

# **Overview for Westchester County of the Algonquin Pipeline Expansion**

## **The Algonquin Pipeline Expansion**

The Algonquin gas transmission pipeline system was first constructed in the 1950s in Rockland, Westchester, Putnam, Connecticut, Rhode Island and Massachusetts. A new massive three-part expansion by Spectra/Enbridge replaces the original 26" with 42" diameter, high-pressure pipeline and adds new pipeline segments in new right-of-ways. Spectra impermissibly segmented the Algonquin pipeline expansion into three separate projects: Algonquin Incremental Market (AIM), Atlantic Bridge and Access Northeast to avoid a full evaluation of the cumulative impacts.

The **AIM pipeline**, the first phase of the Algonquin expansion, was completed and became operational as of January 2017. It includes the addition of a new 42" diameter, high-pressure pipeline segment in Rockland, which crosses under the Hudson River into Westchester traversing the Indian Point nuclear power plant through Buchanan, Peekskill and ending at Yorktown. The expansion continues from Putnam into Connecticut. The pipeline's infrastructure was also substantially expanded including the Stony Point compressor station in Rockland, which was expanded by 55% to 59,000 horsepower and the Southeast compressor station on the border of Westchester and Putnam, which was expanded by 25% to 50,000 horsepower. Other expansions on the pipeline were completed through New England.

The **Atlantic Bridge pipeline**, the second phase, includes a new 42" diameter, high-pressure gas pipeline segment from Yorktown to Somers, with expansions to a few metering stations and relocation of a pigging station in Westchester. Work began October 2017. Additional pipeline infrastructure expansion continues through New England.

The **proposed Access Northeast pipeline**, the third phase, entails further expansions of pipelines in Somers and Southeast as well as approximately 20% increases in both the Stony Point and Southeast compressor stations. Other expansions are planned through New England. This project is temporarily on hold.

## **Serious Risks: Pipeline Explosions, Cooling Pool Fires, Pollution and Climate Impacts.**

The continued expansion of gas infrastructure in Westchester poses significant risks to residents including risks from a malfunction, such as a pipeline rupture, as well as negative health impacts from air pollution and climate change during the routine operation of the pipeline and its components.

Pipelines and their infrastructure including compressor stations, metering and regulating stations and pigging stations are subject to leaks, fires, and explosions. According to data from the Pipeline Hazardous Material Safety Administration (PHMSA), pipeline failures are rising at an alarming rate especially in newly installed pipelines.<sup>1</sup>

The 42" diameter, high pressure AIM pipeline is sited adjacent to critical safety infrastructure at the Indian Point nuclear plant; 105 feet from the fuel tank that supplies backup generators and 115 feet from the switchyard that powers the plant. The site is next to two major earthquake fault lines. Independent engineering experts have confirmed that the potential explosion from a pipeline rupture at that location could encompass the entire Indian Point site. Nuclear, pipeline and medical disaster experts repeatedly warn that a pipeline rupture at Indian Point could result in a nuclear disaster worse than Fukushima threatening more than 20 million people who live in the New York tri-state area.<sup>2 3 4 5</sup> Indian Point is the only nuclear power plant in the nation with gas transmission pipelines.

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<sup>1</sup> PHMSA Graph 2015 [https://drive.google.com/file/d/0B7g3zFc9C\\_r6X21ST0R5V2ozTnc/view](https://drive.google.com/file/d/0B7g3zFc9C_r6X21ST0R5V2ozTnc/view)

<sup>2</sup> Richard Kuprewicz affidavit [https://drive.google.com/file/d/0B7g3zFc9C\\_r6TUMxbHRGWG0UHC/view](https://drive.google.com/file/d/0B7g3zFc9C_r6TUMxbHRGWG0UHC/view)

<sup>3</sup> Paul Blanch affidavit [https://drive.google.com/file/d/0B7g3zFc9C\\_r6Z3dKMOVZSYnJJeGc/view](https://drive.google.com/file/d/0B7g3zFc9C_r6Z3dKMOVZSYnJJeGc/view)

<sup>4</sup> Pipeline Construction Poses a Threat to Health and Well-Being of Region's Population, Statement by Irwin Redlener, MD <https://sape2016.files.wordpress.com/2013/10/redlener-statement-psr-press-101816.pdf>

<sup>5</sup> Spent Fuel Fire on U.S. Soil Could Dwarf Impact of Fukushima, Stone, R., Science 2016 <http://www.sciencemag.org/news/2016/05/spent-fuel-fire-us-soil-could-dwarf-impact-fukushima>

## **Risk Assessment**

In February 2016, after a series of serious incidents at Indian Point including a tritium leak raising groundwater levels by more than 65,000 percent along with concerns about FERC's siting the AIM pipeline at Indian Point, Governor Cuomo called for the halt to the pipeline construction, which was ignored.<sup>6</sup> He also directed state agencies to immediately conduct a risk assessment of the co-location of the AIM pipeline and Indian Point. The risk assessment ordered by the Governor was intended to address the risks of the pipeline to the operating plant and later was altered to address the risks given the scheduled closure of the plant in 2021. That information is critical to plans for decommissioning and potential re-use of the site. Numerous FOIA requests and many letters from local and state officials requesting its release were submitted for nearly 2 years. The State finally released the Executive Summary<sup>7</sup> of the risk assessment on June 22, 2018. The State agencies' letter to FERC<sup>8</sup> accompanying the full risk assessment (not released to the public) confirmed the experts' findings raising many questions and concerns regarding unresolved risks posed by the co-location of the 3 Algonquin pipelines at the plant and calls for further investigation and action by FERC including re-evaluation of the NRC and Entergy analyses relied on for pipeline approval, consideration of termination of gas flow recognizing, among the increased risks, the imminent closure of the nuclear reactors with the potential for excavation operations to compromise pipeline integrity during the decommissioning process.

## **Closure of Indian Point Does Not Resolve Risks**

Closure of the Indian Point facility does not resolve the risks of having the three co-located pipelines of the Algonquin system running under the plant especially in close proximity to more than 1500 tons of highly radioactive nuclear waste permanently stored on site. The cooling pools holding decades of highly radioactive nuclear waste and the dry cask storage remain vulnerable. A pipeline rupture will generate very high methane gas release rates with extremely high heat fluxes that melt steel and vaporize aluminum at considerable distances. A potential fire in the densely packed spent fuel pools triggered by a pipeline rupture or other gas explosion could release more radioactivity than a reactor meltdown, rendering tens of thousands of square miles uninhabitable according to scientific studies.<sup>9</sup>

The closure of Indian Point raises many significant environmental, health and economic concerns for Westchester County. Preparations for the closure must factor critical information regarding the risks of co-locating the Algonquin pipeline system with the plant to inform the proper and most protective storage of its nuclear waste. Planning for the future of Westchester cannot proceed without proper decommissioning, a decades long process, to ensure the health, safety and economy of our communities, emphasizing the need to establish a Citizens Oversight Board (COB).

## **Continued Expansion of Gas Infrastructure Poses Significant Risks to Residents**

There have been two proposals for 1000 MW gas power plants to be built at or near Indian Point. Such infrastructure would further exacerbate risks to Westchester residents and millions of people living in the New York tri-state region as well as emit vast quantities of hazardous air pollutants and greenhouse gases.

## **Natural Gas is Neither Clean Nor a Bridge Fuel**

Natural gas is methane, a heat trapping greenhouse gas, which is 86X more potent than carbon dioxide over a 20-year period. Methane's greenhouse gas footprint is greater than coal or oil.<sup>10</sup> Further gas infrastructure buildout will significantly increase air pollution, accelerate our climate crisis and locks us into decades of dirty fossil fuels at a time when it is critical to rapidly transition to 100% renewables to avert disastrous climate impacts.<sup>11 12</sup>

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<sup>6</sup> Gov.'s letter to FERC, 2016

[https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/FERC\\_AIM\\_LetterFinal.pdf](https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/FERC_AIM_LetterFinal.pdf)

<sup>7</sup> Algonquin Incremental Market Pipeline Risk Analysis Report, HDR Engineering, Inc.

<sup>8</sup> Algonquin Gas Pipeline Safety Study Issued - New York State June 22, 2018

<sup>9</sup> Spent Fuel Fire on U.S. Soil Could Dwarf Impact of Fukushima, Stone, R., Science 2016 <http://www.sciencemag.org/news/2016/05/spent-fuel-fire-us-soil-could-dwarf-impact-fukushima>

<sup>10</sup> A Bridge to Nowhere, Methane Emissions and the Greenhouse Gas Footprint of Natural Gas, Howarth, R. Energy, Science and Engineering, 2014 <http://onlinelibrary.wiley.com/doi/10.1002/ese3.35/epdf>

<sup>11</sup> Examining the feasibility of converting New York State's all-purpose energy infrastructure to one using wind, water, and sunlight, Jacobson, M. et al, 2013, Energy Policy, 57 (2013) 585-601

## **Westchester Does Not Meet Air Quality Standards**

The County does not meet air quality standards (non-attainment) and is subjected to high levels of ground level ozone and particulate matter, which are associated with negative health outcomes, putting nearly one million Westchester residents at risk. The vast majority of the population is especially vulnerable to these excessive levels of air pollution particularly children, the elderly and individuals with respiratory, pulmonary and cardiovascular disease.<sup>13</sup>

## **More About Gas Infrastructure Components**

**Compressor stations** pressurize and propel gas through the pipeline. The Southeast compressor station located on the border of Westchester and Putnam, and the Stony Point compressor station just across the Hudson River in Rockland, are Title V compressors that are considered major sources of hazardous air pollutants. They each annually emit millions of pounds of greenhouse gases and chemical emissions. People who live in proximity to a compressor or metering station are most at risk, particularly developing fetuses, infants, children, the elderly and those with respiratory, lung and cardiac conditions. Emissions are not adequately assessed for risks to human health for nearby residents. Both the Southeast and the Stony Point compressor stations routinely subject Westchester to harmful levels of pollutants and further degrade air quality in a non-attainment region. Cumulative impacts are not evaluated.

**Metering & Regulating stations** measure and regulate flow of gas through transmission pipelines. Although they are generally smaller than compressors, they emit the same hazardous air pollutants and greenhouse gases. They are not regulated and there are no reporting requirements. There are several metering and regulating stations in northern Westchester along the Algonquin pipeline system (and a metering and regulating station in White Plains along the Tennessee pipeline)

**Pigging stations** consist of equipment to clean out the accumulation of pipeline scale from radioactive contaminants in the gas including Lead 210 and Polonium 210 and other material. Pigging equipment becomes contaminated during these activities and can contaminate surrounding property, can migrate in storm water runoff to nearby property and surface waters and seep into soil contaminating groundwater. Inhalation of this material is associated with lung cancer. There are several pigging stations in Westchester. They are not regulated and there is no oversight of disposal of radioactive material removed during pigging operations.

**Blowdowns or venting** occur frequently at all of these facilities, either planned or unplanned, emitting much higher levels of hazardous air pollutants that put the public at even greater risk. Advance notification of planned blowdowns and notification immediately following unplanned blowdowns are critical, but are not required or provided to the public to ensure emergency measures can be taken such as staying indoors or evacuating the area. Terrain and weather conditions can exacerbate the concentration of air pollutants.

A recent groundbreaking report<sup>14</sup> regarding eighteen Title V compressor stations in New York State revealed that the Southeast and Stony Point compressor stations, along the Algonquin pipeline system, are among the top polluting compressors in the State (using pre-expansion data from 2008-2014). Air emissions from these compressors are linked to adverse health impacts affecting those who live in close proximity. Acute health effects include dizziness, headaches, eye and throat irritation, nausea, respiratory, and neurological problems while chronic health effects include endocrine disruption, damage to lung, reproductive and cardiovascular systems and several types of cancer. Vulnerable subpopulations are especially at greater risk from these toxic exposures.

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<sup>12</sup> **The Solutions Project** <http://thesolutionsproject.org/>

<sup>13</sup> **State of the Air – 2018**, American Lung Association <http://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/states/new-york/westchester.html>

<sup>14</sup> **Health Effects Associated with Chemical Emissions from NYS Natural Gas Compressor Stations: 2008-2014**, Southwest Pennsylvania Environmental Health Project, October 2017 [www.environmentalhealthproject-ny.org](http://www.environmentalhealthproject-ny.org)