September 29, 2014

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

Dear Ms. Bose:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for Spectra Energy's Algonquin Incremental Market (AIM) Project, FERC Docket #CP14-96-000. Founded in 1988, Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the negative impacts of mineral and energy development while seeking sustainable solutions.

Like every other region in an era of accelerating climate change and limited fossil fuel supplies, New England confronts significant economic and environmental challenges in meeting energy demand. We understand that the Federal Energy Regulatory Commission (FERC) is operating within this context when determining whether to approve large natural gas transport and delivery systems, such as the AIM Project currently being proposed by Algonquin Gas Transmission, LLC (Algonquin).

However, energy supply pressures should not be allowed to compromise the careful review of a project's potential environmental impacts, nor an applicant's responsibility to be fully transparent about its plans and provide all necessary information to regulatory and permitting agencies. Yet this is what appears to have occurred with the DEIS for the AIM Project.

In the following pages, we offer detailed comments on key aspects of the DEIS. However, **our overall conclusion is that the DEIS is flawed, incomplete, and does not support FERC's overall conclusion that the project will avoid significant environmental impact. We request that the current DEIS be withdrawn and a Supplemental DEIS be released with at least an additional 90 day public comment period following**.

Even though Algonquin has neglected to submit key information, FERC is allowing submission of several documents *after* the public comment period for the DEIS ends. This effectively deprives the public of a meaningful opportunity to comment on the proposed project and to contribute information that FERC should consider *before* reaching its conclusions about environmental impact.

The omission of several documents and analyses implies a "just trust us" stance by FERC that is inappropriate for a public agency and a document designed to solicit public comment. Only the Commission will have access to the documents eventually submitted "after the fact" by the operator, and presumably only the Commission will be reviewing them with regard to their completeness, level of environmental protection, and role in FERC's final decision on the AIM Project.

There are several reasons for our position that the DEIS should be withdrawn; key among them are:

1) FERC's failure to include the Atlantic Bridge Project in the DEIS. FERC acknowledges that the Atlantic Bridge Project would be similar to the AIM Project, that the two projects would have "facilities within the same region of influence," and that "air emissions during operation of compressor stations would overlap" (p. 4-272). Yet FERC dismisses any consideration of the cumulative impacts of the two projects on the basis that the Commission doesn't have yet have specific details on the Atlantic Bridge Project. Failing to include the Atlantic Bridge Project in the DEIS or to require Algonquin to submit information on it prior to review of the AIM Project risks the impermissible segmentation of environmental review, in violation of the National Environmental Policy Act (NEPA).

2) Omission from the DEIS of any site-specific information on the crossing plan for the Catskill Aqueduct. FERC presumes that Algonquin's ongoing consultation with the New York City Department of Environmental Protection, once complete, will ensure that the chosen crossing location and route would not result in environmental impact or influence FERC's final determination.

3) Omission from the DEIS of the Hazards Analysis being prepared for the pipeline crossing near Indian Point Nuclear Energy Center. Algonquin is currently consulting with Entergy regarding the pipeline crossing route and related impacts Indian Point—yet FERC gives Algonquin the benefit of the doubt that hazard mitigation measures, once established, would be sufficient to protect the public and the environment from potential safety-related problems and would not influence FERC's final determination.

4) Omission from the DEIS of completed design modifications for the proposed metering and regulating (M&R) stations. Algonquin has not submitted specific information on the equipment that would be used at these stations, making it impossible for FERC to reach conclusions about related air quality impacts. FERC states that even though "the scope of the changes to the M&R stations has not yet been defined" (p. 4-234), Title V air quality permits from New York, Connecticut, and Massachusetts are "unlikely" to be required (p. 4-222)—simply because the applicant "does not believe" they would be (p. 4-227). Similarly, the applicant is still evaluating noise control measures that would be implemented at M&R sites—but rather than requiring that such information be included in the DEIS, FERC merely asks Algonquin to file noise surveys *after operations begin* (p. 4-253).

Earthworks disagrees with FERC's conclusion that the AIM Project will not contribute to the expansion of natural gas development. FERC should conduct an analysis of impacts related to the potential expansion of gas-related infrastructure in and around the project's service area. In the DEIS, FERC limits analysis to impacts resulting from construction of the proposed Project even though additional infrastructure build-out is a reasonably foreseeable consequence, the effects of which should be considered as part of a cumulative impacts analysis.

In the DEIS, FERC states that, "The demand for energy and the proposed Project are a result of, rather than a precursor to, development in the region" (p. 4-276). Yet if energy demands can change over time, so too can the demand for energy transport and delivery systems. In fact, the proposed expansion and modification of segments of the existing Algonquin Gas Transmission System through the AIM Project illustrates the strong possibility that additional expansion could occur again in both the short- and long-term.

Because pipeline and compressor station projects can take years to complete, the capacity proposed in applications is based not only on current conditions, but on projections of future increases in gas production and demand. The oil and gas industry is transparent about the need for pipeline capacity to expand in order to boost drilling and production, and has cited insufficient pipeline capacity as a reason why the rate of drilling has slowed in the Marcellus Shale region.[1] In addition, the regional gas boom's next phase will involve new pipelines to move more gas to market both domestically and internationally.[2]

The draft New York Energy Plan issued earlier this year is in part predicated on the development and expansion of gas processing, transport, and delivery systems. Specifically, the Energy Plan foresees importing more natural gas from shale and other gas-bearing formations located out of state.[3] The AIM Project is a key part of the planning to considerably expand natural gas delivery capacity in the Northeast—which will logically promote increased gas extraction and consumption. This strategy will cement the state's reliance on natural gas and increase the negative environmental and health impacts of associated infrastructure such as compressor stations and processing plants (as well as contributing directly to air and water quality problems in producing states such as Pennsylvania).

The DEIS lacks any meaningful analysis of the cumulative impacts of the proposed Project on air quality. FERC should conduct such an analysis before the DEIS can be considered complete. The DEIS states that, "The AIM Project compressor stations would result in long-term impacts on air quality" (p. 4-272) and uses this as the rationale for only considering projects with similarly long-term impacts in its cumulative impacts analysis. At the same time, FERC concludes that the facilities that would be developed or expanded through the project are not anticipated to have a significant impact on air quality.

This inherent contradiction may be the result of the emissions thresholds included in the DEIS, which are directly related to whether each single component of the AIM Project would be a "major source" of emissions and trigger a review through the federal Prevention of Significant Deterioration (PSD) or Nonattainment New Source Review (NNSR) programs. However, because these requirements focus on individual facilities (i.e., one compressor station or metering station), FERC is in effect neglecting to analyze cumulative emissions across the project as a whole.

Compressor stations can be very large industrial facilities with several sources of air emissions, including tanks, fugitive emissions from leaks, dehydrators, heaters, and engines. These release contaminants such as carbon monoxide (CO); nitrogen oxides (NOx); fine and coarse particulate matter (PM2.5 and PM10); sulfur dioxides (SOx); volatile organic compounds (VOCs), hazardous air pollutants (HAPs) (e.g., formaldehyde, benzene, toluene, and xylene), and greenhouse gases such as methane and carbon dioxide.[4]

The Pennsylvania Department of Environmental Protection (DEP) compiles emissions data on thousands of natural gas facility sites, including compressor stations, on an annual basis.[5] The table below shows emissions from two compressor stations that Earthworks has studied, both of which have released tons of VOCs and HAPs to the atmosphere and are among the top sources of pollution in the rural counties where they're located.

Table 2. Emissions (in tons per year) of VOCs and HAPs from the Springhill (Fayette County) and Cumberland/Henderson (Greene County) compressor stations. PA DEP Annual Emissions Inventories.

	Springhill		Cumberland	
	2011	2012	2011	2012
VOCs	23.15	16.11	13.25	11.65

Benzene	0.16	0.35	0.14	0.10
Toluene	0.23	0.57	0.11	0.18
Ethylbenzene	0.01	0.02	0.03	0.0047
Xylenes	0.29	0.06	0.07	0.07
Formaldehyde	5.42	3.44	0.46	0.40
n-Hexane	0.39	0.40	0.24	0.13
2,2,4-trimethylpentane	0.03	0.03	0.07	0.13

The DEIS fails consider the risk to residents of exposure to hazardous air pollutants (HAPs Continuous air sampling is needed to determine the types and levels of contaminants that specific facilities emit; both FERC and the state permitting agencies should require such testing at both the compressor stations and the M&R stations that are part of the AIM Project. Earthworks has conducted air sampling and health symptom surveys in gas development areas across Pennsylvania. Participants living near gas wells and compressor stations have reported problems that are consistent with the scientifically established health effects of the chemicals detected at their homes.[6] Recent studies confirm the connection between gas and oil wells and facilities and the health problems experienced by nearby residents, including dizziness, headaches, nausea, fatigue, and nosebleeds.[7]

Further, complaints by residents living near compressor stations have been documented in several states. For example, both the Texas Commission on Environmental Quality and the Pennsylvania DEP have received complaints from residents living near compressor stations, including continuously strong odors and irritation of the nose and throat.

It is also well known that the combination of VOCs with sunlight forms ozone, a pollutant that can impair breathing, aggravate asthma and, over time, may permanently damage lungs.[8] A 2009 study estimated that taken together, gas compressor engines across the Dallas-Ft. Worth area would emit 65 tons per day of smog-forming compounds—the equivalent of about a third of all oil and gas emissions in the area and three times the smog-forming emissions coming from the area's airports.[9]

Many of the compressor stations in New York, including some slated for expansion through the AIM Project, are already classified as major sources of HAPs, which can cause cancer or other serious health effects, such as reproductive problems or birth defects, as well as adverse environmental and ecological effects, and are regulated by the US Environmental Protection Agency (EPA).[10] A recent peer-reviewed study underscores the importance of considering the cumulative exposures to air toxics from multiple sources simultaneously, since when people are exposed to multiple pollutants the dose increases synergistically, with a greater health effect felt than if these contaminants were inhaled separately.[11].

This concern underscores the importance of including the Atlantic Bridge Project in a cumulative impacts analysis of the AIM Project, which (as stated above) the DEIS neglects to do. The DEIS indicates that the Atlantic Bridge Project would be similar to the AIM project because it would also include new and expanded pipelines and compressor stations and modifications of metering stations (p. 4-272). Even if the two projects would be constructed at different times, they would likely end up operating simultaneously—making it imperative for FERC to adhere to its mandate under NEPA to consider known *future* cumulative impacts.

Finally, the DEIS fails to include a meaningful analysis of the climate change impacts of greenhouse gas (GHG) emissions from the construction and operation of facilities included

in the AIM Project. The conclusion in the DEIS that GHG emissions would not affect climate change in the project region is unfounded. FERC states that the AIM Project would only bring about GHG emissions increases of 0.4 percent and that this amount is "very small" in relation to total GHG emissions for the New England region (p. 4-236). Yet such a conclusion is impossible to reach without the emissions information currently omitted from the DEIS (discussed above), as well as FERC's lack of consideration of fugitive emissions in its assessment of air quality impacts. The assumption that the AIM Project would increase the use of natural gas regionally runs counter to the Commission's assertion (discussed above) that the Project would not promote further natural gas development—the presumed basis for not considering the "forcing effects" of the AIM Project.

In addition, FERC does not provide any evidence to support the assumption in the DEIS that the AIM Project would reduce fuel oil use and increase natural gas use, nor do so in such a way as to result in "regionally offsetting some GHG emissions" (p. 4-286). FERC's conclusion about GHG emissions rests on the unsubstantiated presumption that natural gas use has climate change benefits—which is questionable in light of a growing body of evidence to the contrary.

For example, a recent analysis of 200 studies shows that federal estimates of methane emissions from natural gas operations have been vastly underestimated.[12] Other studies show that the so-called climate benefits of natural gas disappear when emissions are assessed over a 20-year timeframe (rather than the 100-year timeframe preferred by the gas industry and many regulators and public officials)—in other words, closer to the window of time still available to avert climate disaster.[13] A comprehensive study issued this month concludes that increasing reliance on natural gas will have little or no effect on reducing GHG emissions (and may hinder the growth of renewable energy). [14]

In conclusion, FERC has failed to substantiate its conclusion that that AIM Project would not result in significant environmental impacts. The current DEIS should be withdrawn and FERC should explicitly address the concerns detailed above and provide additional information and time for public review and comment. In the absence of such action, residents of Connecticut, Massachusetts, New York, and Rhode Island will have firm grounds to believe that FERC, a public agency, is not acting in the public interest, but placing the environment and health at risk by approving the AIM Project.

Thank you for your consideration.

Sincerely,

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[2] Laura Olson and Steve Esack, "More pipelines the next phase of Marcellus Shale drilling boom." The Morning Call, August 8, 2014. www.mcall.com/news/nationworld/pennsylvania/mc-pa-shale-pipelines-corbett-wolf-20140808-story.html.

[3] 2014 New York State Draft Energy Plan, Volume 2, Sources, at 103, http://energyplan.ny.gov.

[4] Pennsylvania Department of Environmental Protection. 2013. Air Emissions Inventory Data for the Unconventional Natural Gas Industry, www.dep.state.pa.us/dep/deputate/airwaste/aq/emission/marcellus/Nat%20Gas%20Emissions%202012%20-WellFarmStation_20140324.xlsx.

[5] Pennsylvania Department of Environmental Protection website: "Air Emissions Data from Natural Gas Operations." www.dep.state.pa.us/dep/deputate/airwaste/aq/emission/marcellus_inventory.html.

[6] Nadia Steinzor, Wilma Subra, and Lisa Sumi. "Investigating Links Between Shale Gas Development and Health Impacts through a Community Survey Project in Pennsylvania." *NEW SOLUTIONS,* February 2013.

[7] See for example, T. Colborn, K. Schultz, L. Herrick, and C. Kwiatkowski. "An exploratory study of air quality near natural gas operations." *Human and Ecological Risk Assessment: An International Journal,* 2013; and Lisa M. McKenzie, Roxana Z. Witter, Lee S. Newman, and John L. Adgate. **"**Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources." *Science of the Total Environment,* 2012.

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[9] Al Armendariz, Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements, report for Ramon Alvarez, Environmental Defense Fund (January 26, 2009), www.edf.org/news/report-finds-barnett-shale-emissions-contributing-dfw-smog

[10] US Environmental Protection Agency Air Toxics website: "Pollutants and Sources." www.epa.gov/ttn/atw/pollsour.html.

[11] David Brown, Beth Weinberger, Celia Lewis, and Heather Bonaparte. "Understanding exposure from natural gas drilling puts current air standards to the test." *Reviews on Environmental Health,* March 2014.

[11] Ibid.

[12] A. R. Brandt, G.A. Heath, E.A. Kort, et al. "Methane Leakage from North American Natural Gas Systems." *Science,* February 14, 2014.

[13] R.W. Howarth, R. Santoro, and A. Ingraffea. "Methane and the Greenhouse Gas Footprint of Natural Gas from Shale Formations." *Climatic Change Letters,* June 2011.

[14] Christine Shearer, John Bistline, Mason Inman, and Steven J. Davis. "The effect of natural gas supply on US renewable energy and CO2 emissions." *Environmental Research Letters,* September 2014.