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May 1, 2017

Via Email
Thomas Cushing, Permit Chief
MassDEP Southeast Regional Office
20 Riverside Drive, Lakeville, MA 02347
thomas.cushing@state.ma.us

Re: In the Matter of Algonquin Gas Transmission, LLC
Non-Major Comprehensive Plan Applications-Fuel and Process
Transmittal Number X266786

Dear Mr. Cushing:

The Town of Weymouth and its associated Ten-Citizen group[1] (collectively, "Weymouth") respectfully submit these comments on the Massachusetts Department of Environmental Protection, Bureau of Air and Waste's Air Quality Proposed Plan Approval in the above referenced matter.

Algonquin Gas Transmission, LLC (the "Natural Gas Company") is proposing to construct a natural gas Compressor Station on an approximately 12-acre parcel of land north of Bridge Street, in the Town of Weymouth, bounded by Route 3A (Bridge St.), Calpine Fore River Energy Center, and the Fore River. The site includes an existing gas metering and regulation station. See Proposed Plan Approval, at §1(B).

When fully complete, the compressor station would include two natural-gas-fired stationary combustion turbines, a Solar Taurus 60-7802 with 7,700 horsepower and a Solar Taurus 70 with 10,915 horsepower. However, the Plan Application and the associated emissions modeling totally omit any reference to the second turbine, and thus greatly understate the reasonably foreseeable emission impacts of the compressor station facility. On the face of its application, therefore, it appears that the Natural Gas Company, has impermissibly segmented the construction of the

[1] The Town of Weymouth filed its timely Motion to Intervene in Algonquin Gas Transmission, LLC's Non-Major Comprehensive Air Plan Applications on February 3, 2017 and its Amended Motion to Intervene of the Town of Weymouth and Motion to Intervene of a "Ten-Citizen" Group on February 17, 2017.

Compressor Station into two components in order to avoid a full and detailed environmental review.[2]

The emissions modeling also fails to consider startup and shutdown emissions from the one turbine it does review, which results in a further understatement of emission impacts. Finally, the Plan Application utilizes deficient and misleading noise monitoring data to establish the baseline L_{90}, and thus understates the noise impacts of the proposed facility on adjacent conservation areas and residential properties.

I. The Air Quality Proposed Plan Approval Fails to Account For the Entire Facility That Is Being Proposed.

MassDEP's Air Pollution Control Regulations define a "Facility" as "any installation or establishment and associated equipment, located on the same, adjacent, or contiguous property, capable of emissions." 310 CMR 7.00.[3] A Plan Approval is required prior to the construction, alteration, or subsequent operation of a facility that will emit contaminants to the ambient air. 310 CMR 7.02(1)(b). MassDEP will issue a Plan Approval only where the "emissions from a facility do not result in air quality exceeding either the Massachusetts or National Ambient Air Quality Standards...[and] the emissions from the facility do not exceed applicable emission limitations as specified in 310 CMR 7.00...[and] the emissions from the facility do not result in violation of any provision of 310 CMR 7.00." 310 CMR 7.02(3)(j)(1)-(3) (emphasis added).

The Natural Gas Company's October 2015 Non-Major Comprehensive Air Plan Approval Permit Application ignores these regulatory provisions and asks MassDEP to issue a Plan Approval for less than half of the proposed facility, and to ignore the remainder thereof. The Plan Application, therefore fails to satisfy the most basic requirement of Mass DEP's regulations, which prohibits "any...incomplete... statements in any application...submit[ted] to the Department." 310 CMR 7.01(2)(a).

The *Massachusetts Environmental Policy Act* Regulations ("MEPA Regulations") also serve as a framework to use when evaluating whether a proposed

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[2] The two turbines are part of the Natural Gas Company's concerted plan—segmented into its Atlantic Bridge and Access Northeast Projects—to increase the natural gas capacity of the ISO-New England natural gas pipeline network. See Federal Energy Regulatory Commission Docket PF 16-1-000, Resource Report 1 at 2; FERC Docket CP 16-9-000 Environmental Assessment at 1-1.

[3] In contrast, an "Emission Unit" is defined as "any individual piece of equipment from which any air contaminant is emitted to the ambient air space; for example, an individual boiler, a single degreaser, etc." 310 CMR 7.00.

project is being segmented in order to evade a complete review its impacts. Specifically, 301 CMR 11.01(2)(c) requires consideration of "the entirety of the Project, including any likely future Expansion,[4] and not separate phases or segments thereof." The MEPA Regulations also make clear that all work on one site constitutes a single project:

> Examples of work or activities that constitute one Project include work or activities that:
>
> * * *
>
> [C]onstruct more than one structure (such as more than one single family dwelling) and appurtenant structures, facilities, and other improvements on a site, unless a plan for the subdivision or other legal division creating or allowing separate lots or parcels was definitively approved or endorsed in accordance with applicable statutes and regulations prior to the effective date of 301 CMR 11.00.

310 CMR 11.01(c)(2).[5]

The Proposed Plan Approval[6] accepts at face value the Natural Gas Company's description of the compressor station facility as consisting of a single natural gas turbine, despite clear evidence that a larger natural gas turbine is slated to be constructed on the same parcel of land and is likely to share a stack with its sister turbine. Indeed, the Natural Gas Company will likely install the two turbines at the same time.[7] The Natural Gas Company originally proposed to have the first turbine in service in the fall of 2017 and the second turbine in service in the fall of 2018. Recent filings, however, reflect that the first turbine will not be constructed until the end of 2017 or early 2018.[8]

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[4] Expansion is defined as "[a]ny material increase in Capacity, demand on infrastructure, or physical dimension of a Project or frequency of activity associated with the Project." 301 CMR 11.02.

[5] On July 11, 2016, the Secretary determined that the Natural Gas Company had not segmented the construction of the Compressor Station in violation of MEPA. On September 15, 2016, the Town filed a Notice of Intent to Commence an Action Alleging the Improper Determination of Whether a Project Requires the Preparation of an Environmental Impact Report.

[6] *See* Proposed Plan Approval at §1(B).

[7] *See* FERC Docket CP 16-9-000, Atlantic Bridge Project Implementation Plan, Appendix C6h (Feb. 3, 2017).

[8] *See* FERC Docket CP 16-9-000, Letter from FERC to Representative Lynch (Apr. 19, 2017) ("Algonquin does not anticipate constructing the [first] Weymouth Compressor Station [turbine] until late 2017 or early 2018."). [

It defies logic to conclude that the proposed expansion of the compressor station at the same exact site, during the same time period, and with a more than doubling of the turbines' combined horsepower capacity, should not be reviewed as a single Comprehensive Plan Approval Application that includes all of the emissions units at the facility.

The Proposed Plan Approval's emissions analysis is therefore deficient because of its myopic focus on a single turbine while simultaneously ignoring the turbine proposed to be placed next to it in the near-term future. Two large natural gas compressor turbines located within the same facility are likely to cause a condition of air pollution that will not be adequately evaluated or mitigated if MassDEP adopts a piecemeal approach to it review in multiple Non-Major Comprehensive Plan Approval Applications.

II. The Available Air Monitoring Data and the Natural Gas Company's Emissions Modeling Are Both Deficient.

As both the U.S. Environmental Protection Agency and MassDEP (see MassDEP, Massachusetts 2016 Air Monitoring Network Plan Response to Comments (Nov. 2016) attached as "Exhibit A") have conceded, there is need for an air quality monitoring station in the Fore River Basin because current monitoring data does not accurately represent the area. Such a monitoring station is the only mechanism available to ensure that the health and safety of South Shore residents is properly monitored. As noted by Weymouth's peer reviewer, Resource Systems Group, Inc. ("RSG") (see comments attached as "Exhibit B"), this need is of sufficient importance such that no air plans should be approved until data from a Fore River Basin monitoring station can be utilized in facility modeling. Currently, no such data exist, and the only logical consequence of this fact is that consideration of the Natural Gas Company's plans should be deferred.

When accurate monitoring data become available, it will be necessary to redo the relevant modeling for the compressor station. At that time, both the correct horsepower of the Solar Taurus 60-7802 and the additional Solar Taurus 70 turbine must be incorporated into the modeling.

In addition, both startup and shutdown emissions should be included. As noted by RSG, the applicable Ambient Air Limit for formaldehyde will be exceeded if startup and shutdown emissions are included in the air emissions modeling analysis at either of the turbines' full horsepower capacity. When both turbines are included, violations of the 1-hour NO_2 standard, and the 24-hour and annual Ambient Air Limit for benzene and formaldehyde are indicated.

RSG also noted that there is no scientific support for MassDEP's regulatory guidance allowing ambient formaldehyde levels to be excluded from the modeling, especially since the available data indicate that background conditions exceed the formaldehyde Ambient Air Limit by 42 times. According to RSG, the proposed emissions control catalyst with a 50% efficiency rating for organic emissions, such as formaldehyde, should not be considered Best Available Control Technology ("BACT") when there are commercially available catalysts with an 80% organic control efficiency rating.

Based on the foregoing, it is clear that the Air Plan approval process should be deferred until reliable monitoring data can be obtained, modeling is redone to reflect the equipment and operating parameters actually being proposed, and proper BACT is identified for implementation.

III. The Baseline Noise Data is Deficient and Misleading.

RSG also reviewed the Pre-Construction Noise Assessment submitted by the Natural Gas Company as part of its Plan Application, and concluded that it relies on sound monitoring data collection methodologies and practices that do not conform to acoustical industry standards (see comments attached as "Exhibit C"). Due to these deficiencies, RSG conducted its own sound monitoring from representative locations, in accordance with the DEP BWP AQ Sound form's instructions. Using the results of this monitoring, the sound levels claimed by the Natural Gas Company would exceed the Noise Policy's 10 dBA-above-ambient threshold for all four monitoring locations for nighttime sound levels, with a 26 dB difference between the lowest nighttime ambient sound level (L_{90} 1 hr. dBA) and the estimated maximum project-related sound level (dBA), as well as daytime violations at two of the four monitoring sites.

Based on these results, it is clear that the noise component of the Air Quality Proposed Plan Approval should be disapproved, and the Natural Gas Company should be required to resubmit a noise impact analysis that conforms to acoustical industry standards and demonstrates compliance with MassDEP's noise policy.

Sincerely,

J. Raymond Miyares
Blake M. Mensing

Encl.

EXHIBIT A

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Executive Office of Energy & Environmental Affairs

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Governor

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Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

Massachusetts 2016 Air Monitoring Network Plan
Response to Comments
November 2016

MassDEP operates a network of 24 ambient air quality monitoring stations at locations across the State as part of a comprehensive program to provide information about air quality to the public and to determine compliance with National Ambient Air Quality Standards (NAAQS). Each year, MassDEP is required to submit to the U.S. Environmental Protection Agency (EPA) an Air Monitoring Network Plan in accordance with Title 40 CFR Part 58.10. On May 20, 2016, MassDEP published a draft 2016 Network Plan for a 30-day public comment period. MassDEP received comments on the draft Network Plan from the U.S. Environmental Protection Agency Region 1 (EPA) and from several state and local officials and citizens requesting air monitoring in the Fore River Basin area, which includes parts of Weymouth, Quincy, and Braintree. MassDEP has summarized and responded to these comments below.

EPA's Comments:

1. Comment: Page 5, Ozone Network – We understand that MassDEP will be working in 2016 to establish a new ozone monitor in the Pittsfield Consolidated Metropolitan Statistical Area (CMSA). It is extremely important that this site be established soon because the Pittsfield area has been lacking a required ozone monitor per CFR requirements since the shutdown of the Mt. Greylock site at the end of 2014.

Response: MassDEP is working diligently to find a suitable location that is willing to host an ozone monitor in the Pittsfield CMSA and will continue to work with EPA to meet the ozone monitoring requirement.

2. Comment: Page 6, Sulfur Dioxide Network – On August 21, 2015 (80 FR 51502), EPA finalized its Date Requirements Rule for the 2010 1-Hour Sulfur Dioxide Primary National Ambient Air Quality Standard (NAAQS). This rule directs state air agencies to provide data to characterize current air quality in areas with large source of SO2 emissions. Currently, MassDEP does not have any source covered under the Data Requirements Rule (DRR). As such,

we do not envision any new monitoring obligations for SO2. Moreover, we have suggested some opportunities where SO2 monitoring may be unnecessary and could be discontinued.

Response: MassDEP appreciates EPA's comment and will continue to evaluate opportunities to optimize its SO_2 monitoring network.

Comment 3: Page 7. Nitrogen Oxides Network – MassDEP discusses the near-roadway monitoring requirements that were established when EPA revised the NO2 NAAQS in January 2010 and established a 1-hour NO2 standard. Under this rule, there are requirements to operate two near-road sites in the Boston-Cambridge-Newton, MA-NH metropolitan area, and one site in each of the Providence-Warwick, RI-MA; Springfield, MA; and Worcester, MA metropolitan areas. The Providence, RI, near-road site established by RI DEM has met the obligation in the Providence-Warwick, RI-MA area, and your Von Hillern Street monitor in Boston is meeting the obligation for the first of the required near-road monitors in the Boston-Cambridge-Newton, MA-NH metropolitan area.

In March 2013, EPA made revisions to the NO2 monitoring Requirements rule in response to feedback from the States encouraging a staggered deployment of these near-road monitors; with the first phase being deployed in January, 2014; a second phase by January, 2015; and a third phase by January, 2017. Under this rule, a second near-road NO2 site in the Boston area should have been operating by January 1, 2015. We realize that MassDEP has identified a potential location and EPA remains committed to working with you to establish a monitor to meet federal requirements as expeditiously as practicable. It is extremely important that this site is established as soon as possible since it is overdue.

On May 5, 2016, EPA proposed to remove the requirement for near-road NO2 monitoring stations in Core Based Statistical Areas (CBSAs) with population between 500,000 and 1 million (the third phase discussed above).) Provided EPA finalizes that action as proposed, EPA agrees with MassDEP's plans to not locate additional near-road monitors in the Springfield or Worcester metropolitan areas.

Response: MassDEP is working diligently to secure the location it has identified for a the second required near-road site in the Boston-Cambridge-Newton, MA-NH area and will continue to work with EPA to meet the near-road monitoring requirement.

4. Comment: Page 9. PM10. We note and agree with the closure of the Boston Kenmore Square PM10 monitor at the end of 2016.

Response: MassDEP appreciates EPA's comment.

5. Comment: Page 10. PM2.5 Network – On January 15, 2013, EPA revised the PM2.5 standard. In that rule, EPA also established that all continuous PM2.5 FEM monitors operating for more than 24 months should be used for comparison to the NAAQS unless a State specifically requires the data to be excluded under 40 CFR 58.11(e) and EPA approves that request. All of MassDEP's BAMs have a Federal Equivalent Method (FEM) designation. We

are pleased that MassDEP will use data from all its FEM monitors for comparison to the NAAQS.

We note that there are number of potential resource saving opportunities relative to the PM2.5 network, particularly for filter-based FRMs, if the continuous FEM were considered the primary monitor at the site (for quality assurance purposes), and we would be a happy to discuss those possibilities. Related, we note and agree with the closure of three PM2.5 filter-based monitors at Worcester Washington Street (25-027-0016), Boston Kenmore Square (25-025-0002) and Lawrence (25-009-6001) at the end of 2016.

Finally, we understand that MassDEP will be working in 2016 to establish a new continuous PM2.5 monitor in the Pittsfield CMSA and a new continuous PM2.5 monitor in North Adams within a valley that is potentially affected by wood smoke. (We understand that the existing city of Pittsfield locations may be closed when these new sites are established.) As you know, EPA Region 1 has developed a GIS tool which can be helpful to identify valley locations across the region which may be impacted by wood smoke. This tool can be helpful in choosing the locations of these new sites. For Massachusetts, locations with more populated valley locations in Berkshire County include North Adams, Adams, and to a lesser extent, Williamstown, Pittsfield, Dalton, and Great Barrington.

Response: MassDEP appreciates EPA's comments. MassDEP will continue to evaluate opportunities to rely more on continuous FEM monitors and reduce filter-based monitoring. MassDEP is continuing to efforts to secure a location for a $PM_{2.5}$ monitor in the Pittsfield CMSA and a suitable valley location.

6. Comment: Page 13. We note and acknowledge the following as your "Summary of Network Changes." As noted in our comments above, we do have comments in regard to some of these proposed changes.

Response: MassDEP appreciates EPA's comments.

Comments Requesting Air Monitoring in the Fore River Basin

MassDEP received a number of comments requesting air monitoring in the Fore River Basin area from citizens and state and local officials that are summarized below.

7. Comment:

We request that MassDEP establish an air quality monitoring station in the Fore River Basin. This is a heavily industrialized area with significant emissions sources located immediately adjacent to very densely populated residential neighborhoods, several schools, and a designated environmental justice area. Current air emissions sources include a gasoline/oil depot, a chemical plant, two power plants, a regional sewage pump station, a sewage pelletizing plant, a hazardous waste transfer and treatment facility, smaller oil storage facilities/tanks, the heavily-traveled Fore River Bridge, and passageway for large ships. In addition, Spectra Energy is proposing a gas-fired compressor station in North Weymouth that would further degrade air

quality and affect human health, and also potentially lead to local NAAQS violations. The nearest MassDEP air monitoring stations are in Boston and a Blue Hill, which are unlikely to detect pollutants that may - now or in the future - concentrate in the Fore River Basin. Residents are experiencing elevated levels of respiratory illness and cancer. There is a need for the residents in this area to have local air quality monitored, including levels of particulates and toxics, and not have to rely on data from areas that do not accurately represent the area. An air monitoring station is needed in the Fore River area will ensure the health and safety of South Shore residents is properly monitored.

Response: MassDEP's monitoring network in Eastern Massachusetts currently meets EPA's network requirements and at this time MassDEP does not have the resources necessary to establish additional monitoring stations. MassDEP operates monitoring stations in several dense urban environments near both mobile and stationary sources, including Boston, Worcester, Springfield, Lawrence and Fall River, which all show pollutant levels below EPA's health-based National Ambient Air Quality Standards. MassDEP would expect similar air quality in the Fore River Basin area. Air quality concerns specific to Spectra Energy's proposed natural gas compressor station will be addressed through MassDEP's permitting process.

8. Comment: Ambient air quality samples to deem this area safe to site a compressor station in respect to air quality were taken from points 5 to 10 miles away. The current air monitoring locations are not heavily laden with industry like the Fore River Basin is. We know from the other compressor sites that the release of gas components is a grave threat to the air quality. Ambient air quality measurements used to represent background in the dispersion modeling for Spectra Energy's proposed compressor station were taken from MassDEP's monitoring station in Roxbury. Given the heavy industrial emissions and unique atmospheric conditions in the Fore River Basin, it is likely that the modeling does not fully characterize actual conditions. Local air samples were taken recently using a Dylos monitor that indicate that background PM2.5 concentrations are higher in the Fore River Basin than the PM2.5 concentrations in Roxbury that were used as background concentrations in Spectra Energy's modeling.

Response: Comments regarding the background concentrations used in air dispersion modeling are not within the scope of the Network Plan, but will be addressed by MassDEP's review of Spectra Energy's Air Dispersion Modeling, currently underway.

EXHIBIT B

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April 28, 2017

Mr. J. Raymond Miyares
Miyares and Harrington LLP
40 Grove Street, Suite 190
Wellesley, MA 02482

RE: Algonquin Gas Transmission, LLC Proposed Plan Approval Comments

Dear Mr. Miyares:

At your request, RSG performed a review of the Proposed Plan Approval for Algonquin Gas Transmission, LLC ("Algonquin"). RSG has also reviewed the Non-Major Comprehensive Plan Approval Application ("permit application") and Air Dispersion Modeling Report ("modeling report") prepared by Trinity Consultants. This letter provides RSG's comments regarding the Proposed Plan Approval.

1. Section 1.B, Page 2. The turbine capacity is listed at 8,664 horsepower (HP). The permit application and modeling report list the turbine capacity at 7,700 HP. We understand the air dispersion modeling reflects 7,700 HP; therefore, the modeling underestimated air quality impacts by as much as 12.5% if the turbine will be operated at 8,664 HP (8,664 HP is 12.5% larger than 7,700 HP).

2. Section 1.B, Page 3. The plan approval refers to "transient events," which the DEP states will be limited to 50 hours per month and 125 hours per consecutive 12-month period. The permit application refers to startup and shutdown as transient events. However, the modeling report does not mention transient events. Hence, it is not clear if transient events represent startup/shutdown or if they represent blowdowns or other events entirely different from startup/shutdown. Either way, the air quality impacts appear to be further understated.

3. Section 1.B, Page 3. The permit application states there will be 416 startups/shutdowns per year, with startups and shutdowns lasting nine minutes and three and one half minutes respectively. This equates to 86.7 hours per year of startup and shutdown collectively. This is less than the apparent amount approved by the proposed plan approval (125 hours per consecutive 12-month period). As mentioned in comment #7 below, startup/shutdown emissions do increase pollutant concentrations, so startup/shutdown should be modeled for

at least benzene and formaldehyde for the 125-hour period before the DEP approves any additional startup/shutdown emissions.

4. Table 4, Page 9. We understand that another turbine is planned for the same compressor station proposed by Algonquin. This second turbine will be rated at 10,915 HP. Assuming close proximity, similar design, and a linear relationship between horsepower and emissions, the second turbine would increase emissions by 140% over what has been modeled. Also, assuming a linear relationship between emissions and project pollutant concentrations, the Algonquin model-predicted concentrations would increase by 140%. This level of increase in the concentrations in Table 4 would result in violations of the 1-hour NO_2 standard.

5. Table 5, Page 10. The air toxics results in this table can also be scaled upward as described in the previous comment. Doing so would result in violations of the 24-hour and annual benzene standards and the annual formaldehyde standard.

6. Startup/shutdown. EPA guidance allows for some discretion for modeling startup/shutdown for criteria pollutants having probabilistic air quality standards (NO_2, SO_2). The modeling report cites this guidance as support for not modeling startup/shutdown conditions. However, we are not aware of any EPA or state level guidance which grants discretion to permit applicants to decide whether or not to model air toxics (like benzene and formaldehyde) for startup/shutdown. Further, the Massachusetts Ambient Allowable Levels (AALs) for air toxics are not probabilistic standards. Therefore, there is no basis for not modeling startup/shutdown for air toxics in an area with elevated ambient concentrations of air toxics (this is described in greater detail in the next comment).

7. Modified modeling. RSG modified the applicant's air dispersion modeling files to reflect startup/shutdown conditions and found the annual formaldehyde concentration was three percent higher than modeled by Algonquin. Therefore, the model-predicted result will increase from approximately 86% to 89% of the Massachusetts AAL. The formaldehyde standard will be exceeded if this result is increased by 12.5%, as suggested in comment #1 above.

   We note that the Harrison Avenue air monitoring station monitoring data (which was used for criteria pollutant modeling) show the annual ambient concentrations of formaldehyde exceed formaldehyde's annual AAL by 42 times. Nevertheless, DEP guidance allows the exclusion of background formaldehyde levels from air toxics modeling. This underscores the importance of reflecting all operating modes in the air quality modeling. In addition, it underscores the importance of controlling and monitoring formaldehyde emissions from the turbine. The applicant has proposed a catalyst which controls 50% of organics emissions (like formaldehyde). The applicant asserts a catalyst with 50% control is the Best Available Control Technology (BACT) for controlling organics. However, RSG permitted a similar project in the Northeast with a catalyst having an 80% control efficiency; therefore, DEP must consider BACT as being an 80% organics (including formaldehyde) for this project.

8. Table 9, Page 17. This table provides monitoring and testing requirements. The applicant is required to continuously monitor the flow of gas combusted in the turbine, the temperature

at the catalyst inlet, and the pressure drop across the catalyst. However, the Proposed Plan Approval does not require the applicant to submit for DEP approval the specifications of any monitoring equipment. Further it also does not include any catalyst management requirements such as the frequency and type of inspections when the equipment is on-line, inspections when the equipment is off-line, provisions for catalyst cleaning, provisions for catalyst replacement, calibration of monitoring sensors. The Air Plan approval should not be issued, as long as these measures are not proposed to be implemented.

9. Table 9, Page 17. This table requires emission testing for NOx, CO, PM2.5, and VOCs. However, as mentioned, a number of specific air toxics (benzene and formaldehyde) were shown in the applicant's modeling to be approaching (or possibly exceeding) their respective standards. Therefore, we recommend that DEP require testing of benzene and formaldehyde to demonstrate that their standards will not be exceeded.

10. Offsite odor impacts. The proposed plan approval allows gas releases in the form of unplanned leaks and planned blowdowns. However, the permit application and the proposed plan approval do not address resulting odor emissions and odor containment within the property boundary. Odor emissions and containment must be addressed because the proposed facility is located near the facility's boundary with the King's Cove conservation area.

11. EPA Fore River Basin monitoring comments. EPA requested MassDEP to establish a monitoring station in the Fore River Basin in EPA's comments on the Massachusetts 2016 Air Monitoring Network Plan.[1] EPA also commented that Spectra's air dispersion modeling did not fully account for air toxics concentrations in the Fore River Basin. The following excerpts from EPA's comments emphasize EPA's view that further study (via monitoring and modeling) is required for the proposed Weymouth compressor station.

    a. "This is a heavily industrialized area with significant emissions sources located immediately adjacent to very densely populated residential neighborhoods, several schools, and a designated environmental justice area." (EPA comment #7)

    b. "There is a need for the residents in this area to have local air quality monitored, including levels of particulates and toxics, and not have to rely on data from areas that do not accurately represent the area. An air monitoring station is needed in the Fore River area will ensure the health and safety of South Shore residents is properly monitored." (EPA comment #7)

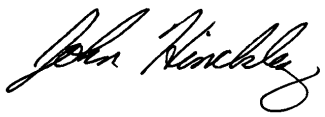
    c. "The current air monitoring locations are not heavily laden with industry like the Fore River Basin is. We know from the other compressor sites that the release of gas components is a grave threat to the air quality. Ambient air quality measurements used to represent background in the dispersion modeling for Spectra Energy's proposed compressor station were taken from MassDEP's monitoring station in Roxbury. Given the heavy industrial emissions and unique atmospheric

[1] Massachusetts 2016 Air Monitoring Network Plan Response to Comments. Prepared by Massachusetts Department of Environmental Protection. November, 2016.

conditions in the Fore River Basin, it is likely that the modeling does not fully characterize actual conditions." (EPA comment #8).

Sincerely,

RSG



JOHN HINCKLEY, QEP
Director

EXHIBIT C

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May 1, 2017

Mr. J. Raymond Miyares
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Wellesley, MA 02482

RE: Algonquin Gas Transmission, LLC Proposed Plan Approval Comments Regarding Potential Noise Impacts & Ambient Sound Level Monitoring Results

Dear Mr. Miyares:

At your request, RSG performed a review of the Proposed Plan Approval for Algonquin Gas Transmission, LLC and the noise assessment[1] performed by Hoover & Keith, Inc ("Pre-Construction Noise Assessment"). In addition to reviewing these documents, and at the direction of the Town of Weymouth, RSG conducted our own ambient sound level monitoring throughout the project area for a one-week period in April of 2017. This letter provides RSG's comments regarding the Proposed Plan Approval, and the results of RSG's ambient sound level monitoring compared with projected sound levels from the project.

REVIEW OF THE PROPOSED PLAN APPROVAL AND THE PRE-CONSTRUCTION NOISE ASSESSMENT

The Proposed Plan Approval relies on the Pre-Construction Noise Assessment, which looked at the projected sound levels from the project at nine noise sensitive areas (NSA) and compared them with the measured ambient (L_{90}) nighttime sound levels measured within each NSA. The MassDEP Noise Policy limits the maximum noise impacts to an increase in broadband sound level of no more than 10 dBA above "ambient", which is defined as the 10^{th}-percentile sound level (L_{90}), but the Pre-Construction Noise Assessment cannot be relied upon by the MassDEP due to several flaws in the ambient sound level measurements. The sound level monitoring conducted for the Pre-Construction Noise Assessment does not conform to standard methodologies or practice, and therefore results in inaccurate and biased ambient sound levels.

[1] Hoover & Keith, Inc., *Weymouth Compressor Station Results of Additional Ambient Sound Survey and Updated Acoustical Analysis of a New Natural Gas Compressor Station Associated with the Proposed Atlantic Bridge Project*, January 11, 2017

The Pre-Construction Noise Assessment also failed to consider all of the noise sources associated with the proposed project when evaluating it against the MassDEP Noise Policy. While it considered the breakout noise from the building, turbine exhaust and intake, as well as a number of other sources, it did not quantify the noise emissions from blowdown events and compare them with the measured L_{90}.

Measurement Positions

The measurement positions, shown in Figure 1 of the Pre-Construction Noise Assessment, were placed next to major roadways and are not representative of the majority of sensitive receptors in the area. Most residences in the area are located on secondary streets in the community, but Measurement Position 1 and 5 were located on primary roadways, and seemingly within approximately 50 feet of the roadway. In addition, Measurement Position 4 was located on Monatiquot Street, the first street adjacent to the Calpine power plant. These are not adequate measurement positions that are representative of the residential or recreational areas near the proposed project. Locations representative of residential areas would have been in the yards of homes on the secondary streets where the majority of residences are located, or within parks and other public spaces. These areas are set back from Bridge Street (MA Rte. 3A) and Monatiquot Street by 200 to 800 feet, not within 50 feet.

Moreover, the closest sensitive land use to the project is not represented in the Pre-Construction Assessment at all. The proposed project will be located in an area immediately adjacent to the Town of Weymouth's King's Cove Parcel which is a conservation parcel that is used by the public for recreation. Measurement Position 1, which is next to Bridge Street, is the closest measurement location to this area, but the King's Cover Parcel extends approximately 1,000 feet north of Bridge Street, and comes much closer to the project than Measurement Position 1. Given the proximity of portions of the King's Cove Parcel to the proposed project, and the insufficient and biased background sound level data in the area, the potential difference between the maximum sound levels from the project and ambient sound levels may be much greater than what is reported in the Pre-Construction Assessment.

Duration of Measurements

The existing background sound levels, both the L_{dn} and the Daytime and Nighttime L_{90}, as reported in the Assessment, are based on short-term measurements that were sampled by the applicant for just three minutes at each location.[2] This is not an accurate methodology; nor does it represent standard practice in the field of acoustics.[3] Long-term monitoring over the course of at least one to two weeks is necessary in order to capture the range of environmental and anthropogenic conditions that may occur at a site in order to provide an estimate of what the day-night level (L_{dn}) or the "Lowest Ambient Nighttime Level" (L_{90}) may be for a given site. Even the authors of the noise assessment state that, "In our opinion, the measured ambient sound data adequately quantifies and is

[2] See Tables 3 through 6 on pages 19-22, Id.

[3] ANSI S12.9 Part 2, *Quantities and Procedures for Description and Measurement of Environmental Sound. Part 2: Measurement of long-term, wide-area sound,* provides temporal sampling requirements for a variety of land uses to ensure accuracy of L_{dn} measurements and for no land use is a sampling period of just three minutes considered accurate.

representative of the existing ambient environment at the identified receptors/NSAs for the meteorological conditions that occurred during the sound survey" [emphasis added].[4] The measurement results are only representative of the conditions that occurred over the short period during which the monitoring occurred, for three minutes on August 14, 2015.

The duration of the applicant's measurements do not conform with the requirements of MassDEP's Form BWP AQ Sound. This reads, "For equipment that operates, or will operate, continuously and is a significant source of sound, such as a proposed power plant, background shall be established via a minimum of seven consecutive days of continuous monitoring at multiple locations with the dBA L 90 data and pure tone data reduced to one-hour averages." Given that this project is a significant source of sound close to residential areas, the applicant's three minutes of monitoring data do not conform with MassDEP seven-day monitoring requirement.

Blowdown Events

The Pre-Construction Noise Assessment states that, "The noise of a unit blowdown venting via a blowdown silencer will be specified to meet an A-wt. sound level of **60 dBA** at a distance of 300 feet."[5] It does not state what acoustical metric (L_{max}, L_{eq}, L_{dn}, etc.) the 60 dBA represents or provide evidence for how that will be achieved; nor does it compare it with the measured ambient L_{90} at the identified NSA. Simply put, the single statement about blowdown events does not demonstrate that the project can meet the MassDEP Noise Policy.

AMBIENT SOUND LEVEL MONITORING CONDUCTED BY RSG

RSG conducted ambient sound level monitoring at four locations near the proposed project for a period of six days from April 20 to April 26, 2017. Monitor 1 was located on the King's Cove Parcel approximately 550 feet north of Bridge Street at a location adjacent to where the proposed compressor station is to be located. Monitor 2 was located approximately 95 feet north of Bridge Street and 760 feet southeast of the proposed site. This location is representative of the back side of some of the closest residences to the proposed project, located on Bridge Street. Monitor 3 was located in the front yard of 60 Bluff Road, which is approximately 1,475 feet south of the proposed site. Monitor 4 was located in the backyard of 11 Fore River Avenue, which is approximately 1,940 feet east-northeast of the proposed site and very close to Measurement Position 7 used in the Pre-Construction Noise Assessment. A map of these four monitoring locations is provided in Figure 1.

All sound level meters logged A-weighted equivalent continuous sound levels at one-second intervals. Monitor 1 was a Rion NL-22. Monitor 2 was a Larson Davis Model 831. Monitors 3 and 4 utilized Svantek Model 979s. Each monitor was field-calibrated before and after the monitoring period. Microphones were mounted approximately 5 feet above ground and were equipped with 7-inch ACO Pacific hydrophobic windscreens.

Figure 1 provides the lowest hourly ambient sound level ($L_{90\ 1hr}$) by daytime (7 a.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.). These monitoring results are notably lower than the results presented in the Pre-Construction Noise Assessment submitted by the applicant. Table 2 of the Proposed Plan

[4] See page 6, Id.
[5] See page 10, Id. (emphasis in original).

Approval lists the Measured Ambient Nighttime L_{90} reported in the Pre-Construction Noise Assessment by each NSA. Comparing the data from RSG's Monitor 4 to the data from NSA 7, we see that the lowest nighttime ambient sound level ($L_{90\ 1hr}$) is actually 28 dBA versus the applicant's reported 39 dBA, an 11 dB difference. If we compare RSG's Monitor 2 to the data from NSA 1, the lowest nighttime ambient sound level ($L_{90\ 1hr}$) is actually 33 dBA versus the applicant's reported 45 dBA. The applicant didn't monitor near RSG's Monitor 1 or Monitor 3 but, at those locations, the lowest nighttime ambient sound levels ($L_{90\ 1hr}$) are 37 and 30 dBA, respectively. These levels are substantially lower than the Measured Ambient Nighttime L_{90} reported in the Pre-Construction Noise Assessment and relied upon in the Proposed Plan Approval.

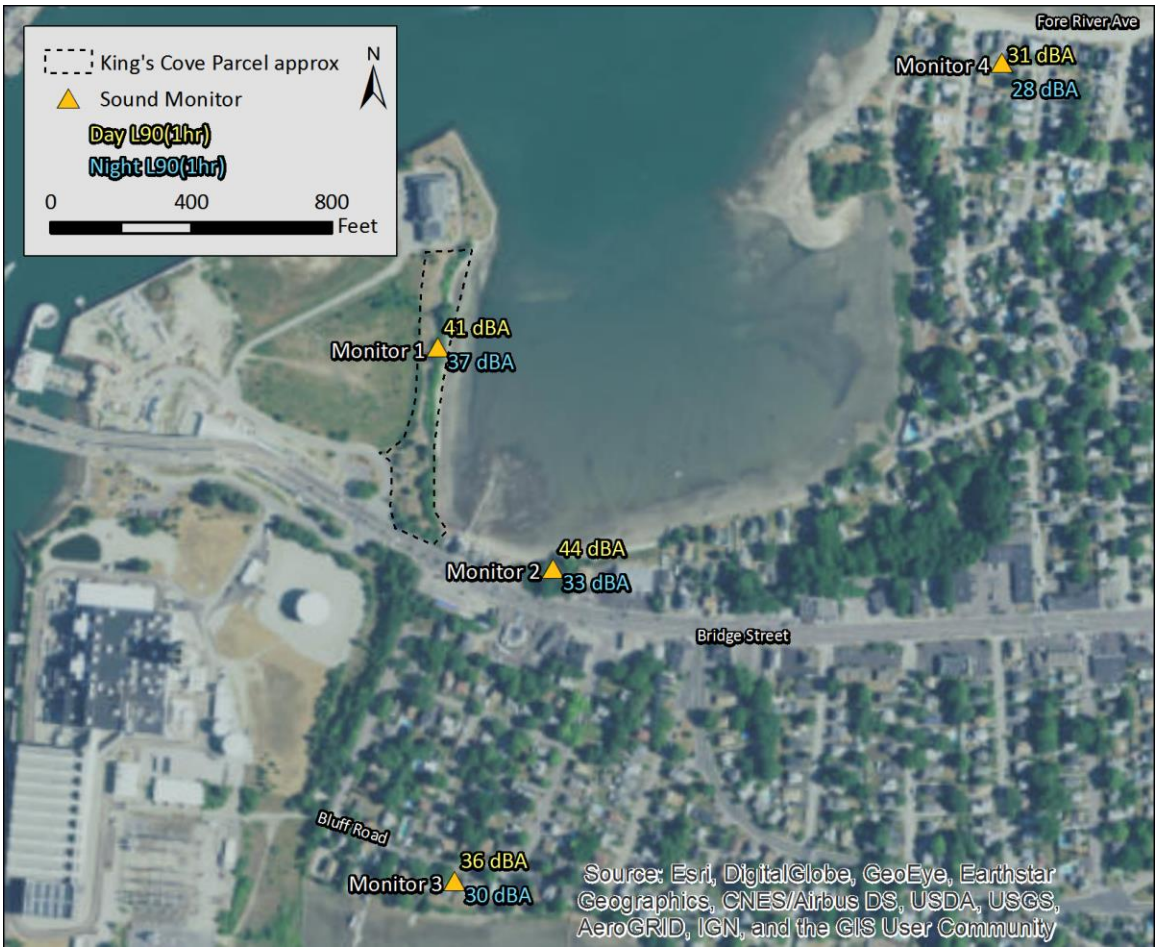

FIGURE 1: RSG'S AMBIENT MONITOR LOCATIONS WITH DAYTIME & NIGHTTIME LOWEST AMBIENT HOURLY L90

RSG does not have sufficient detail about the compressor station (such as equipment noise specifications and detailed design drawings) to conduct our own sound propagation modeling but, using the applicant's projections from the Pre-Construction Noise Assessment, we are able to estimate the maximum project-related sound levels at each of the monitoring locations. Using all the sources and attenuation listed in Table 7 of the Pre-Construction Noise Assessment and the information provided about blowdown events (60 dBA at 300 feet[5]), we have estimated the

maximum project-related sound level at each monitoring location and compared it with the lowest monitored daytime and nighttime ambient sound level ($L_{90\ 1hr}$) as shown in Table 1.

Table 1 shows that the maximum project-related sound levels will exceed (shown in red) the MassDEP Noise Policy at all four monitoring locations at night and at two monitoring locations, the King's Cove Parcel and the residence on Fore River Avenue, during the day.

TABLE 1: COMPARISON OF LOWEST MONITORED DAYTIME AND NIGHTTIME AMBIENT SOUND LEVELS WITH ESTIMATED MAXIMUM PROJECT-RELATED SOUND LEVELS

Location	Estimated Maximum Project-Related Sound Level (dBA)	Lowest Daytime Ambient Sound Level ($L_{90\ 1hr}$, dBA)	Lowest Nighttime Ambient Sound Level ($L_{90\ 1hr}$, dBA)	Daytime Difference (dB)	Nighttime Difference (dB)
Monitor 1	63	41	37	+22	+26
Monitor 2	53	44	33	+9	+20
Monitor 3	45	36	30	+9	+15
Monitor 4	43	31	28	+12	+15

With the information included in this letter, it is our opinion that the Pre-Construction Noise Assessment is inaccurate and insufficient to make a determination regarding whether the noise from the compressor station will meet MassDEP Noise Policy. In addition, our monitoring results when compared to estimated maximum project-related sound levels, based on the applicant's calculations in the Pre-Construction Noise Assessment and the addition of blowdown events, show that the project will exceed MassDEP Noise Policy limits at a number of locations, both at night and during the day.

Sincerely,

RSG

EDDIE DUNCAN, INCE BD. CERT.
Director