Requested modifications to the draft Stationary Source Permit for Atlantic Coast Pipeline, LLC to construct and operate a natural gas compressor station at 5297 S James River Hwy, Wingina VA 24599

1 ACP should notify local authorities prior to each venting event

Background

Venting events have the potential to cause disruption and/or nuisance if detected by the public. For example, detecting natural gas odors may result in calls to and activation of local EMS services. ACP should therefore notify local authorities prior to each venting event.

Add a permit condition under Notifications:

"The permittee shall notify the local Board of Health or equivalent entity and the local fire department at least 24 hours prior to each planned or maintenance venting event".

2 DEQ should require regular analysis and reporting of natural gas composition.

Background

Based upon independent measurements, natural gas contains a large and complex set of VOCs (many of which are hazardous air pollutants and/or known or suspected carcinogens).

There is a research group in the Boston area that has taken independent measurements of VOCs in natural gas samples. A recording of a short presentation describing the study and its results can be found here:

http://www.bu.edu/earth/naturalgaspublichealth/

There is a link on the page to "morning session", the presentation of interest starts in that video around 1 hour 13 minutes.

Condition 16: Fuel Monitoring

Should be modified to ensure that ACP is periodically measuring VOC composition and concentrations in gas flowing through the facility, as this is the gas that will be leaked or released as fugitive and venting emissions.

Replace sentence 2 as follows:

"The permittee shall perform annual fuel analysis of on-site natural gas. The details of the tests shall be arranged with the Piedmont Regional Office. Tests shall identify, at a minimum, VOCs typically reported for EPA methods TO-15 or TO-17 for VOC analysis, and use similar or better reporting limits."

3 DEQ should require the most recent and stringent emissions controls for pigging operations

Background

A pipeline operator, MarkWest, recently (Apr 2018) reached an agreement with the EPA as a consequence of the company's likely violation of the Clean Air Act during its pipeline pigging operations (see https://www.epa.gov/enforcement/markwest-clean-air-act-settlement-information-sheet). As a result of the consent decree, MarkWest is going to publicly release design plans for emissions control technology that will reduce VOC emissions from pigging operations ("Pig Ramps") as well as educational materials for other technology to reduce VOC emissions from pigging operations ("Jumper Lines"):

> "MarkWest will disseminate and make available for use by other oil and gas companies its proprietary design for Pig Ramps, which has been shown to reduce liquid accumulation and emissions from pig launcher and receiver operations. In order to promote the rapid adoption of this innovative device, MarkWest will make available on a public website, no later than six (6) months after the Effective Date, a royalty-free license and information on the Pig Ramp design. MarkWest will also provide educational presentations and host four demonstration or training sessions per year over a three-year period (for a total of 12 sessions), with technical staff available in-person at each session, to demonstrate and encourage the installation and adoption of the technologies developed by MarkWest to reduce VOC emissions from pig launchers and receivers throughout the oil and gas industry. In conjunction with such presentations and demonstrations, MarkWest will develop comprehensive and detailed educational materials on the effective installation, maintenance, and use of Pig Ramps and Jumper Lines to reduce VOC emissions from pig launchers and receivers."
>
> - MarkWest consent decree, section VI, paragraph 28, pg 16

<u>New Condition:</u>
DEQ should add an Emission Control condition stating that Pig Ramps and Jumper Line technologies be added to pigging facilities within 12 months of their design release by MarkWest. DEQ should release an addendum to the permit once it has determined the operating, testing, and recording conditions for these technologies.

4 Fugitive & vented emissions

<u>Condition 7(b): Emissions Controls</u>
Condition 7 outlines a program to detect and repair leaks that generally follows recent EPA guidelines.

After sentence 4, **insert a sentence** stating that if difficult to repair leaks are small enough to defer repair, then they should be repaired the next time the facility is shut down (unless delaying the repair would result in greater emissions than would result from facility shutdown):

"If a leak is found that will emit less natural gas than a facility shutdown, its repair may be delayed until the next facility shutdown unless the summed aggregate of delayed repair natural gas emissions would exceed the natural gas emissions of a facility shutdown."

Change last sentence to:
"Records of the daily AVO inspection results, repair attempts...and reason for each delay **shall be submitted on a (monthly/quarterly/annual?) basis to the Piedmont Regional Office and also maintained on site**."

<u>Condition 51: (SOE) On Site Records</u>
This permit condition should be revised to ensure availability of detailed hexane venting emissions data.

Sentence 4: Change "...calculate the amount of hexane exhausted during **any** venting event." to "...calculate the amount of hexane exhausted during **each** venting event."
Sentence 5: Change to "**Hexane emissions shall be calculated monthly and recorded as the emissions for each venting event, as well as** the sum of each consecutive 12-month period."

Sentence 7: Change to "**These records shall be submitted to the Piedmont Regional Office (monthly/quarterly/annually?) and kept on site** available for DEQ inspection..."

Additional points:
Criteria pollutants are harmful at concentrations or time intervals that do not violate NAAQS. A partial list of supporting peer-reviewed research includes the following studies:

"Ambient air pollution and the risk of ischemic stroke."
Journal of the American Medical Association, Internal Medicine.
https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1108717

"Ambient fine particulate air pollution triggers ST-elevation myocardial infarction but not non-ST elevation myocardial infarction: A case-crossover study."
Particle and Fibre Toxicology.
https://particleandfibretoxicology.biomedcentral.com/articles/10.1186/1743-8977-11-1

"Low-concentration PM2.5 and mortality: Estimating acute and chronic effects in a population-based study."
Environmental Health Perspectives.
https://ehp.niehs.nih.gov/1409111/

"Fine particulate matters: The impact of air quality standards on cardiovascular mortality".
Environmental Research.
https://www.ncbi.nlm.nih.gov/pubmed/29195185

"The concentration-response between long-term PM2.5 exposure and mortality: A meta-regression approach."
Environmental Research.
https://www.ncbi.nlm.nih.gov/pubmed/30077140

"Association of short-term exposure to air pollution with mortality in older adults."
Journal of the American Medical Association.
https://jamanetwork.com/journals/jama/fullarticle/2667069

"Low level air pollution and exacerbation of existing COPD: A case crossover analysis."
Environmental Health.
https://ehjournal.biomedcentral.com/articles/10.1186/s12940-016-0179-z

"Concentration-response of short-term ozone exposure and hospital admissions for asthma in Texas."
Environment International.
https://www.ncbi.nlm.nih.gov/pubmed/28434561

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