

COMMENT AND RESPONSE DOCUMENT

**Regarding:
Revision to the State Implementation Plan
Consent Order No. 8383 – Algonquin Gas Transmission, LLC**

**Prepared by:
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On May 24, 2024, the Commissioner of the Department of Energy and Environmental Protection (Department) published notice of its intent to revise the Clean Air Act (CAA) State Implementation Plan (SIP). The proposed SIP revision will incorporate a case-by-case volatile organic compound (VOC) reasonable available control technology (RACT) determination. Proposed administrative Consent Order No. 8383 will be issued to Algonquin Gas Transmission, LLC (Algonquin), to establish emission standards that are determined to satisfy RACT pursuant to Section 22a-174-32(e)(1)(D) of the Regulations of Connecticut State Agencies (Regs., Conn. State Agencies) for the facility located at 252 Shunpike Road in Cromwell, Middlesex County, Connecticut.

Pursuant to the notice, the written public comment period closed on July 1, 2024. The Department received two written comments. The notice also indicated that a hearing would be held on July 10, 2024, only if a request for a hearing was received on or before July 2, 2024. A hearing request was received, and the public hearing was held as scheduled on July 10, 2024, at 10:00 AM at Department headquarters, 79 Elm St., Hartford, Connecticut. Four additional comments were received during the hearing. At the conclusion of the hearing, the Department closed the administrative record to all public comment.

I. Hearing Report Content

This hearing report includes a description of the proposed SIP revision, a summary of and responses to all comments received on the proposed SIP revision, a justification for a change to the proposed order, and a recommendation that the Commissioner submit the SIP revision to the U.S. Environmental Protection Agency (EPA) for the requisite federal approval.

II. Summary of Proposal

The proposed SIP revision will incorporate a case-by-case VOC RACT determination. Proposed Consent Order No. 8383 will be issued to Algonquin to establish emission standards that are determined to satisfy RACT pursuant to Regs., Conn. State Agencies § 22a-174-32(e)(1)(D) for the facility located at 252 Shunpike Road in Cromwell, Middlesex County, Connecticut.

III. Support of and Opposition to the Proposal

All comments received are identified below, each followed by the Department's response.

IV. Summary of Comments

Oral comments were received from one organization, one municipal official, and one state official:

1. Samantha Dynowski
State Director
Sierra Club of Connecticut
samantha.dynowski@sierraclub.org
2. Matthew Lesser on behalf of James Demetriades
Mayor
Town of Cromwell
A copy of Mayor Demetriades' comment was also received in written form and is included in the docket
3. Matthew Lesser
Senator
Connecticut General Assembly
matthew.lesser@cga.ct.gov
4. Nick Katkevich
Northeast Field Organizer
Sierra Club of Connecticut
nick.katkevich@sierraclub.org

Written comments were received from one federal agency and two individuals:

5. Eric Wortman
Air Quality Branch
EPA Region 1 Air and Radiation Division
5 Post Office Square
Boston, MA 02109
wortman.eric@epa.gov
6. Marge and David Schneider
78 Cedar Street
Branford, CT 06405
margedavidpeace@gmail.com

Comment 1. Commenter supports the Department's efforts to ensure the Algonquin facility's ongoing compliance with VOC RACT requirements, given the health impacts of VOC and the pollutant's contribution to the formation of ground-level ozone, for which all of Connecticut has

been designated as nonattainment for the applicable National Ambient Air Quality Standards (NAAQS). Commenter is concerned that Algonquin “exceeded its limits” and is disappointed in the amount of time that it took to “get this facility into compliance.” Commenter urges the Department to consider the cumulative impact of VOC emissions from all permitted facilities. Commenter believes that the proposed consent order should require community notification of “excessive” emissions and community air monitoring; commenter indicates that community should know about “excessive pollution” when it is happening, not “10 years after the violation.”

Response to Comment 1. The Department appreciates the commenter’s support for the underlying objective of this action: to establish an enforceable mechanism to implement VOC RACT at Algonquin’s Cromwell compressor station. VOC emissions from stationary sources are addressed under several CAA regulatory programs. VOC RACT, the regulatory program at issue in this action, is triggered under the CAA as an ozone nonattainment measure, given the contribution of VOC emissions to the formation of ground-level ozone. The proposed RACT order prescribes the use of certain low-emitting technologies as well as monitoring, reporting, and recordkeeping, with the goal of reducing VOC emissions through the deployment of reasonably available controls. In the specific context of the natural gas transmission segment, such controls tangentially reduce methane emissions, as well.

This action would not, in and of itself, authorize new or additional emissions; rather, this action would require that Algonquin use specific low-emitting technologies and perform the associated monitoring, recordkeeping, and reporting, in addition to meeting emission limits already established by existing permits and regulations. Certain permitting actions that authorize new or additional emissions often trigger regulatory provisions intended to address the notion of cumulative impact beyond the facility’s fenceline, e.g., air quality modeling. Furthermore, certain permitting actions in statutorily defined environmental justice communities trigger enhanced public participation and the opportunity for the affected facility and municipality in which such facility is located to enter into a “community environmental benefit agreement.” In accordance with section 22a-20a of the Connecticut General Statutes, as amended by Public Act 23-202, the Department is in the pre-proposal stages of drafting regulatory language to further address equity considerations in environmental permitting. However, RACT under Regs., Conn. State Agencies § 22a-174-32(e)(1)(D) – the regulatory basis of this action – neither requires nor provides for cumulative impact review.

Nothing in the administrative record for this action suggests that the CAA violation (failure to submit a RACT plan and implement RACT) from which this proposed order stemmed – and for which Algonquin paid a roughly \$193,000 civil penalty – involved ongoing excess emissions. The fact that Algonquin did not timely submit a RACT plan or implement an enforceable RACT mechanism does not imply that its emissions exceeded a RACT level of control. In fact, contemporaneously with triggering RACT, Algonquin implemented technologies and monitoring that met or exceeded a RACT level of control; see TSD and response to Comment 2 for further. The proposed order largely memorializes and makes enforceable, as a SIP measure, these technologies and monitoring regimes.

The Department appreciates the commenter's desire for notification of emission events. In a letter to the docket dated September 10, 2024, Algonquin indicated that it currently notifies town officials (including emergency response personnel) and adjacent landowners of certain planned and unplanned gas release events and "pipeline integrity management projects." Algonquin indicated that it will notify these parties of any planned blowdowns in excess of 85,000 standard cubic feet (scf) in advance of such events. Furthermore, Algonquin indicated that it will notify these parties within two days after any unscheduled blowdowns in excess of 85,000 scf. Given the average VOC content of the natural gas in the Algonquin system, 85,000 scf amounts to 4 to 5 lbs of VOC, the pollutant at issue in this RACT order – a *de minimis* amount that falls below any of the Department's relevant permitting or regulatory thresholds. Notwithstanding these commitments, community notification of blowdown events does not constitute a level of emission control or a monitoring, recordkeeping, or reporting standard to substantiate any level of emission control and consequently falls outside the RACT framework.

Algonquin is required to self-report deviations from Title V permit requirements pursuant to federal law and Regs., Conn. State Agencies § 22a-174-33. The same is true of all Title V facilities across the nation. Emission exceedances must be reported within 24 hours for those involving hazardous air pollutant limitations and 10 days for all other types of exceedances. In addition, this RACT determination requires extensive self-reporting; see section B of the order. RACT reports, prompt deviation reports, semiannual monitoring reports, and annual compliance certifications are public record and may be requested through the Connecticut Freedom of Information Act process. See this link for further information about requesting Department records: <https://portal.ct.gov/deep/about/foia-requests>.

The Department appreciates the commenter's desire for enhanced air monitoring and greater access to air quality data. Algonquin is indeed required to monitor its emissions; its Title V and New Source Review (NSR) permits and applicable state and federal regulations require periodic testing of the turbines and components like valves, flanges, and threaded connections that emit gas fugitively. NO_x emissions from the turbines is tested at least once every five years, and in certain cases, more frequently. For the turbines equipped with an oxidation catalyst, carbon monoxide (CO) and VOC testing is required every five years, and key performance metrics such as catalyst temperature and differential pressure must be monitored continuously. Periodic stack testing is subject to Department audit. Fugitive emissions components must undergo quarterly leak detection and repair (LDAR) with a 500 ppmv, as methane, leak threshold under the 2016 New Source Performance Standards (NSPS).

With respect to fence-line or community ambient air monitoring, the Department has developed a pilot program to loan ambient air quality sensors to community groups, educators, and public institutions interested in monitoring air quality in their community. The Department does not have the financial or human resources to support more specialized community monitoring efforts. The Department has, however, partnered with

a variety of organizations to seek federal funding to support community-sponsored monitoring efforts and would encourage this approach for a project in Cromwell. The City of Stamford, for example, was recently awarded grant funding under the Inflation Reduction Act to monitor air pollution in its South End – a result of its desire to better understand air quality impacts of the diversity of land uses and recent residential and commercial development in this neighborhood. Given its knowledge of air monitoring technologies and experience operating multiple monitoring stations throughout the statewide network, the Department has acted in an advisory capacity in assisting Stamford to establish its monitoring program and would be happy to provide similar advice to the commenter. The Department can serve as a resource to seek funding opportunities to procure, install, and maintain air monitoring equipment for the desired pollutants in locations where the commenter believes such monitoring would be most useful.

However, fence-line and community ambient air monitoring near compressor stations lacks any state or federal regulatory contexts and falls outside the RACT framework.

Based on the above discussion, no changes to the RACT order will be made as result of this comment.

Comment 2. Commenter is concerned about the prior violations at the Cromwell compressor station and upset that he did not receive official notification of this public hearing. Commenter asks that the following specified conditions be included in the proposed consent order, considering the proximity of the facility to Cromwell schools, businesses, residents, and town facilities and given the health impacts of VOC, so that nearby residents can “monitor for adverse health impacts and take precautionary measures”: (i) any time that emissions exceed permitted levels, the town manager and health director be notified in writing as soon as practicable; (ii) residents and businesses within a mile radius of the facility be notified in writing of emission exceedances; (iii) “air quality testing devices” be installed along the perimeter of the facility and monitored by the Department to provide more frequent air quality measurements, and a quarterly “report of statistics” be furnished by the Department and Algonquin to the Cromwell town manager.

Response to Comment 2. The Department appreciates the commenter’s engagement on this matter and his thoughtful comments, reflecting his desire for enhanced community air monitoring and emission notifications.

The proposed RACT order was publicly noticed on the Department’s internet website, pursuant to Title 40, Code of Federal Regulations (CFR), Part 51.102. The public notice package, including the order and technical support document, was also disseminated to those enrolled in the Department’s e-alert notification system, which is available at this link: <https://confirmsubscription.com/h/j/19E73F2E0479003B>.

The proposed RACT order was the outgrowth of an administrative enforcement order issued in 2021 to address Algonquin's failure to timely implement an enforceable RACT

mechanism. The Department notified then-Mayor Enzo Faienza of the issuance of said enforcement order via a letter dated August 27, 2021.

Further, at the commenter's request, the Department is always happy to meet with the commenter to discuss air quality matters in Cromwell.

The Department wishes to provide additional context on the "2014 and 2016" violations discussed by the commenter. Using a highly conservative potential to emit (PTE) methodology, with an assumed natural gas VOC content more than an order of magnitude higher than the actual average VOC content, Algonquin and the Department determined that VOC RACT was triggered in 2014. Again, this determination was made on the basis of potential, not actual, emissions. Theoretically, Algonquin would have been eligible to operate under an emission cap until 2016, in which year actual emissions, including emissions from excludable combustion sources, tripped the applicable major source threshold. An exceedance of an applicability threshold, either on a potential or actual emission basis, does not necessarily indicate an exceedance of any specific emission limit or a level of control such as RACT. Contemporaneously with tripping this applicability threshold, Algonquin replaced older, higher-emitting internal combustion engine-driven reciprocating compressors (operation of which was duly authorized by Department permit in accordance with state and federal performance standards) with newer, lower-emitting turbine-driven centrifugal compressors with dry seals. Consequently, as is the ultimate goal of the RACT program, non-excludable VOC emissions decreased substantially, as did combustion VOC emissions.

For additional context, at the time that RACT was triggered, RACT would not have required Algonquin to replace the engine-driven reciprocating compressors with turbine-driven centrifugal compressors. This type of technology would not even have been required as Best System of Emission Reduction (BSER) for methane (a much more abundant pollutant in pipeline-grade natural gas than VOC) for new, modified, and reconstructed sources under the 2016 NSPS. The decision to install turbine-driven centrifugal compressors was one made independently by Algonquin.

Regarding municipal and public notification of emission events and air quality monitoring, please see the Department's response to Comment 1.

The Department will not make any changes to the RACT order as a result of this comment.

Comment 3. Commenter supports the proposed consent order with the changes requested by Mayor Demetriades.

Response to Comment 3. The Department greatly values the commenter's collaboration on this matter and appreciates his desire for enhanced community air monitoring and emission notifications. Please see the Department's response to Comment 2.

The Department will not make any changes to the RACT order as a result of this comment.

Comment 4. Commenter states that the proposed order provides for the use of intermittent-bleed pneumatic controllers, which is contrary to the analogous pneumatics requirements under 40 CFR Part 60, Subpart OOOOc. Commenter does not believe that it makes sense to require the facility to “begin installing” intermittent-bleed controllers at this time when zero-bleed controllers will be required under the emissions guidelines (EG). Commenter indicates that the Department should enforce “best processes available” as part of this RACT order and encourages independent air monitoring at the site.

Response to Comment 4. The Department welcomes the commenter’s attention to this matter and dialogue on the relationship between RACT and EG Subpart OOOOc. The commenter is correct that the proposed RACT order provides for the use of intermittent-bleed pneumatic controllers. The benefits of such controllers over their continuous-bleed counterparts are carefully deliberated in section V.D of the TSD for this action; such controllers were identified as RACT pursuant to the three-step test set forth in section IV of the TSD. As discussed in the TSD, the use of intermittent-bleed pneumatic controllers is ultimately consistent with the 2016 oil and gas Control Techniques Guideline (CTG) (which does not apply to the transmission segment but instead to more VOC-intensive ends of the oil and gas sector) and 2016 oil and gas NSPS. The Department’s consistency review of the nationwide RACT clearinghouse did not reveal any RACT demonstrations requiring the use of zero-bleed controllers at natural gas transmission facilities. Moreover, as explained in the TSD, emissions from the Cromwell compressor station’s collection of pneumatic controllers are nominal (0.5 tpy-VOC on a PTE basis, and still far less on an actual basis), and the cost-effectiveness of replacing such controllers with zero-bleed controllers is highly questionable in the context of historical RACT economic feasibility determinations.

The Department disagrees with the commenter’s characterization of the Subpart OOOOc presumptive emission standards for pneumatics. The Subpart OOOOc EG, which was first proposed in 2021 and finalized in 2023, does not apply directly to affected facilities but rather to states. Rather, in conjunction with the state plan framework set forth in Subpart Ba of 40 CFR Part 60, the 2023 EG gives states up to 24 months to satisfy applicable standards of performance criteria via a state plan, with up to 36 additional months for affected facilities to meet the requirements of such state plan. The EG and Subpart Ba both also provide for implementation of a federal plan if a state plan is not adopted. Therefore, as a practical matter, the Department disagrees that the pneumatic controller requirements in the proposed RACT order could be inconsistent with the 2023 EG, from which there are currently no applicable requirements. Furthermore, as described in the section V.D of the TSD, the 2023 EG addresses only methane, not VOC, whereas this action addresses only VOC and not methane. Finally, the proposed RACT order and TSD both contain clear language clarifying that compliance with such order would not absolve the respondent of any present or future statutory or regulatory compliance obligations; therefore, if zero-bleed controllers were required in due course under a state or federal plan, as the Subpart OOOOc model rule presumes, then the

respondent would be compelled to comply with such requirement irrespective of any RACT determination.

It is worth clarifying that, through the proposed order, the Department is not requiring that Algonquin retrofit or replace any of its pneumatic devices with intermittent-bleed controllers. All pneumatic controllers at the Cromwell compressor station are already of the intermittent-bleed design; there are no continuous-bleed controllers at the facility. Therefore, Algonquin would not “begin installing,” as the commenter indicated, intermittent-bleed pneumatics pursuant to the proposed order. The proposed order would, however, ensure that any new or replacement controllers be of the intermittent-bleed or other less emission-intensive design.

The TSD makes clear that the regulatory basis of this action involves RACT applicability under Regs., Conn. State Agencies § 22a-174-32. RACT is a regulatorily defined level of emission control that does not encompass “best processes available” but rather “reasonably available” controls. “Best processes available,” though not a term of art, would seem to be more consistent with a best available control technology (BACT) or lowest achievable emission rate (LAER) level of control, which would only be triggered in certain permitting actions involving new and modified emission sources pursuant to Regs., Conn. State Agencies § 22a-174-3a – as has been the case in past permitting actions at the Cromwell compressor station. Neither BACT nor LAER is triggered under Regs., Conn. State Agencies § 22a-174-32. Therefore, there is no regulatory basis to require “best processes available” as part of this RACT order.

Regarding independent air monitoring, please see the Department’s response to Comment 1.

The Department will not make any changes to the RACT order as a result of this comment.

Comment 5. EPA is in agreement with Connecticut’s determination of RACT requirements for the facility. It is requested that in section 6.c of the proposed order, the phrase “and EPA” be added after the word Commissioner. The proposed order will become part of federal law if approved into the SIP, and records should be provided to EPA in addition to the Commissioner.

Response to Comment 5. The Department appreciates EPA’s review of this action. The Department will incorporate the change to section B.6.C of proposed Consent Order No. 8383, as requested by EPA.

Comment 6. Commenters express concern for the residents of Cromwell, “who have had considerable and unnecessary exposure to excessive amounts of [VOC] emissions in 2014 and 2016.” Commenters believe that Algonquin’s failure to file a VOC RACT compliance plan amounted to “pure negligence.” Commenters indicate that the Department must be “absolutely certain that the corrective technological equipment, processes, and procedures are implemented at the highest level to assure the public’s physical health from these pollutants” and “are relying on CT DEEP to consent only after the greatest assurances are provided so there is little chance of

future VOC emission failures under strict adherence to RACT standards... ” Commenter asks for “reliable, independent, frequent ambient air monitoring” in Cromwell prior to finalization of the order as well as engagement with residents concerning the impacts of living in the vicinity of the compressor station.

Response to Comment 6. The Department appreciates the commenters’ interest in and consideration of this matter. The Department disagrees with the commenter’s characterization of VOC emissions in 2014 and 2016 and provides important context on such emissions in its response to Comment 2. It is also important to note that Algonquin paid a roughly \$193,000 penalty for its failure to timely file a RACT plan and implement an enforceable RACT mechanism.

The technologies, monitoring, recordkeeping, and reporting required under the proposed consent order are carefully deliberated in the TSD for this action and are consistent with or more stringent than analogous state and federal emission standards. Ultimately, RACT is a technology-based emission standard applicable in ozone nonattainment areas and the statutorily defined Ozone Transport Region with the intended objective of advancing attainment of the ozone NAAQS. Health-related questions regarding the impacts of living near a specific source, like a natural gas compressor station, are best answered by a medical professional.

Regarding air monitoring, please see the Department’s response to Comment 1.

The Department will not make any changes to the RACT order as a result of this comment.

V. Conclusion

Based upon the comments submitted to the Department and the responses addressed in this hearing report, it is recommended that the Commissioner submit the proposed SIP revision to EPA for the requisite federal approval.

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