

Blue Ridge Environmental Defense League

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September 26, 2016

John E. Bickford, Chairman
Buckingham County Planning Commission
13380 W. James Anderson Highway
Buckingham, Virginia 23921

Re: Case No. 16–SUP236, Atlantic Coast Pipeline, Special Use Permit Application

Dear Chairman Bickford and members of the Commission:

I write on behalf of the Blue Ridge Environmental Defense League and its members in Buckingham County and throughout Virginia in opposition to the granting of the Special Use Permit requested by Atlantic Coast Pipeline LLC for a proposed compressor station.

I have read the application before you for a special use permit; it cannot be approved by the Buckingham County Planning Commission. Locating a compressor station in the rural A-1 district would violate the county zoning ordinance. The list of permitted uses in the A-1 District does not include compressor stations nor does it include energy facilities. A special use permit allows additional types of facilities but that list does not include compressors nor does it allow industrial gas transmission facilities. A compressor station is not a "public utility generating plant," a "public utility booster station" nor any other category of permissible special use.

Regarding noise levels, the proposal before you stipulates that the compressor would be allowed to generate 55 decibels at the property line or any adjacent building (Item #6). This level of noise pollution would be ten times higher than the typical sound level in a rural area; i.e., 45 decibels. The proposal also states that "silencers shall be used during blowdowns," but fails to state a noise limit (Item #18). Therefore, the Special Use Permit, if granted, would be unenforceable.

Unwanted, unpleasant noise is a growing public health problem. Industrial sources of noise commonly disrupt communities. But the economic considerations of industrial special interest groups cannot be allowed to take precedence over the right to be secure in one's home.

Noise Impacts

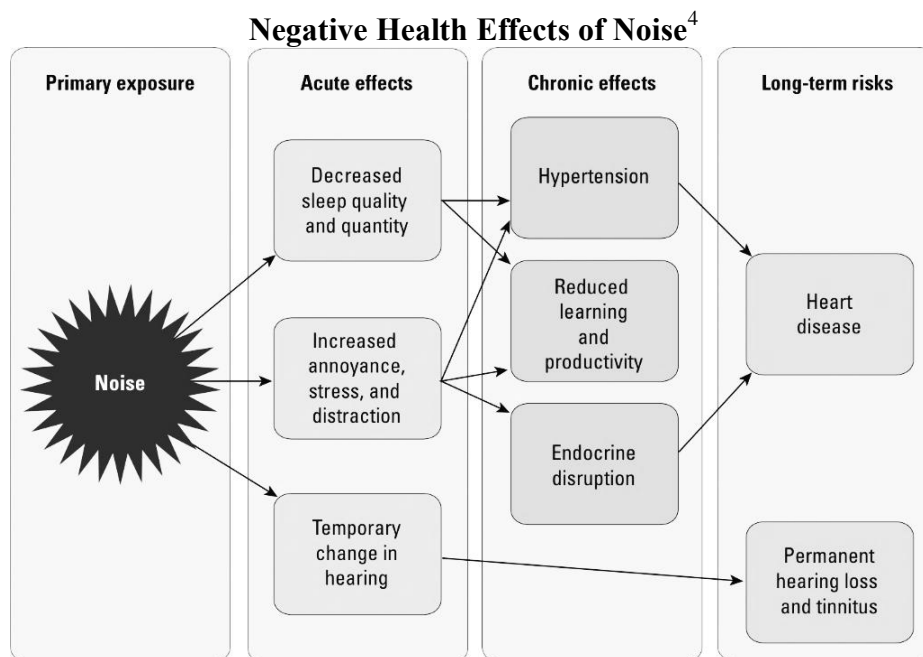
A decibel level in the upper 70s is considered annoyingly loud by many people. Sources able to cause such levels include asphalt plants, compressors and motor vehicles. A diesel truck traveling 40 mph fifty feet away creates 84 decibels. Asphalt plant neighbors have complained of start-up sounds "like a 747 taking off."¹ Jet take-off typically creates 100 decibels a thousand feet from the source. The high pressure operation of compressors makes them painfully noisy up close:

The basic noise sources are caused by trapping a definite volume of fluid and carrying it around the case to the outlet with higher pressure. The pressure pulses from compressors are quite severe, and equivalent sound pressure levels can exceed 105dB.²

How distance affects the impact of a source of noise varies. Sound can travel longer or shorter distances depending on the medium through which it moves. For example, sound travels at 768 miles per hour in dry air and at 3,300 mph in water. Experts have determined that disruptive sound levels can travel far from the source and over natural and artificial barriers such as trees and walls.

The atmospheric effects become most important at distances beyond about 1000 feet from the source....The normally humid environment in the southeastern US allows sound to travel further with less reduction in level. Downwind and under many night-time conditions (cooler air near the surface), sound waves that start upward will bend downward. Thus, the noise reduction benefits of barriers can be negated by these atmospheric effects.³

Thus, although sound generally decreases with distance, under some circumstances noise pollution can have higher impacts at greater distances.



Public Health Danger

Disturbing levels of sound become a medical issue when the noise interferes with normal activities and the quality of life. Being unable to sleep or to have a normal conversation for extended periods or at recurring intervals creates stress. These conditions lead to acute, chronic and long-term problems. And the negative impacts of noise pollution on human health can be serious.

Chronic environmental noise causes a wide variety of adverse health effects, including sleep disturbance, annoyance, noise-induced hearing loss, cardiovascular disease, endocrine effects, and increased incidence of diabetes.⁵

The effects of noise on humans have been studied for decades. The cascade of health problems created by excessive noise appears to be related to anxiety and tension. High blood pressure and heart disease are the result of chronic stress associated with persistent noise pollution.⁶ Plainly, excessive noise is a serious public health problem which calls for preventive measures.

Noise Regulation

The nation's major environmental protection laws include noise as a pollutant, along with nitrogen oxides, sulfur dioxide, carbon monoxide and ozone. The federal Noise Control Act of 1972 made it the nation's policy to reduce the harm caused by excessive levels of noise to the general public.⁷ The law states:

The Congress declares that it is the policy of the United States to promote an environment for all Americans free from noise that jeopardizes their health or welfare. To that end, it is the purpose of this Act to establish a means for effective coordination of Federal research and activities in noise control, to authorize the establishment of Federal noise emission standards for products distributed in commerce, and to provide information to the public respecting the noise emission and noise reduction characteristics of such products.

Health and welfare in the above statement is defined as the "complete physical, mental and social well-being and not merely the absence of disease and infirmity"; in other words, the absence of mental anguish and annoyance.⁸

The Noise Control Act designated roles for all three levels of government— federal, state and local. Emission controls are a federal responsibility. State and local governments are delegated control over the use of the various noise sources and the levels permitted in the environment from them, including automobiles, lawn mowers, leaf blowers, amplified sound systems and other sources.

The federal Clean Air Act Title IV includes a section on the reduction of noise as a pollutant.⁹ The United States Environmental Protection Agency defines noise pollution as follows:

Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one's quality of life. The fact that you can't see, taste or smell it may help explain why it has not received as much attention as other types of pollution, such as air pollution, or water pollution. The air around us is constantly filled with sounds, yet most of us would probably not say we are surrounded by noise. Though for some, the persistent and escalating sources of sound can often be considered an annoyance. This "annoyance" can have major consequences, primarily to one's overall health.¹⁰

Under the Clean Air Act, the EPA established the Office of Noise Abatement and Control to study the impacts of noise on public health and welfare. In 1981 the Reagan Administration closed this office and transferred this responsibility from the federal agency to state and local governments where it remains today.


The medical definition of noise pollution specifically refers to internal combustion engines: "Noise pollution: environmental pollution consisting of annoying or harmful noise (as of automobiles or jet airplanes) called also sound pollution."¹¹ Noise pollution is a recognized health hazard by the US Surgeon General, who further distinguishes noise pollution in the home from its workplace counterpart:

In relation to environmental pollution, noise is normally associated with annoying sound waves in communities, but noise is also a threat to public health. As asserted by Dr. William H. Stewart, former U.S. Surgeon General, "Calling noise a nuisance is like calling smog an inconvenience. Noise must be considered a hazard to the health of people everywhere."¹²

The US EPA places a large measure of responsibility on local governments to protect their residents from the negative effects of noise pollution. This is a logical method of protecting public health because municipal officials are in the best position to know their environment, their residents and the nature of the problems they face from excessive noise.

Clearly, the control of industrial sources of noise is the responsibility of local governments.

Respectfully,


Louis A. Zeller
Executive Director

CC: Dabney D. Crews, Sr.
Royce E. Charlton III
R. Patrick Bowe
Samuel Smith
Chet Maxey
Alice Gormus

Endnotes

¹ This sound was described by Joyce Starr in Franklin, North Carolina, while living about a quarter mile from a medium-sized asphalt plant.

² *Occupational exposure to noise: evaluation, prevention and control*, Edited by Berenice Goeltzer, Colin H. Hansen and Gustav A. Sehrndt, Published on behalf of the World Health Organization by the Federal Institute for Occupational Safety and Health, Dortmund, Germany, © WHO, 2001, ISBN 3-89701-721-0, page 110

³ *Evaluation of Environmental Sound in the Community*, Stewart ND, Ph.D. FASA FASTM (July 23, 2011), page 3, downloaded 1/16/15 from <http://www.sacnc.com>

⁴ "Environmental Noise Pollution in the United States: Developing an Effective Public Health Response," Monica S. Hammer, Tracy K. Swinburn, and Richard L. Neitzel, *Environmental Health Perspectives*, Vol. 122, No. 2, February 2014, pp. 115-119

⁵ *Id.*

⁶ *Journal of Public Health* | Vol. 33, No. 2, pp. 160-169 | doi:10.1093/pubmed/fdr032

⁷ Noise Control Act of 1972, 42 U.S.C. 4901, Public Law 92-574, Oct. 27, 1972; 86 Stat. 1234; 42 USC 4901 et seq.; Amended by PL 94-301, May 31, 1976; PL 95-609, Nov. 8, 1978; PL 100-418, Aug. 23, 1988

⁸ "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare With an Adequate Margin of Safety," US Environmental Protection Agency, Office of Noise Abatement and Control (March 1974), page 7, EPA-550/9-74-004, accessed 1/18/16 at <http://www.nonoise.org/library/levels74/levels74.htm>

⁹ The Clean Air Act Amendments of 1990 added subchapter IV-A to Title IV dedicated to the control of acid deposition caused by the burning of fossil fuel and emissions of sulfur dioxide. United States Code, Title 42 Chapter 85, The Public Health and Welfare, Air Pollution Prevention and Control, Acid Deposition

¹⁰ "Title IV - Noise Pollution," US EPA website at <http://www.epa.gov/clean-air-act-overview/title-iv-noise-pollution>

¹¹ Medline plus Health information, World Health Organization

¹² Mauricio Leandro, "Encyclopedia of Consumption and Waste: The Social Science of Garbage," Edited by Carl A. Zimring & William L. Rathje, DOI: <http://dx.doi.org/10.4135/9781452218526.n233>