of the fugitive data? Are the combustion emissions based on the different quality and sources of “the pipeline ready gas?”

In their current form these tables provide no guidance to assess the health hazards from the certain emissions from the pipeline, metering stations and compressors stations proposed.

Justification is needed for use of the Acute Inhalation Exposure Criteria for comparison of health risk. The following criteria cannot be used to justify the episodic exposures known to occur. They are to be used for accidental exposure determination. This is clear from bolded sections in each.

1. CalEPA Acute Reference Exposure Levels (Acute RELs) - The Acute REL is an exposure that is not likely to cause adverse effects in a human population, including sensitive subgroups, exposed to that concentration **for one hour on an intermittent basis** (OEHHA, 1999; OEHHA, 2015).
2. EPA Acute Exposure Guidelines (AEGL-1) – The AEGL-1 is the airborne concentration of a substance above which it is **predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.** (EPA, 2015c; ORI, 2015)
3. American Industrial Hygiene Association (AIHA) Emergency Response Planning Guidelines – 1 (ERPG-1) - The ERPG-1 is the **maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined, objectionable odor** (AIHA, 2014; ORI, 2015).
4. Temporary Emergency Exposure Limits (TEEL-1) – The TEEL-1 is the airborne concentration of a substance above which it is predicted that the general population, **including susceptible individuals, could experience notable**

discomfort, irritation, or certain asymptomatic, nonsensory effects. However, these effects are not disabling and are transient and reversible upon cessation of exposure (NOAA, 2015).

Residential exposures at the levels referred to would be intolerable if they were to occur for several hours a week or a month. The air models used are sufficient to determine the rates of exposures on a site by site basis.

These AIEC used in comparisons in the tables in section 4 substantively underestimate the human health effects that will occur in homes of nearby residents.

The tables shown are inconsistent and incomplete with, for instance, one table showing 12 compounds and another showing 34 compounds. Explain these differences -- especially the limited number of compounds evaluated in tables 6, 7, 8, and 9 compared to table 10. Further describe the impact on the estimates if the frequent venting is added to the combustion and fugitive emissions estimates used.

The VOCs shown in the tables will be emitting in air mixtures with high levels of fine particulate matter. Inhaled particulate matter increases transport of the soluble VOCs into the deep lung by a factor of 10 or more. Combination of VOCs with particulates produces a primary synergistic action in air toxicity. Reference values are not determined with particulate matter in the mixtures. Therefore the URF and the RFCs under represent of the inhalation hazard in an atmosphere with high particulate matter.

The tables showing the **5 year average concentrations** at or beyond the property line are applied to the cancer risk for both adults and children. The tables go on to sum the cancer risks at each location and compare them to a "Bench Mark Level". What does that number represent and why isn't standard methodology for cancer risk assessment used? What is the range of concentrations expected? Show the upper percentile risks.

Define exactly what is meant by a "highest predicted one hour concentration" Show how that number is calculated. Revise the tables and correct the errors in recording of highest 1-hour concentration and the 5- year average concentrations for each entry on the tables. Recalculate the risks.

c. Wind speeds. Show that the wind speeds used from the airport data is a valid for estimation of the hourly wind speeds for each site using local data. The wind speed is a strong determinant of the degree of stagnation of the local air system in morning and evenings. These values vary from location to location.

d. Radon. Hazards from radon are not limited to the radon itself but to the exposures of radon daughters the ultimate carcinogenic moiety. The radon daughters are not detected in the standard gamma counters being used to evaluate gas. The document states that the levels of radon associated with the burning of natural gas at compressor stations would be lower than at the wellhead. Additionally it is acknowledged that the effects of burning

natural gas and exposure to radon in homes, is beyond the scope of this health assessment. Radon can be entrained in natural gas. We are concerned that there are dangers posed by the gas line that the EA has not adequately addressed.

Any radon in the compressor station emissions would be vented to the atmosphere and quickly diluted by mixing with the surrounding air. But there would radon daughters bound to particulate released at the sites. FERC concludes: “Based on the analysis above, we find that the risk of exposure to radon in natural gas is not significant.” Unless the concentration of the carcinogenic radon daughters is known that statement cannot be supported.

3) Environmental Justice is dismissed

DTI omits Environmental Justice on incorrect grounds. The need for evaluation of Environmental Justice is dismissed because the locations do not have a “meaningful greater percentage of minorities than the general population, ... the projects would be sited in rural areas.” However,

*Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of **environmental** laws, regulations, and policies.*

4) Misleading comparisons. Lastly, we find that inappropriate comparisons are made in the EA. Using regional air quality standards for assessing risk close to these facilities is not helpful given intermittent and periodically high emissions which do not always disperse well when released. Nor do we think it is helpful to compare the risk associated with living near a substantial compressor station with that of exposure to wood smoke.

Conclusion

FERC’s three primary questions were:

- What would be the potential lifetime (chronic) risk from inhaling maximum property line concentrations modeled from the expected emissions from normal, maximum-capacity, operating conditions?
- What would be the potential short-term (1 hr acute) risks given a rare meteorological event that might concentrate those emissions?
- What would be the potential short-term (1 hr acute) risks from an infrequent full station blowdown (emergency or planned release of pipeline natural gas)?

After a careful read, we raise questions about the EA’s characterization of the pipeline gas itself; the emissions from combustion, venting, fugitive releases, and blowdowns (most importantly those which occur over the course of a year, but also those once every five). Additionally we have questions and concerns about the reference levels and methods of the Risk Assessment. Taken together, we think the limitations call for a more comprehensive and careful assessment of the health risks posed by the New Market Project to the residents who live near the existing and proposed compressor stations.

Please call David Brown regarding questions at 203-216-7334.

Sincerely,

David Brown, SciD

Southwest Pennsylvania Environmental Health Project