BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Title V Permits for the Algonquin Gas
Stony Point Compressor Station, Stony Point, NY, DEC ID 3-3928-00001
and Southeast Compressor Station, Southeast, NY DEC ID 3-3730-00060

Proposed by the New York State Department of
Environmental Conservation

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO THE ISSUANCE OF THE PROPOSED FINAL TITLE V PERMITS FOR THE ALGONQUIN GAS STONY POINT COMPRESSOR STATION AND SOUTHEAST COMPRESSOR STATION

Hon. Michael B. Kaplowitz, Chairman
Hon. Catherine Borgia, Majority Leader
Hon. MaryJane Shimsky
Hon. Catherine Parker
Hon. Alfreda Williams
Hon. Benjamin Boykin
Hon. Alan Cole

Westchester County Board of Legislators
800 Michaelian Office Building
148 Martine Avenue, 8th Floor
White Plains, New York 10601
(914) 995-2800 (telephone)
(914) 995-3884 (facsimile)

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Pursuant to § 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), and 40 C.F.R. § 70.8(d), the under-signed legislators of the Westchester County Board of Legislators ("Legislators") hereby petition the Administrator of the United States Environmental Protection Agency ("USEPA") to object to the issuance of the proposed final Title V operating permits for the Algonquin Gas Stony Point Compressor Station and the Algonquin Gas Southeast Compressor Station.

The Stony Point and Southeast compressor station permit modifications are part of the Spectra Energy Algonquin Incremental Market ("AIM") project, which received a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission ("FERC") on March 3, 2015. On December 31, 2014, the New York State Department of Environmental Conservation ("NYSDEC") issued draft Title V permits for the Stony Point and Southeast compressor stations and received written comments until February 27, 2015. With the exception of Legislator Alan Cole, each of the under-signed legislators from the Westchester County Board of Legislators had provided timely written comments on the proposed Title V permits in a letter dated January 21, 2015, which is attached as Exhibit 1. Legislators Borgia and Shimsky also provided timely written comments on the proposed Title V permits in a letter dated February 27, 2015, which is attached as Exhibit 2. In September 2014, the Westchester County Board of Legislators enacted Resolution No. 80-2014 calling for increased monitoring and mitigation of impacts for the AIM Project facilities, and a copy was provided to NYSDEC. The resolution is attached as Exhibit 3.

On May 13, 2015, NYSDEC issued proposed final Title V permits for the Stony Point and Southeast compressor stations. The proposed final Title V permit and Permit Review Report for the Stony Point compressor station is attached as Exhibit 4. The proposed final Title V permit and Permit Review Report for the Southeast compressor station is attached as Exhibit 5. Numerous other elected officials, individuals, and organizations also provided comment on the draft Title V permits. At the same time that it issued the proposed final Title V permits, NYSDEC released a Response to Comments ("Response") and a list of commenters on the air permits and other permits. The NYSDEC Response and list of commenters is attached as Exhibit 6. USEPA did not object during the 45-day review period provided by § 502(b)(1) of the Clean Air Act.

Legislator Cole did not become a Westchester County legislator until his appointment on June 15, 2015. It was impractical for Legislator Cole to provide comment in an official capacity on the AIM Project Title V permits during the public comment period because his appointment to office did not occur until three months after the comment period had concluded. According to 40 C.F.R. § 70.8(d), Legislator Cole may petition the Administrator to object to the Title V permits because it was impractical for him to have submitted comments during the public comment period.

The Legislators' objections to the proposed final Title V permits, explained in the sections below, include the following:

- The proposed final Title V permits do not adequately assess the health risk caused by air pollutants emitted from the compressor stations, and a comprehensive determination of baseline air emissions and air-related health impacts should be required.

- The proposed final Title V permits do not adequately monitor fugitive emissions, including hazardous air pollutants ("HAPs") and volatile organic compounds ("VOCs"), from the compressor stations.
- The proposed final Title V permits do not adequately monitor blow down emissions, including HAPs and VOCs, from the compressor stations.
- The proposed final Title V permits do not contain proper emissions limits for carbon monoxide ("CO") emissions or VOC emissions from the natural gas-fired turbines.
- The proposed final Title V permit for the Stony Point compressor station does not properly monitor greenhouse gas emissions ("GHG emissions").
- The proposed final Title V permit should require continuous emissions monitoring or more frequent testing for NOx emissions from the new turbines.
- The proposed final Title V permit for the Southeast compressor station must include a capping monitoring condition for VOC emissions from the new sources and intermittent emission testing for the new turbines.
- The proposed final Title V permit for the Stony Point compressor station must include a NOx capping condition for existing turbines.

I. The proposed final Title V permits do not adequately assess the health risk caused by air pollutants emitted from the compressor stations, and a comprehensive determination of baseline air emissions and air-related health impacts should be required.

Numerous commenters, including Westchester legislators, had requested that an assessment of baseline air emissions from the compressor stations should be conducted, along with an analysis of health impacts.[1] In Resolution 80-2014, the Westchester County Board of Legislators had requested such assessments.[2] The rationale for assessments of baseline air emissions and health impacts is that the natural gas to be transported by the AIM Project will include natural gas extracted by high volume hydraulic fracturing (HVHF), which is an unconventional extraction procedure that can introduce unknown pollutants such as VOCs, HAPs and radioactive compounds.

Upon their review of HVHF, New York State Department of Health ("NYSDOH") and NYSDEC jointly recommended that HVHF not be authorized in New York State, in part because environmental and public health impacts associated with HVHF are "complex and not fully understood."[3] This recommendation was adopted in the 2015 Findings Statement that

[1] See NYSDEC Response, Comment 1, in Exhibit 5 ["NYSDEC, another regulatory agency, or a nonprofit like Southwest Pennsylvania Environmental Health Project, should conduct an independent air emissions baseline assessment and health impact study consistent with the resolutions adopted by many municipalities within the New York portion of the AIM Project."].

[2] Resolution 80-2014, Exhibit 3.

[3] NYSDOH, A Public Review of High Volume Hydraulic Fracturing for Shale gas Development, at 11 (Dec. 2014), available at http://www.health.ny.gov/press/reports/docs/high_volume_hydraulic_fracturing.pdf .

accompanied the Final Supplemental Generic Impact Statement ("FSGEIS") for proposed HVHF in New York.[4] By discouraging activities with impacts that are not sufficiently defined, the agencies adopted a Precautionary Principle approach, in order to allow for proper evaluation and subsequent re-consideration. The same approach should be utilized here.

The proposed modifications will enable the compressor stations to compress and transport vast quantities of natural gas extracted by HVHF. The properties and characteristics of such natural gas remain to be fully characterized, as noted in NYSDOH's report. For example, the radioactive constituents are currently being studied by PADEP.[5] In addition, hazardous constituents in the hydraulic fracturing fluid are proprietary and not disclosed, thus preventing their quantification.

Until the constituents of the HVHF-extracted natural gas are understood with certainty, the unknown characteristics prevent an accurate calculation of air emissions from the compressor station modifications. To address this uncertainty, the Title V permit conditions must be based on a comprehensive determination of baseline emissions from the compressor stations as well as proper evaluation of health impacts. This will enable subsequent emissions sampling and monitoring to provide an accurate evaluation of HAP and other air emissions associated with the compression and transport of HVHF-extracted natural gas.

By itself, Algonquin's Title V Permit application for the Stony Point and Southeast compressor stations do not provide the comprehensive characterization that is needed to quantify potential emissions from the compressor stations. Algonquin's calculations do not quantify the hazardous constituents of the natural gas that is extracted by HVHF. Either standard emission factors from EPA's AP-42 document are utilized to estimate volatile organic compounds ("VOCs") and HAP emissions, or the gas composition is estimated from an "extended gas analysis taken from an operation in Thomaston, Texas in November 2005."[6] Note that the AP-42 factors were last revised in 1998-2000 prior to the widespread use of HVHF.[7] Algonquin's application provided no explanation or justification as to why the 2005 Thomaston, Texas analysis is representative of HVHF-extracted natural gas from the Marcellus Shale. Also, as described further below, Algonquin's emissions calculations and dispersion modeling do not evaluate impacts from the

[4] See http://www.dec.ny.gov/energy/75370.html .

[5] Id., at 10.

[6] Southeast Permit Application, footnote 9, page 3-13. The Stony Point and Southeast permit applications are voluminous and therefore not directly attached as Exhibits. However, both permit applications are available at the following websites:

http://www.spectraenergy.com/content/documents/Projects/AIM/AIM_NYSDEC_STONYPOINT_CS_TITLE-V_9-29-2014_7565744_1-c.PDF [Stony Point permit application]

http://www.spectraenergy.com/content/documents/Projects/AIM/AIM_NYSDEC_SOUTHEAST_CS_TITLE-V_9-29-2014_7565742_1-c.PDF [Southeast permit application].

[7] See, e.g., Table 3-1 of Permit application [relying on AP-42 as source for VOC and Total HAPs emissions].

fugitive emissions in existing piping components and or the emissions from blow down events (gas releases).[8]

Overall, the Title V permit requirements for the compressor stations focus mostly on point source emissions rather than fugitive emissions or areas sources which also contribute to overall emissions. As described further below, the Title V permits do not require specific monitoring or reporting of fugitive emissions.[9] Algonquin's only reporting of fugitive emissions occurs in its annual emission statement submissions, which are not classified by source, component or emission unit, and are not based on field investigations or field conditions. The annual emissions statement data alone is not adequate to estimate baseline emissions from the compressor stations; although, it would serve as a useful supplement.

In its Response, NYSDEC asserts that assessments of baseline air emissions and health impacts are not required because the AIM Project permit modification complies with "all applicable federal and state regulations . . . established to protect public health and safety."[10] NYSDEC further states that NYSDEC reviewed air quality modeling of existing emission sources that will remain in operation and as well as proposed new emission sources at the compressor stations.[11] NYSDEC also states that the ambient data utilized in the modeling is quality-assured by USEPA and approved for use in regulatory modeling.[12]

However, the air quality dispersion modeling performed by Algonquin does not adequately evaluate impacts. As described further below, the ambient air quality data is not representative of the air quality in the vicinity of the compressor stations. In evaluating toxic air emissions, the air quality modeling only modeled new sources and did not include existing emission sources. The air quality modeling neglected to include emissions from blow down (gas releases) and fugitive sources. These deficiencies show that the air quality modeling for the AIM Project does not adequately assess air emissions, and an assessment of baseline air emissions and health impacts, as requested in comments, is needed.

a. The ambient air quality data for nitrogen dioxide, NO_2, is not representative of the vicinity of the compressor stations.

The ambient air data utilizes 1-hour nitrogen dioxide (NO_2) background data that is not representative of the Stony Point or Southeast communities. Instead of monitoring stations located closer to the stations, the dispersion modeling relies on ambient air data from the

[8] See, e.g., Southeast Permit Application, Appendix B, Table B-6a provides emissions for "New Piping Components" but does not include existing piping components.

[9] Algonquin and all regulated sources must include fugitive emissions in its annual emission statement, as required by 6 NYCRR 202-2.3(a)(3)(xiii).

[10] NYSDEC Response, at 1, Exhibit 6.

[11] Id., at 1-2.

[12] Id., at 2.

Lackawanna, Pennsylvania monitoring station to establish background concentrations.[13] As shown in the modeling report, this station is approximately 3-5 times farther away from the Southeast and Stony Point compressor stations than the other five sampling stations. Lackawanna County is very far away compared to the New York and Connecticut stations. Unlike Putnam and Rockland counties in New York, Lackawanna County, Pennsylvania is designated as attainment for ozone. Nitrogen oxides (including NO_2) are a pre-cursor for ozone formation. This indicates Lackawanna County may not represent local ambient air quality at the compressor stations in Putnam and Rockland counties.

The NY-NJ-CT metropolitan area has had difficulty achieving air quality attainment status for nitrogen dioxide, a criteria pollutant. Algonquin's proposed modifications should have to meet the same burden as other emitting sources in this area to show that the proposed actions do not deteriorate air quality. The use of a distant sampling station for NO_2 background does not permit an adequate assessment of health and environment impacts that will occur in this region. If sampling data is not adequate at some nearby stations, then the Title V permit should require site-specific meteorological monitoring to obtain needed data. This is particularly important for NO_2 emissions. For other NAAQS pollutants, the modeling report states that nearby "urban" sources will promote a conservative estimate of ambient data.[14] But, for NO_2, the dispersion modeling does not employ such approach and instead relies on a distant monitoring station.

b. Blow down emissions and fugitive emissions are not included in the dispersion modeling analyses.

Neither the AERMOD refined modeling analysis nor the AERSCREEN modeling analysis include toxic pollutant emissions from gas releases or from fugitive sources (e.g., BTEX and other HAPs). Therefore, it is not possible to conclude, as NYSDEC asserts in the Response, that a health impact assessment is not required. In fact, the emission rates for BTEX compounds for gas release events may be much higher than the BTEX emission rates from the new turbines under Scenarios 1-3.[15] This indicates that the AERSCREEN analysis is not properly predicting impacts of toxic compounds.

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[13] Stony Point Modeling Report, Section 2.1.1.2, at 2-4; Southeast Modeling Report, Section 2.1.1.2, at 2-4, Exhibit 7.

[14] See, e.g., Southeast Modeling Report, Sec. 2.1.1.4, at 2-6, Exhibit 7 [selecting New Haven site for PM10 ambient data to provide a "conservatively high ambient background concentration . . . in a more urban setting than the site . . ."

[15] The emission rates for BTEX compounds in gas release (blowdown) events are provided in Table B-6 of the Stony Point application. The hourly (lb/hr) emission rates are improperly calculated from the annual (tons/year) emission rates using a factor of 8,760 operating hours per year. According to NYSDEC in Comment 19 of its Response to Comments, the blowdown events occur during maintenance activities, approximately 8 – 10 times per year, with each maintenance activity lasting several hours. If a blowdown event is estimated to last 3 hours (possibly conservative), then the calculated hourly emission rates are significantly higher than the hourly BTEX emission rates provided in Table B-6 (assuming 8 blowdown events per year). Blowdown events are not evaluated in the AERSCREEN analysis.

A refined modeling analysis of BTEX and HAP emissions should be conducted to properly evaluate the impacts from the Stony Point station. The refined analysis should include existing emission sources and blowdown events, as well as the newly installed equipment.

In its Response, NYSDEC minimizes health impacts of blowdown emissions by asserting that actual blowdown emissions from the Stony Point and Southeast compressor stations are far below the maximum potential emissions.[16] It is not clear how NYSDEC is estimating maximum potential emissions for blowdown events. Extrapolating blowdown emissions over an 8,760 hour per year period would not be accurate. In 2012, reported VOC emissions for blowdown events at the Stony Point station were 22. 6 tpy.[17] This is a significant pollution source, especially for this Air Quality Control Region which is in moderate non-attainment for ozone. The reported amounts blowdown emissions have varied widely during the last ten years, and, given such variation, it is not clear that blowdown emissions are being accurately reported. As described below, existing blowdown emissions are not evaluated, and the combined impact from both existing and new blowdown emissions warrants careful review.

c. Existing emissions sources are not included in the dispersion modeling of toxic compounds.

In the applications for the Stony Point and Southeast compressor stations, Algonquin submitted an AERSCREEN dispersion modeling analysis to assess impacts of toxic air pollutants (e.g., HAPs).[18] However, the analysis only models emissions from new sources and does not include HAP emissions from existing turbines, fugitive emissions, and blow down events at either of the facilities. In its Response, NYSDEC states that only proposed new emission sources were modeled in a screening analysis to compare predicted impacts to regulatory criteria.[19]

The existing turbines that will continue operation at both Stony Point and Southeast are likely to have HAP emissions approximately 2X greater than the new turbines because none of the existing turbines have an oxidation catalyst to reduce HAP emissions.[20] Including the existing HAP emissions may very well cause an exceedance of the NYSDEC's Annual Guideline Concentration (AGC) for formaldehyde in the AERMOD analysis.[21] NYSDEC's own guidance,

[16] NYSDEC Response, Response to Comment 19, p. 11, Exhibit 6 [stating annual VOC emissions from gas releases at Stony Point between 2007-2012 range from 1.8 tpy to 17 tpy, with an average of 8.2 tpy].

[17] 45,229 lbs VOC/year emissions reported for "E05" in 2012 annual emission statement for Stony Point. E05 is not an identified emission unit in the Title V permit, but this ID is regularly used to report gas releases in the Stony Point annual emission statements.

[18] See Attachment A to Air Dispersion modeling reports for Stony Point and Southeast applications in Exhibit 7.

[19] NYSDEC Response, Response to Comment 24, Exhibit 6 ["NYSDEC's Policy DAR-1 provides guidance for the control of toxic ambient air concentration. In accordance with this guidance, Algonquin conducted a screening analysis and provided the results in its air permit application for each compressor station, which shows that the conservative model-predicted output concentrations from proposed new emission sources at the two compressor stations are below New York's health effect-based annual and short-term (one hour) guideline concentrations."]

[20] The oxidation catalyst is warranted by the manufacturer to reduce VOC emissions by 50%.

[21] See, e.g., Stony Point Air Dispersion Modeling Report, Sec. 4.6 HCHO AGC and SGC Analysis, at 4-7, Exhibit 7.

DAR-1, indicates that existing emission sources should be accounted for in evaluating toxic impacts from new sources.[22] Therefore, in order to accurately evaluate the public health impacts of the compressor stations from HAP compounds, the existing emissions sources that will continue operation must be included with the new sources in the AIM Project.

New York State regulations do not require the evaluation of toxic air compounds from activities that are classified as exempt or trivial; thus, these sources are also not evaluated for their public health impacts.[23] HAP emissions from the emergency generator are comparable in magnitude to the HAP emissions from the new turbines; yet, these emissions are not included in the modeling analysis.[24]

II. The proposed final Title V permits do not adequately monitor fugitive emissions, including hazardous air pollutants ("HAPs") and volatile organic compounds ("VOCs"), from the compressor stations.

The Title V Permit should contain enforceable conditions that require Algonquin to monitor all fugitive emissions by approved methods and to report on its monitoring/recordkeeping on a regular basis (semi-annual deviation reports and annual compliance certifications). The monitoring methods should be specified in the proposed final Title V Permit. Presently, neither the proposed Title V Permits nor the existing permits contain enforceable conditions that specifically require monitoring and reporting on all fugitive emissions.

The proposed final Title V permit for the Stony Point compressor station only requires monitoring and reporting of fugitive VOC emissions from new piping components.[25] There is no comparable requirement for fugitive emissions from existing piping components at the Stony Point station. Moreover, the proposed final Title V permit for the Southeast compressor station contains no monitoring or reporting requirements for fugitive emissions from either new or existing sources.

For the Stony Point station, Item 34.2 of the permit only requires submission of a "summary" of emissions.[26] In order to properly assure permit compliance, the annual submission of emissions

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[22] Policy DAR-1: Guidelines for the Control of Toxic Ambient Air Contaminants, Appendix B (Nov. 12, 1997) [However, nearby industrial source impacts are not to be considered as part of the general background concentration. The contribution from these nearby industrial sources must be considered when assessing ambient air quality as required by Section III screening methods. Nearby sources, for the most part, are those located within adjacent facilities."], available at http://www.dec.ny.gov/chemical/30681.html .

[23] 6 NYCRR 212-1.4(a).

[24] Compare Stony Point hourly HAP emissions in Table B-1e (new turbines) to Table B-1f (new emergency generator). The emergency generator also has a much larger variety of HAP compounds.

[25] Stony Point proposed Title V permit, Item 1-21.2, Condition 1-21, at 34-36, Exhibit 4 ["New fugitive piping emissions that are part of the project modification = 7.5 tpy"].

[26] Proposed Stony Point Title V Permit, Item 1-21.2, at 37, Exhibit 4 ["On an annual basis, the facility will submit to the Department a summary of the exempt sources emission based on the above factors."].

from exempt sources (and fugitive piping emissions and gas releases) should consist of monthly VOC emissions and total VOC emissions for each rolling 12-month period throughout the calendar year. The submission for these sources would thus be the same format as required for the VOC turbine emissions, VOC(T). This is particularly merited because the exempt sources (including fugitive piping emissions and gas releases) constitute the majority of the allowed VOC emissions (20 tpy out of a total of 27.1 tpy). The annual report should include a record of all gas releases, consistent with the permit requirement to log "all gas releases".

It should be noted that the fugitive VOC emissions from piping components and VOC emissions from gas releases should not be considered "exempt" sources, as Item 34.2 indicates. In Appendix E of its Application, Algonquin does not identify these emissions as Exempt Activities. Neither 6 NYCRR 201-3.2, Exempt Activities, nor 6 NYCRR 201-3.3, Trivial Activities, expressly applies to compressor station piping components or gas releases. Accordingly, if these emissions cannot be classified under either Sections 201-3.2 or 201-3.3, then these emissions should not be considered exempt activities.

Algonquin already quantifies some level of fugitive emissions in its annual emission statements.[27] For example, the 2013 Annual Emission Statement for Southeast Compressor Station assigns 6,412.96 lbs/yr of unspeciated VOC and 101.58 lbs/yr of benzene emissions to process E06 in emission unit E-I0001, which are identified as fugitive emissions in the SCC code and description.[28] The emission statement does not specify from which equipment the fugitive emissions emanate. Also, neither the proposed final Title V Permit nor the existing Title V permit contains a process ID "E06" or an emission unit "E-I0001". The types of reported fugitive emissions from the Southeast compressor station are contrasted with the reported fugitive emissions in the Stony Point compressor station, which also includes emissions of for methane, carbon dioxide, ethylbenzene, toluene, and xylene, as well as benzene and unspeciated VOC.[29]

The quantification of fugitive emissions is of substantial importance in evaluating air quality and climate change impacts. The Title V permits should require more specific methods and reporting to characterize these emissions from the compressor stations. This evaluation should be a separate enforceable condition for <u>all</u> fugitive emissions, with NYSDEC oversight similar to a stack emission test. Algonquin should be required to submit a protocol on determining fugitive emission to NYSDEC for review prior to field investigations. NYSDEC should monitor sampling of fugitive emissions in the field with staff, similar to a stack test. NYSDEC should then review/approve a report by Algonquin that quantifies fugitive emissions from the compressor stations.

[27] 2013 AES for Southeast compressor station, at 8-9.

[28] Id.

[29] E.g., 2013 Stony Point compressor station emission statement, pages 22-23 for emission unit E-I00001.

It is encouraging that USEPA has proposed a New Source Performance Standard ("NSPS") that will now include methane and VOC emissions from transmission compressor stations.[30] However, this proposal is in the early stage of the rulemaking process, and it remains unclear whether proposed monitoring requirements for transmission compressor stations will be included in the final rule. Until this rule is finalized and the Title V permits correspondingly amended, the facility is not obligated to perform the enhanced monitoring requirements for fugitive emissions.

In its 2011 Handbook, EPA has presented several methods, broadly titled 'remote measurement', that can be useful in conducting a baseline emissions determination for the types of fugitive emissions that emanate from the compressor stations.[31] The Handbook states "Remote measurement technologies offer approaches that have been otherwise unavailable to measure emissions from these challenging sources [non-point or unvented sources such as fugitive emissions]".[32] Thermal imaging infrared cameras are used in identifying leaks for further quantification.[33] Algonquin's permit application described the use of infrared cameras to monitor fugitive emissions to comply with 40 C.F.R. Part 98 GHG reporting requirements.[34] In addition to reporting GHG emissions, this equipment could be used to monitor and report on VOC emissions.

III. The proposed final Title V permits do not adequately monitor blow down emissions, including HAPs and VOCs, from the compressor stations.

The proposed Title V Permits should be revised to include specific enforceable condition for blowdown emissions at the compressor stations. The proposed Title V permits only include a general requirement to report blowdown gas releases greater than 1 million scf and to perform limited monitoring of gas releases from new sources at Stony Point.[35] There are no enforceable compliance certification conditions in the Title V permit that require specific monitoring, reporting, or sampling of all blowdown emissions at either facility (i.e., blowdowns occurring from both new sources and existing sources).

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[30] USEPA, Oil and Natural Gas Emission Sector: Emission Standards for New and Modified Sources, Aug. 18, 2015 [Proposed Rule], available at http://www.epa.gov/airquality/oilandgas/actions.html .

[31] USEPA, OAQPS, EPA Handbook: Optical Remote Sensing for Measurement and Monitoring of Emissions Flux (Dec. 2011), available at http://www.epa.gov/ttn/emc/guidlnd/gd-052.pdf .

[32] Id. at page 1.

[33] Natural Gas Industry Methane Emission Factor Improvement Study, Final Report, Cooperative Agreement No. XA-83376101 (Dec. 2011), prepared by M. Harrison, K. Galloway, A. Hendler, T. Shires of URS Corp. ("URS Report"), available at http://www.utexas.edu/research/ceer/GHG/files/FReports/XA_83376101_Final_Report.pdf . See Section 2.3.1 describing use of infrared camera to screen for fugitive leak sources.

[34] Stony Point Application, Sec. 5.6.3, at 5-16.

[35] Proposed Stony Point permit, Condition 1-13, Item 1-13.2, at 26, Exhibit 4 [Requirement to notify NYSDEC of all planned and unplanned gas releases greater than 1.0 MMscf]; Proposed Stony Point permit, Condition 1-21, Item 1-21.2, at 37, Exhibit 4 [Requirement to log number and duration of all gas releases]; Proposed Southeast permit, Condition 22, Item 22.2, at 20-21, Exhibit 5 [Requirement to notify NYSDEC of all planned and unplanned gas releases greater than 1.0 MMscf].

Blowdown events during compressor operation and maintenance cause HAP emissions that should be regulated by appropriate monitoring, recordkeeping, reporting, and sampling, as well as notification to appropriate local government authorities. The Southeast permit contains requirements for accidental releases[36], but this would generally not apply to the blowdown of natural gas which occurs on a regular basis (note the Stony Point permit does not contain an accidental release requirement).

The Title V permit should require Algonquin to notify NYSDEC of any planned or unplanned release of natural gas (e.g., blow down). The proposed Title V Permits only require Algonquin to report planned or unplanned gas releases that are greater than 1.0 MMscf[37] and to report all facility air emissions in the annual emission statement. The stated criterion of 1.0 MMscf in the proposed Title V permit is too large, especially when compared to previous historical volumes of gas releases for the Stony Point facility (ranging from 3.3 to 4.7 MMscf in 2008-2010 emission statements). Using such volumes and a 1.0 MMscf criterion, only 3-4 gas releases would be reported to NYSDEC each year; however, there are believed to be significantly more than 3-4 gas planned and unplanned gas releases per year at the Stony Point facility.

Algonquin should also be required to notify the applicable County Health Department and the host municipality 48 hours prior to any planned gas release and within 24 hours of any unplanned gas release.

There are no requirements to specifically monitor, report, or sample blowdown emissions from the existing sources at either facility (e.g., from existing turbines/compressors that will continue operation). The proposed Stony Point permit requires monitoring for blowdown events associated only with new sources.[38] The proposed Southeast permit does not require any monitoring for blowdowns from new sources.

As noted above regarding fugitive emissions, the Stony Point station permit only requires submission of a "summary" of emissions for blowdown events from the new sources.[39] In order to properly assure permit compliance, the annual submission of blowdown emissions should consist of rolling 12-month averages throughout the calendar year to properly monitor these emissions. The submission would thus be the same format as required for the VOC turbine emissions, VOC(T).

The Title V permits should set specific requirements to regulate the blowdown (gas release) events, as these occur regularly at the compressor stations and yield substantial emissions.

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[36] Proposed Southeast Title V Permit, Condition 19, Accidental Release Provisions, Exhibit 5 [applicable federal requirement is 40 CFR Part 68].

[37] Id.

[38] Proposed Stony Point Title V Permit, Condition 1-21, Item 1-21.2, at 37, Exhibit 4 ["The facility shall maintain a log of the number and duration of all gas releases."].

[39] Id. ["On an annual basis, the facility will submit to the Department a summary of the exempt sources emission based on the above factors."].

Westchester County constituents have reported health impacts associated with blowdown events, underscoring the need to regulate this process.

For the Southeast Compressor Station, the Draft Title V Permit and existing permits appear to classify blowdown under emission units V-00012 and V-00013 for high pressure and low pressure venting of natural gas.[40] There are no similar emission units for the Stony Point Compressor Station, which is surprising because the blowdown events should also be occurring for those compressors. In its 2013 annual emission statement, Algonquin reported 2,311.337 lbs/yr of unspeciated VOC emissions through emission unit V-00012 and 2,311.337 lbs/yr of unspeciated VOC emissions through emission unit V-00013.[41] However, the emission statement shows no reported methane emissions through process V-00012 or V-00013, even though these processes are for the venting of natural gas. This reporting thus appears to be in error.

The Southeast and Stony Point Title V permit applications calculate emissions from gas releases (blowdown) based on "data for a similar compressor station".[42] These estimates also rely on the 2005 Thomaston, Texas gas analysis.[43] No explanation is provided on why the emissions estimates are representative for the Southeast and Stony Point compressor stations. The estimates include BTEX compounds, but no other HAPS are identified[44], even though the stations will be transporting HVHF-extracted natural gas.[45] The calculation of gas release events in the application appears to occur continuously, rather than intermittently, because the calculated annual releases occur approximately 8,760 hours per year.[46]

In its application, Algonquin asserts that no documented technologies are available to reduce methane emissions from blowdown events.[47] However, EPA has long highlighted existing approaches that re-route blowdown gas, rather than vent it to the atmosphere. Through the Natural Gas STAR Partners program, EPA has recommended best practices for compressors, such as connecting blowdown vent lines to the fuel gas system, in order to reduce emissions.[48]

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[40] Southeast compressor station Permit Review Report, at 5, 6, Exhibit 5. The Stony Point compressor station does not have a corresponding emission unit for natural gas venting.

[41] 2013 Annual Emission Statement, at 23-25.

[42] E.g., Southeast permit application, Appendix B, table B-7, note 1.

[43] Id.

[44] Trimethylpentane (2,2, 4-) is identified as "0.00E+00 lb/hr" and "0.00E+00 tpy" in Appendix B, Table B-7, of Southeast permit application.

[45] Id.

[46] Southeast Compressor Station application, Appendix B, Table B-7, comparing 7,100, 000 scf/yr and 811 scfh values yields 8755 hr/year. Stony Point Compressor Station Application, Appendix B, Table B-6, comparing 14,200, 000 scf/yr and 1621 scfh values yields 8760 hr/year.

[47] Stony Point permit application, Section 5.7, at 5-17 ["Based on RBLC search results, there are no documented available technologies to reduce emissions of CH4 from gas release events at natural gas compressor stations."].

[48] See, e.g., EPA fact sheets at http://www.epa.gov/gasstar/documents/injectblowdowngas.pdf [Inject Blowdown Gas into Low Pressure Mains or Fuel Gas System, PRO Fact Sheet No. 41, 2011],

The GHG BACT analysis in the Stony Point application incorrectly omits such demonstrated methods for gas releases.

Note that the proposed NSPS rule would not regulate blowdown emissions because these emissions are not considered to be sources of fugitive emissions subject to the rule.[49] As such, it is imperative that blowdown emissions are properly counted and included with other emission sources in the Title V permit.

IV. The proposed final Title V permits do not contain proper emissions limits for carbon monoxide ("CO") emissions or VOC emissions from the natural gas-fired turbines.

In order for the 3 new turbines at Stony Point to each have a CO Project Emission Potential of 24.9 tpy and avoid overall PSD applicability for the facility, the oxidation catalyst must perform with a 95% reduction efficiency. If the oxidation catalyst does not provide this efficiency, then the PEP for the turbines would increase and possibly cause the total PEP to exceed 100 tpy, thus triggering PSD applicability. For example, the Maximum Annual Potential for CO emissions of each turbine is 77.5 tpy (based on the 25 ppmvd (15% O2) CO manufacturer guarantee, without catalyst). Because the oxidation catalyst performance is critical for the turbines to avoid PSD applicability, the CO upper permit limit should be based on the post-catalyst CO emissions and not the 25 ppmvd manufacturer guarantee (which does not include the oxidation catalyst). The corresponding CO emission limit for the manufacturer guarantee with a 95% reduction by the catalyst would be approximately 0.4 lb/hr.[50] This is also expressed as 2.79 lb/MMscf, as shown in Item No. 1-39.7 of the proposed Stony Point Title V permit.[51]

The upper permit limit for VOC is expressed as 0.5 lb/hr in Item 1-15.2, but the VOC emission factor for the same turbines in Item 1-21.2 is expressed as 3.49 lb/MMScf. For consistency, the 3.49 lb/MMscf value should be used for the upper permit limit for VOC in Item 1-15.2. Note that the VOC upper permit limit is approximately 60% greater than the AP-42 VOC emission factor for natural gas-fired turbines.[52] In addition, the TOC emissions guaranteed by the turbine manufacturer are about 235% greater than the AP-42 TOC emission factor for natural gas-fired turbines.[53] The lesser of the manufacturer guarantee or the corresponding AP-42 emission factor

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http://www.epa.gov/gasstar/documents/ll_compressorsoffline.pdf [Reducing Emissions When Taking Compressors Offline, Lessons Learned from Natural Gas STAR Partners, EPA, 2006].

[49] EPA, Proposed Rule, at 264 ["Equipment that vents as part of normal operations , such as gas driven pneumatic controllers, gas driven pneumatic pumps or the normal operation of blowdown vents are not considered to be sources of fugitive emissions." Underline emphasis added].

[50] See Table B-3j in Stony Point application; compare with the 7.93 lb/hr CO emission rate corresponding to 25 ppmvd, 15% O2, 0 deg. F, in Table B-3b.

[51] Proposed Stony Point permit, Condition 1-39, Item 1-39.7, at 63, Exhibit 4.

[52] Upper permit limit for VOC, 3.49 lb/MMScf X (1 MMScf/1020 MMBtu) = 0.0034 lb/MMBtu. The VOC emission factor from AP-42 Table 3.1-2a is 0.0021 lb/MMBtu. See also Table 3-1 of Stony Point Application.

[53] 25 ppmvd TOC at 15% O2 and 0.01 Fahrenheit corresponds to 5.20 lb TOC/hr, at a fuel consumption rate of 138,437 scf/hr, from Table B-3b of Application (turbine emission calculations revised Aug. 2014).

should be used as the upper permit limit in the Title V permit. The new Solar turbines should be capable of meeting the AP-42 emissions for VOC, which is based on a review of a broad range of turbines to support the development of this emission factor.

A comparison with the upper permit limit for PM2.5 highlights this discrepancy. Algonquin's Application includes a May 29, 2014 letter from the manufacturer that states "Solar's standard warranty level for PM10/PM2.5 [emissions] is 0.015 lb/MMBtu." The PM2.5 AP-42 emission factor is 0.0066 lb/MMBtu, and the AP-42 value is also used as the PM2.5 upper permit limit in Item 25.2. Although the manufacturer's warranty for PM2.5 is about 125% greater than the AP-42 limit, NYSDEC is requiring Algonquin to satisfy the significantly lower AP-42 emission factor of 0.0066 lb/MMBtu for these turbines. But, this is the opposite approach used for VOC emissions, in which Algonquin must only demonstrate that it meets the manufacturer's guaranteed limit (as described above regarding Item 1-15.2). The Title V permit should be consistent in its approach of whether to utilize the manufacturer's guarantee or AP-42 factors for the upper permit limits. For VOC, if the AP-42 emission factor was utilized as the upper permit limit, then the turbines would need to satisfy a higher level of performance, as is being required for PM2.5.

In order to meet the upper permit limits for CO and VOC, it is important for the oxidation catalyst to function as estimated (required 95% and 50% reduction efficiency, respectively). Because the CO and VOC emission testing may only occur once during the permit term, the Title V permit should require Algonquin to submit annual reports to NYSDEC on the condition of the catalyst and its performance.

V. The proposed final Title V permit for the Stony Point compressor station does not properly monitor greenhouse gas emissions ("GHG emissions").

The proposed final Title V permits for the Stony Point compressor station does not contain an enforceable condition on greenhouse gas (GHG) emissions. In its permit application for the Stony Point compressor station, Algonquin conducted a Best Available Control Technology ("BACT") analysis for greenhouse gas ("GHG") emissions.[54] The Algonquin application concluded that BACT for the new turbines at the Stony Point compressor station consisted of use of a high efficiency turbine, fueled by natural gas, and operated with good combustion/operation practices.[55] The Stony Point application also proposed an annual emission limitation of 67,916 tons CO2e/year for each of the new turbines on a 12-month rolling average basis.[56] However, the proposed final Title V permit does not contain this enforceable condition. In its Response, NYSDEC states that it has used discretion to abide by EPA guidance to not require a PSD permit based solely on potential GHG emissions.[57] According to the Stony Point application, only

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5.20 lb/hr X (1/138,437 scf/hr) X 10^6 scf/MMScf X (1 MMScf/1020 MMBtu) = 0.037 lb/mmBtu. The TOC emission factor from AP-42 Table 3.1-2a is 0.011 lb/MMBtu.

[54] Stony Point permit application, Section 5.

[55] Id., Table 5-4, at 5-14.

[56] Id., Sec. 5.5.5, at 5-13.

[57] NYSDEC Response, Response to Comment 9, at 6-7, Exhibit 6.

CO2e emissions would cause the facility to trigger PSD applicability, because enforceable conditions will be implemented to avoid PSD applicability for NO2 (use of ERCs and cap on NO2 emissions).[58] For the Southeast compressor station, Algonquin proposes to apply ERCs of 42,469 tons CO2e/year to net out of PSD applicability.[59]

In addition, the Title V permits should require Algonquin to re-route blowdown gas, rather than vent it to the atmosphere. Through the Natural Gas STAR Partners program, EPA has recommended best practices for compressors, such as connecting blowdown vent lines to the fuel gas system, in order to reduce emissions.[60]

In order to properly notify the public of CO2e emissions from the new turbines at the Stony Point and Southeast facilities, the proposed final Title V permit should require the facility to monitor, keep records, and report CO2e emissions from the turbines on an annual rolling average basis, as stated by Algonquin in its application.[61] The public should be appropriately notified of these substantial increases in CO2e emissions that will occur with the AIM Project.

VI. The proposed final Title V permit should require continuous emissions monitoring or more frequent testing for NOx emissions from the new turbines.

The Title V permits should require continuous testing or more frequent testing for NOx emissions for the new turbine installations. In approving the permit applications, NYSDEC would allow Algonquin to use a manufacturer-guaranteed 9 ppm NOx emission value for the new Solar Mars and Solar Taurus turbines that are proposed for installation at the compressor stations. Algonquin's application states that this will be the first time that the manufacturer (Caterpillar Solar) has provided this guarantee.[62] The new guaranteed value is a 40% reduction from the manufacturer's previous guarantee of 15 ppm NOx emissions.[63] In its application, Algonquin request a full 180 days "shakedown period" to assure that the turbines are properly operating and able to meet the performance guarantee.

Because there is no actual operating experience for these turbines anywhere, the Title V permits should require more than periodic emission tests for the new units. The Title V permit should require either:

- More frequent NOx emission testing;
- Use of a continuous emission monitor; or

[58] Stony Point application, Table 4-4, at 4.6.

[59] Southeast application Table 4-4, at 4-6.

[60] See, e.g., EPA fact sheets at http://www.epa.gov/gasstar/documents/injectblowdowngas.pdf , http://www.epa.gov/gasstar/documents/ll_compressorsoffline.pdf .

[61] Stony Point permit application, Sec. 5.5.5, page 5-13.

[62] Southeast compressor station permit application, at 3-1.

[63] Id.

- Monitoring of continuous operating data that is connected to operating conditions, with periodic reporting (turbine operation, exhaust flow, exhaust oxygen, etc.)

VII. The proposed Title V permit for the Southeast compressor station must include a capping monitoring condition for VOC emissions for the new sources and intermittent emission testing for the new turbines.

Unlike the Stony Point compressor station, the proposed final Title V permit for the Southeast compressor station does not contain a capping monitoring condition for VOC emissions from new sources and does not require intermittent testing of VOC emissions from the new turbines. In its permit application, Algonquin represented that the new sources at the Southeast compressor station would avoid Step 1 Major Source NNSR Applicability by having a Project Emission Potential of 15.5 tons VOC/year emissions.[64] Although having avoided NNSR applicability, the proposed final Title V permit does not require Algonquin to monitor and report VOC emissions to assure compliance. This is different from the proposed Stony Point Title V permit which does require monitoring, recordkeeping and reporting of VOC emissions from the new turbines, new fugitive emissions, and new blowdown events.[65] The proposed Southeast Title V permit should have similar requirements to assure compliance for VOC emissions from the new sources.

In addition, the proposed Southeast Title V permit does not require intermittent testing of VOC emissions from the new turbines. This is in contrast to the Stony Point Title V permit, which does require such testing for new turbines.[66] The new turbines at the Southeast station should be required to conduct the same stack tests for VOC emissions as Stony Point.

The counties where the Southeast facility and Stony Point facility are located differ in attainment status. Putnam County (Southeast) is in moderate non-attainment for ozone, and Rockland County (Stony Point) is in severe non-attainment for ozone. Accordingly, the significant project threshold for VOC is much lower in Rockland County (2.5 tpy) than it is for Putnam County (40 tpy). Even with this distinction, the Southeast turbines should be monitored similar to the Stony Point turbines in order to reduce VOC emissions to the regional airshed.

VIII. The proposed Title V permit for the Stony Point compressor station must include NOx capping condition for existing turbines.

Both of the existing Title V permits include capping conditions on nitrogen oxides ("NOx") emissions to avoid triggering applicable New Source Review requirements when certain equipment was previously added at these stations.[67] These capping conditions are federally-

[64] Southeast compressor station permit application, Table 4-3, at 4-4; Appendix B, Non-Attainment New Source Review (NNSR) Netting Calculation Summary.

[65] Proposed Stony Point Title V Permit, Condition 1-21, at 34-37, Exhibit 4.

[66] Proposed Stony Point Title V Permit, Condition 1-15, at 27-30, Exhibit 4.

[67] Existing Stony Point Title V Permit, Item 35.7, Condition 35, page 30, Exhibit 4 ["Total NOx emissions from the two (2) Solar Taurus 60-7800 compressor turbines (Emission Sources 00081 and 00082) shall not exceed 30.7 tons

enforceable requirements to ensure that NOx emissions remain below triggering thresholds for certain equipment. The capping conditions were added to the Title V permit when Algonquin conducted the Ramapo Expansion Project in 2007-2008. [68] FERC approved this project to add 325,000 dekatherms of natural gas capacity to the 26 inch pipeline. This is the same quantity of natural gas that is being added under the AIM Project; although, Algonquin is adding greater compression with the AIM Project.

Similarly, the proposed Title V permit modifications include new capping conditions for the new equipment that is being added to these stations. However, a previous capping condition on NOx emissions in the Stony Point Title V Permit is not carried over into the permit modification.[69]

The previous capping conditions should be included in the modified Title V permits because the Stony Point facility previously relied on these emission caps in order to avoid applicable requirements when the new turbines in Emission Unit T-00008 were added. It would be counter-productive to impose new capping conditions for new equipment while simultaneously eliminating the capping conditions imposed on previously installed equipment. This approach will not protect air quality because total facility emissions can increase, even though new caps are placed on the newly-installed equipment.

IX. Conclusion

For the foregoing reasons, the proposed final permits fail to meet applicable Title V requirements. Each of these issues results in a deficient Title V permit. Many of the deficiencies involve inadequate monitoring and reporting. The above-note deficiencies undermine the key purposes of the Title V program and should be remedied. Legislators respectfully request that the Administrator object to the issuance of the proposed final permits for the Stony Point and Southeast compressor stations pursuant to Clean Air Act § 505(b)(2), 42 U.S.C. § 7661d(b)(2) and 40 C.F.R. § 70.8(d) and direct NYSDEC to correct these deficiencies.

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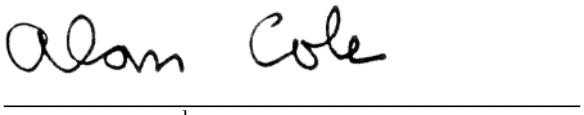
of NOx during any twelve consecutive month period"]; Existing Southeast Title V Permit, Item 35.7, Condition 35, page 29 ["Total NOx emissions from the Solar Taurus 60-7800 and Solar Taurus 70-10300 compressor turbines (Emission Sources 00041 and 00042) shall not exceed 34.3 tons during any twelve consecutive month period."].

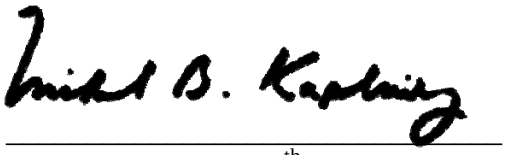
[68] FERC, Order Issuing and Amending Certificates, Approving Abandonment, Vacating Certificate, and Granting and Denying Rehearing and Clarification, 117 FERC ¶61,319, ¶58, at 18 (Dec. 21, 2006) [proposal to expand 4.8 miles of pipeline from 26 in. to 42 in., add 2 compressor units totaling 18,100 hp to Southeast station, add 2 compressor units totaling 15,400 hp to Stony Point station, retire 2 compressors totaling 9,400 hp from Stony Point station, upgrade 1 compressor from 12,600 hp to 15,000 hp at Stony Point station, construct a new compressor station in Oxford, CT, with compression totaling 37,700 hp, add 1 compressor totaling 7,700 hp to Hanover, NJ station]. Based on Algonquin's motion, FERC later vacated the authorization to upgrade the Stony Point compressor from 12,600 hp to 15,000 hp. FERC, Order Vacating Certificate Authorization, 129 FERC ¶61,049 (Oct. 21, 2009). The FSEIS for the Ramapo Expansion Project is available at http://www.ferc.gov/industries/gas/enviro/eis/2006/10-13-06.asp .

[69] Existing Stony Point Title V Permit, Item 35.7, Condition 35, page 30, Exhibit 4 ["Total NOx emissions from the two (2) Solar Taurus 60-7800 compressor turbines (Emission Sources 00081 and 00082) shall not exceed 30.7 tons of NOx during any twelve consecutive month period"].

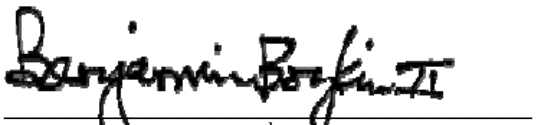
Respectfully submitted,



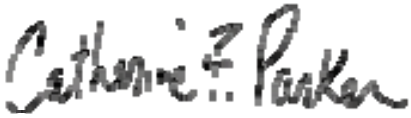
Alan Cole, 2nd District



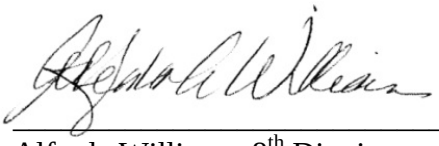
Michael Kaplowitz, 4th District
Chairman



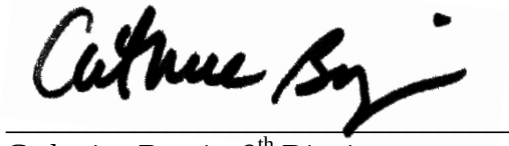
Benjamin Boykin, 5th District



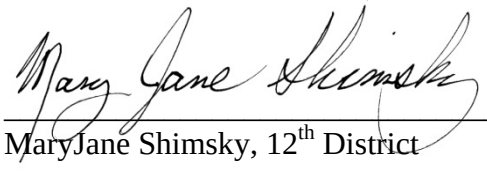
Catherine Parker, 7th District



Alfreda Williams, 8th District



Catherine Borgia, 9th District



MaryJane Shimsky, 12th District

Dated: September 4, 2015

Attachment: Exhibits

cc: Regional Administrator Judith Enck, USEPA Region 2
Steve Riva, USEPA Region 2