

## Written Comments

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We have many members who are residents of Bergen County. Our Fellowship regularly schedules recreational activities in Bergen County, and in its Parks, including swimming in its natural stream fed pools and lakes.

## Written Comments:

I would like to enter into the record the enclosed paper. It is "Natural Gas Operations from a Public Health Perspective", by Theo Colborn, Carol Kwiatkowski, Kim Schultz, and Mary Bachran. Accepted for publication in the International Journal of Human and Ecological Risk Assessment, September 4, 2010. The expected publication date is September or October 2011.

"According to the study synopsis, the researchers demonstrated that toxic chemicals are used during both the fracturing and drilling phases of gas operations. The study also showed that there may be long-term health effects that are not immediately recognized, and that waste evaporation pits may contain numerous chemicals on the U.S. Environmental Protection Agency (EPA) Superfund list." (This quote is taken from this link: <http://www.water-contamination-from-shale.com/main/fracking-study-sees-public-health-risks/>)

If New Jersey supports the gas industry, there will be an increase in Marcellus gas drilling in Pennsylvania. Their waste water evaporation pits create air pollution filled with the chemicals described in this report. Some of these chemicals are not safe at any level of exposure. Since the atmosphere circulates eastward, New Jersey's citizens will suffer the ill health effects described in this report.

New Jersey should move away from "Fossil-fuel derived chemicals" because these chemicals "... produce pollution at every stage they are handled - extraction, refinement, processing, production, distribution and waste disposal." Please note that distribution is included in this list. The pipeline that Tennessee Gas is proposing will leak 3% of its contents, along the length of the pipeline. Those contents will include fracking fluid, that leaks into the pipeline and is not recovered. It will include brine, which is an ancient earth fluid that is much saltier than ocean water, and is toxic to our ecosystems, and it also leaks into the pipelines after fracking, and much of this will also not be recovered. It will also contain some radioactive elements and heavy metals that are encountered during drilling, which leak into the pipeline and are not recovered.

I would also like to point out that the gas transported through the pipeline is Methane gas. It is also listed in Dr. Colburn's paper as a deadly substance. The proposed pipeline does not replace the existing pipeline, it is in addition to the existing pipeline, and it is larger. The new pipeline will carry 1.56 times more gas than the old one. The amount of gas passing through both pipelines will be 2.56 times as much as previously passed through. That means that 2.56 times as much of the deadly methane gas will be leaking out of the pair of pipelines as compared to what leaked previously leaked out. How will you monitor the toxicity to be sure it will not kill us? How will you

fund this monitoring? You cannot trust the Gas companies to monitor themselves. History has PROVEN that similar gas companies in the industry are corrupt in that it they have hidden past toxic leaks. When they do this, people die. Only the public servants are free of conflicts of interest. Only the public servants can be trusted with monitoring the poisons. If you do not have enough public funding to properly monitor these toxic leaks, then you cannot permit it. To do so, would be gross negligence, deadly negligence, and the public servants would be held accountable. Our water flows downhill into the Newark water supply. If we allow this pipeline to exist, you may also be held responsible for contaminating the Newark water supply.

Please acknowledge your receipt and understanding of Dr. Colborn's paper by addressing these issues.

I heard a lecture in New York State. It said that in NY, contaminants that are considered Hazardous, must go through the local municipalities treatment facilities, by law. The representative of Tennessee Gas said that the drilling of the hole for the pipeline could possibly produce radioactive or heavy metal materials that would then be labeled hazardous. The lecture that I heard said that New York's municipal facilities are not built strong enough to handle this type of waste treatment. But by law, they would be forced to destroy their own facilities trying to treat it. If New Jersey works the same way, then you cannot allow this pipeline to be built. We cannot afford to have our municipal waste treatment facilities destroyed.

At the Public Hearing in Ringwood, NJ, The representative of Tennessee Gas challenged us to find another plan that met New Jersey's energy goals. I would like you to recognize that there is another plan that meets New Jersey's energy goals, without the use of this pipeline. It is the 2008 New Jersey Energy Master Plan. This is the Plan that is currently in force in New Jersey. No other plan has replaced it at this time. Therefore it is the only plan that you should seriously address. It calls for a 30% reduction in fossil fuels, such as gas, by the year 2020. The 2008 New Jersey Energy Master Plan is a successful plan. New Jersey has met all of its energy goals under the plan so far, and has even exceeded those goals. We should not deviate from that plan. Our politicians take an oath to represent their constituents, not the moneyed gas companies who are not their constituents and which are owned by foreign investors. We, the People, are holding them accountable to continue with the 2008 NJEMP plan.

William Cooke is the Director of Government Relations, at Citizens Campaign for the Environment. He has also studied Dr. Colborn's work. He has elaborated on this topic, saying the following,

"When it comes to air issues, all of the science, all of the brain trust people in this country are saying that the increases in air emissions that must necessarily accompany this technology is going to have dramatic impacts on a lot of people, not only in the immediate downwind area, but in the air shed. ...When you generate pollution, in a particular spot, it doesn't just stay there. The wind moves it. If you look at prevailing winds: West to East, slightly South to North, slightly North to South, it makes the air shed for the potential fracking industry area, it makes that cover a significant portion of NYS, not just the Finger Lakes southern tier Catskills area, but this increased pollution will go right over what looks like NYC, Westchester, LI, Coastal Conn."

That West to East migration of air pollution, also applies to the air pollution coming out of Pennsylvania. The air shed from the fracking air pollution coming out of Pennsylvania will flow right over New Jersey.

William Cooke continues, "We are going to add a minimum of 1-million diesel tractor trailers to our roads in this area, and that's just the tractor trailers", then he names several other sources of air pollution. He continues, "The increase in air pollution is going to be very significant. And that increase in air pollution is directly related to health impacts, in everybody, but of particular interest is children and pregnant women and women who will become pregnant. ... We all know that that increase in air pollution will contribute to a diminished cognitive processing ability. ... It means that children raised downwind from this will be less smart, will be less smart than they would have been .... Are we willing to have that impact effect tens of thousands, probably hundreds of thousands of children long term?"

I'm not willing to let that happen in my state. If NJ utilizes fracked gas as the transition fuel, then it will be funding the industry that is destroying the cognitive abilities of our children. We must not support this industry, by allowing this pipeline to be built.

You MUST keep in mind, that this pipeline is not an entity unto itself. It is but a small piece of a larger network of pipelines, fracking fields, and distribution centers. It is but a small part of a larger industry that uses up and pollutes vast quantities of water to cool the drilling bits. It produces huge amounts of air pollution through the evaporation pools containing the toxic waste fluids. It produces huge amounts of CO2 greenhouse gases and other petroleum related pollutions from all the transportation involved. You can liken it to a huge toxic breathing monster. This pipeline is a foothold for that monster. You might argue that it's just a foot, and it will only crush a few people, so we can live with it. But it is not just a foothold. It is a part of a larger monster whose toxic breathe is poisoning our children, and whose toxic sweating pipes are poisoning out land, water, and air. It's toxic global warming emissions will push our planet past the tipping point and kill us all. You would not allow a root of an invasive plant to be imported here, but make a law forbidding the import of the seeds, would you? Because you know that the root is part of the whole. If the root grows then the seeds will also come in time, and the invasive plant will take over. By the same reasoning, you cannot allow a fracked gas pipeline to exist here. Because we will receive the leaking 3% of the toxic substances as well as the air pollution that blows east from PA, and the global warming.

*Margaret Wood*

I, Margaret Wood, West Milford, NJ submit this paper to be entered into the record as part of my Public Written Comment. Docket No. CP11-161-000  
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## **Natural Gas Operations from a Public Health Perspective**

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## **ABSTRACT**

The technology to recover natural gas depends on undisclosed types and amounts of toxic chemicals. A list of 944 products containing 632 chemicals used during natural gas operations was compiled. Literature searches were conducted to determine potential health effects of the 353 chemicals identified by Chemical Abstract Service (CAS) numbers. More than 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40-50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations. These results indicate that many chemicals used during the fracturing and drilling stages of gas operations may have long-term health effects that are not immediately expressed. In addition, an example was provided of waste evaporation pit residuals that contained numerous chemicals on the CERCLA and EPCRA lists of hazardous substances. The discussion highlights the difficulty of developing effective water quality monitoring programs. To protect public health we recommend full disclosure of the contents of all products, extensive air and water monitoring, coordinated environmental/human health studies, and regulation of fracturing under the U.S. Safe Drinking Water Act.

**Key Words:** drilling, health, hydraulic fracturing, natural gas, ozone, pollution.

## **INTRODUCTION**

Over the past two decades, in an effort to reduce dependence on imported fossil fuels, the U.S. government has supported increased exploration and production of natural gas. The responsibility for overseeing the nation's underground minerals lies with the U.S. Department of Interior, Bureau of Land Management (BLM) with some oversight from the U.S. Environmental Protection Agency (USEPA). Attempting to meet the government's need for energy self-sufficiency, the BLM has auctioned off thousands of mineral leases and issued permits to drill across vast acreages in the U.S. Rocky Mountain West. Since 2003, natural gas operations have increased substantially, with annual permits in Colorado alone increasing from 2,249 to 8,027 in 2008 (Colorado Oil and Gas Conservation Commission 2010).

In tandem with federal support for increased leasing, legislative efforts have granted exclusions and exemptions for oil and gas exploration and production from a number of federal environmental statutes, including the Clean Water Act, the Clean Air Act, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, better known as the Superfund Act), the Resource Conservation and Recovery Act (RCRA), the Toxic Release Inventory under the Emergency Planning and Community Right-to-Know Act (EPCRA), and the National Environmental Policy Act (NEPA) (Oil and Gas Accountability Project 2007). The most recent of these efforts was an amendment included in the 2005 Energy Policy Act that prevented the use of the Safe Drinking Water Act to regulate certain activities, known as hydraulic fracturing, which are involved in 90% of natural gas drilling.

The cumulative effect of these exemptions and exclusions has been to create a federal void in environmental authority over natural gas operations, leaving the responsibility primarily up to the states. Although some states have oil and gas commissions to watch over natural gas production activity, the primary mission of these agencies has been to facilitate natural gas extraction and increase revenues for the states. In addition, when states issue permits to drill, they have not traditionally required an accounting of how the resulting liquid and solid waste would be handled. In short, their focus has not typically been on health and the environment.

### **The Need for Chemicals**

In keeping with the rush to produce more natural gas, technological advances have permitted the industry to drill deeper and expand wider, tapping into gas reserves with greater facility and profitability. While these advances have allowed the mining of vast, newly discovered gas deposits, the new technology depends heavily on the use of undisclosed types and amounts of toxic chemicals.

Chemicals are used throughout operations to reach and release natural gas. First, combinations of chemicals are added to the “muds” used to drill the bore hole. Chemicals are added to increase the density and weight of the fluids in order to facilitate boring, to reduce friction, to facilitate the return of drilling detritus to the surface, to shorten drilling time, and to reduce accidents. After drilling, hydraulic fracturing (also known as fracking, frac’ing, or stimulation) is done to break up the zone in which the gas is trapped and make it easier for the methane to escape, increasing a well’s productivity. In the U.S. West, approximately a million or more gallons of fluid containing toxic chemicals are injected underground during this operational stage. As with drilling, chemicals are used in fracking fluids for many purposes (Table 1). One well can be fracked 10 or more times and there can be up to 30 wells on one pad. An estimated 10% to 90% of the fracking fluid is returned to the surface during well completion and subsequent production (BC Oil and Gas Commission 2010; New York State Department of Environmental Conservation Division of Mineral Resources 2009), bringing with it toxic gasses, liquids, and solid material that are naturally present in underground oil and gas deposits. Under some circumstances, none of the injected fluid is recovered.

In most regions of the country, raw natural gas comes out of the well along with water, various liquid hydrocarbons including benzene, toluene, ethylbenzene, and xylene (as a group, called BTEX), hydrogen sulfide ( $H_2S$ ), and numerous other organic compounds that have to be removed from the gas. When the gas leaves the well it is passed through units called heater treaters that are filled with triethylene glycol and/or ethylene glycol that absorbs the water from the gas. Once the glycol solution becomes saturated with water, the heaters turn on and raise the temperature enough to boil off the water, which is vented through a closed system and upon cooling, ends up in a nearby tank labeled “produced water”. The glycol fluid, which has a higher boiling point than water, cools and is reused. During the heating process at critical temperatures the oily substances that came up with the gas become volatile and then re-condense into a separate holding tank. This is known as “condensate” water. The contaminated water can be re-injected underground on the well pad or off site, common practices in the eastern U.S., or hauled off the well pad to waste evaporation pits in the U.S. West. Temporary pits are also constructed during drilling to hold the cuttings, used drilling mud which is often re-used, and any other contaminated water that comes to the surface while drilling. These reserve pits on well pads are supposed to be drained and covered with top soil or other suitable material within a month after drilling stops.

## **An Unexpected Side Effect: Air Pollution**

In addition to the land and water contamination issues, at each stage of production and delivery tons of toxic volatile compounds (VOCs), including BETX, other hydrocarbons, and fugitive natural gas (methane), can escape and mix with nitrogen oxides (NOx) from the exhaust of diesel-fueled, mobile, and stationary equipment, to produce ground-level ozone (CH2MHILL 2007; Colorado Department of Public Health and Environment [CDPHE] 2007; URS 2008; U.S. Congress, Office of Technology Assessment 1989). One highly reactive molecule of ground level ozone can burn the deep alveolar tissue in the lungs, causing it to age prematurely. Chronic exposure can lead to asthma and chronic obstructive pulmonary diseases (COPD), and is particularly damaging to children, active young adults who spend time outdoors, and the aged (Islam *et al.* 2007; Tager *et al.* 2005; Triche *et al.* 2006). Ozone combined with particulate matter less than 2.5 micrometers produces smog (haze) that has been demonstrated to be harmful to humans as measured by emergency room admissions during periods of elevation (Peng *et al.* 2009). Gas field ozone has created a previously unrecognized air pollution problem in rural areas, similar to that found in large urban areas, and can spread up to 200 miles beyond the immediate region where gas is being produced (U.S. Congress, Office of Technology Assessment 1989; Roberts 2008). Ozone not only causes irreversible damage to the lungs, it is similarly damaging to conifers, aspen, forage, alfalfa, and other crops commonly grown in the western U.S. (Booker *et al.* 2009; Reich 1987; U.S. Congress, Office of Technology Assessment 1989). Adding to this air pollution is the dust created by fleets of diesel trucks working around the clock hauling the constantly accumulating condensate and produced water to large waste facility evaporation pits on unpaved roads. Trucks are also used to haul the millions of gallons of water from the source to the well pad.

## **PROJECT DESIGN**

The following project grew from a year 2004 request by OGAP (Oil and Gas Accountability Project) to TEDX (The Endocrine Disruption Exchange) to explore the potential health effects of chemicals used during drilling, fracking, processing, and delivery of natural gas. OGAP, a project of Earthworks, is a national non-profit organization established in 1999 to watchdog the oil and natural gas industry. TEDX is a non-profit organization dedicated to compiling and disseminating technical information on chemicals that affect health and the environment.

## **Data Sources**

In order to find out what chemicals were being used to extract natural gas, we took advantage of the information on the Material Safety Data Sheets (MSDSs) that accompany each product used during natural gas operations. MSDSs detailing specific products in use were provided by multiple sources including the BLM, U.S. Forest Service, state government departments, and the natural gas industry. MSDSs are designed to inform those who handle, ship, and use products that contain dangerous chemicals. They provide information about the physical and chemical characteristics of the chemicals in a product, and the immediate and chronic health effects, in order to prevent injury while working with the products. They are also designed to inform emergency response crews in case of accidents or spills. In addition to the MSDSs, we also used State Tier II Reports that must be filed by storage facilities under EPCRA. This Act sets a minimum amount above which a product that contains a hazardous substance in a storage facility has to be reported. We also supplemented our analysis with product information from disclosures in Environmental Impact Statements, Environmental Assessment Statements, and accident and spill reports. At first we looked only at what was taking place in Colorado and over the course of several years we acquired information from Wyoming, New Mexico, Texas, Washington, Montana, Pennsylvania, and New York. The list of products and chemicals quickly grew, making it apparent that hundreds of different products serving many purposes were being used in natural gas operations across the country. The number of chemical products manufacturers has also grown, making this a highly competitive industry.

It should be clear that our list of products is not complete, but represents only products and chemicals that we were able to identify, through a variety of sources, as being used by industry during natural gas operations. For most products, we cannot definitively say whether they were used during drilling or during fracking. However, an accidental blow-out of the Crosby well in Wyoming provided a unique opportunity to analyze the chemicals used during drilling, as fracking had not yet begun on that well. When the blow-out occurred, methane and other gases, petroleum condensates, and drilling fluids (muds) were released from fissures in the ground adjacent to the well. During the 58 hours the eruption took place, 25,000 square feet of soil surface in the area were contaminated. The driller released copies of the MSDSs for the products used during the blow-out and later we found the names of several more products from remedial action work plans to clean up the site (Terracon 2007).

On another occasion we were provided data from a 2007 New Mexico study, sponsored by 19 oil and gas companies and conducted by a third party consultant and analytical laboratory. This

gave us the opportunity to explore the health effects of chemicals in samples of pit solids drawn from six evaporation pits where gas operations were ceasing.

### **Data Limitations**

MSDSs and Tier II reports are fraught with gaps in information about the formulation of the products. The U.S. Occupational Safety and Health Administration (OSHA) provides only general guidelines for the format and content of MSDSs. The manufacturers of the products are left to determine what information is revealed on their MSDSs. The forms are not submitted to OSHA for review unless they are part of an inspection under the Hazard Communication Standard (U.S. Department of Labor 1998). Some MSDSs report little to no information about the chemical composition of a product. Those MSDSs that do may only report a fraction of the total composition, sometimes less than 0.1%. Some MSDSs provide only a general description of the content, such as “plasticizer”, “polymer”, while others describe the ingredients as “proprietary” or just a chemical class. Under the present regulatory system all of the above “identifiers” are permissible. Consequently, it is not surprising that a study by the U.S. General Accounting Office (1991) revealed that MSDSs could easily be inaccurate and incomplete.

Tier II reports can be similarly uninformative, as reporting requirements vary from state to state, county to county, and company to company. Some Tier II forms include only a functional category name (*e.g.*, “weight materials” or “biocides”) with no product name. The percent of the total composition of the product is rarely reported on these forms.

The most critical limiting factor in our research was that Chemical Abstract Service (CAS) numbers were often not provided on MSDSs. The American Chemical Society has established the CAS number system to identify unique chemical substances. A single substance can have many different names, but only one CAS number. CAS numbers identify substances that may be a single chemical, an isomer of a chemical, a mixture of isomers, polymers, biological sequences, or a mixture of related chemicals. For purposes of accuracy, our research into the health effects of chemicals used in natural gas operations was restricted to only chemicals for which a CAS number was available.

### **Health Effects**

Information on the health effects associated with identified chemicals was obtained from MSDSs, as well as government toxic chemical databases such as TOXNET and the Hazardous

Substances Database, and through literature searches of biomedical studies. Information available for some chemicals is limited due to lack of access to studies performed on the toxicity of the substance. For example, many laboratory studies submitted to USEPA for the registration of chemicals are not accessible on the basis that the information is proprietary to the industry.

Health effects were divided into 14 health categories, focusing on the main target organs or systems that are identified on MSDSs, government toxicological reports, and in medical literature. The categories include all seven priority health conditions identified by the Agency for Toxic Substances and Disease Registry (ATSDR 2010) associated with uncontrolled hazard waste sites listed as required by CERCLA, 1984, as amended (U.S. Environmental Protection Agency 1984). We reduced these to 12 categories by combining developmental and reproductive health impacts under endocrine disruption. The resulting 12 categories included: skin, eye and sensory organ, respiratory, gastrointestinal and liver, brain and nervous system, immune, kidney, cardiovascular and blood, cancer, mutagenic, endocrine disruption, other, and ecological effects.

## **Data Analysis**

Using the data sources described above, we entered the names of all the products and chemicals into a spreadsheet. Initially, chemicals were separated according to the state in which the data source originated. Analysis of the profiles of health effects revealed minimal differences across states, thus for this report we combined all the data into one multi-state analysis. Using only the chemicals on the multi-state list for which CAS numbers were available, we produced a profile based on how often each of the 12 possible health effects were associated with the chemicals. We created separate profiles for the water soluble chemicals alone, and the volatile chemicals alone. We also did an analysis of the drilling chemicals from the Wyoming well-blowout and an analysis of the chemicals found in the New Mexico evaporation pits. Finally, we tested the utility of the spreadsheet for providing guidance for water quality monitoring, focusing on the most potentially harmful and frequently used chemicals.

## **RESULTS**

### **Product Information**

As of May, 2010, TEDX identified 944 products used in natural gas operations in the U.S. Of these, between 95 and 100% of the ingredients were available for 131 (14%) of the products (Figure 1). For 407 (43%) of the products, less than 1% of the total product composition was available. For

those 407 products, only the name of the product with no identifiable chemical name or percent composition was reported. A total of 632 chemicals were reported in the products and we were able to locate CAS numbers for 353 (56%) of them.

### **Health Effects Profile**

Using the health effect information for the 353 chemicals with CAS numbers, we created a profile of possible health effects that depicts the percentage of chemicals associated with each of the 12 health effect categories (Figure 2). Viewing the profile from left to right, more than 75% of the chemicals on the list can affect the skin, eyes, and other sensory organs, the respiratory system, the gastrointestinal system, and the liver. More than half the chemicals show effects on the brain and nervous system. These first four categories represent effects that would likely be expressed upon immediate exposure, such as eye and skin irritation, nausea and/or vomiting, asthma, coughing, sore throat, flu-like symptoms, tingling, dizziness, headaches, weakness, fainting, numbness in extremities, and convulsions. Products containing chemicals in powder form, irritants, or highly corrosive and volatile chemicals would all come with MSDS warnings in one or more of these categories. In all probability, none of the chemicals in these categories would normally be ingested during natural gas operations, but immediate eye, nasal, dermal contact, and inhalation could lead to rapid absorption and cause direct exposure to the brain and other vital organ systems.

Health categories that reflect chronic and long-term organ and system damage comprise the middle portion of Figure 2. These included the nervous system (52%), immune system (40%), kidney (40%), and the cardiovascular system and blood (46%). More than 25% of the chemicals can cause cancer and mutations. Notably, 37% of the chemicals can affect the endocrine system that encompasses multiple organ systems including those critical for normal reproduction and development. The category of ‘other’ is more common, and includes effects on weight, teeth, and bone and the ability of a chemical to cause death. More than 40% of the chemicals have been found to have ecological effects, indicating that they can harm aquatic and other wildlife.

### **Volatile and Soluble Chemicals**

Organization of the data by pathway of exposure, separate health category profiles are shown in Figure 3 for the volatile and water soluble chemicals. Approximately 37% of the chemicals are volatile and can become airborne. More than 89% of these chemicals can harm the eyes, skin, sensory organs, respiratory tract, gastrointestinal tract, or liver. Compared with the soluble chemicals, far more of the volatile chemicals (81%) can cause harm to the brain and nervous system. Seventy



one percent of the volatile chemicals can harm the cardiovascular system and blood, and 66% can harm the kidneys. Overall, the volatile chemicals produce a profile that displays a higher frequency of health effects than the water soluble chemicals. In addition, because they vaporize, not only can they be inhaled, but also ingested and absorbed through the skin, increasing the chance of exposures.

### **Drilling Chemicals**

The profile for the 22 drilling chemicals identified from the well blow-out in Wyoming are shown in Figure 4. The profile was unique in the following ways. All the chemicals used in the drilling fluids were associated with respiratory effects. Nearly 60% were associated with ‘other’ effects, a category that includes outright mortality as an end point. A relatively high percentage of chemicals that affect the immune system were used.

### **Evaporation Pit Chemicals**

Shown in Figure 5 are the health effects of the 40 chemicals and metals reported in the New Mexico evaporation pits. These chemicals produced a health profile even more hazardous than the pattern produced by the drilling and fracking chemicals. Upon further investigation, we discovered that 98% of the 40 chemicals found in the pits are listed on USEPA’s 2005 CERCLA (Superfund) list and 73% are on the 2006 EPCRA List of Lists of reportable toxic chemicals. Of the nine chemicals found to exceed the New Mexico state limits, all are on the CERCLA list and all but one are on the EPCRA List of Lists.

### **Analyses for Water Quality Monitoring**

For the purpose of water quality monitoring guidance, we analyzed the data according to the most potentially harmful chemicals and the most frequently used chemicals. In Table 2 is provided a list of the most egregious chemicals, those with 10 or more health effects. Roughly half of these chemicals are used in only one product on our list, making it impractical and a waste of time and money to try to test water for the most harmful chemicals. A more practical approach would be to test for the most frequently used chemicals. Although we do not know how often each product is used, we assume that the more products that contain a given chemical, the more likely it is to be detected in a water sample. Shown in Table 3 are all the chemicals on our list that were found in at least seven different products. Many of these chemicals are relatively harmless. The most frequently cited chemical was crystalline silica (quartz), which was reported in 125 different products. Note that petroleum distillates and a variety of alcohols are found in numerous products, as are several forms

of potassium, which is a relatively easy and inexpensive chemical to detect in water. This list may prove useful in devising a water monitoring program. Regardless of how many health effects a chemical has, elevated levels of frequently used chemicals found in a water source could provide evidence of communication between natural gas operations and water resources.

## DISCUSSION

Industry representatives have said there is little cause for concern because of the low concentrations of chemicals used in their operations. Nonetheless, pathways that could deliver chemicals in toxic concentrations at less than one part-per-million are not well studied and many of the chemicals on the list should not be ingested at any concentration. Numerous systems, most notably the endocrine system, are extremely sensitive to very low levels of chemicals, in parts-per-billion or less. The damage may not be evident at the time of exposure but can have unpredictable delayed, life-long effects on the individual and/or their offspring. Effects of this nature would be much harder to identify than obvious impacts such as skin and eye irritation that occur immediately upon contact. Health impairments could remain hidden for decades and span generations. Specific outcomes could include reduced sperm production, infertility, hormone imbalances, and other sex-related disorders. Further compounding this concern is the potential for the shared toxic action of these contaminants, especially those affecting the same and/or multiple organ systems.

It was difficult to arrive at a 'short list' of chemicals that would be informative for water quality monitoring because of the vast array of products constantly being developed, and the wide selection of chemicals used in those products. We can, however, provide some guidance by pointing out four types of chemicals that are used in a relatively high number of products. These include (1) the silicas, which appear frequently as product components; (2) potassium based chemicals, which are also found in numerous products, although with relatively low toxicity; (3) petroleum derived products, which take on many different forms (including some without CAS numbers), and some of which are toxic at low concentrations and might be detected with diesel or gasoline range organics tests; and (4) the alcohols for which new detection technology is being developed, and because they are among the chemicals with the most health effects.

Detection of increasing or elevated concentrations of these chemicals near gas operations could indicate that communication between natural gas activities and a water resource such as a domestic well, creek, pond, wetland, *etc.*, is occurring. If a longitudinal monitoring program were to reveal any increase in concentration in one of these target groups, even if the concentrations were well below any water quality standards, it should trigger more testing immediately.

For many years, drillers have insisted that they do not use toxic chemicals to drill for gas, only guar gum, mud, and sand. While much attention is being given to chemicals used during fracking, our findings indicate that drilling chemicals can be equally, if not more dangerous. What we have learned about the chemicals used in the Crosby well blowout provides insight into why citizens living nearby suffered severe respiratory distress, nausea, and vomiting and had to be evacuated from their homes for several days. It might also shed light on why other individuals living near gas operations have experienced similar symptoms during the gas drilling phase (prior to fracking).

From the first day the drill bit is inserted into the ground until the well is completed, toxic materials are introduced into the borehole and returned to the surface along with produced water and other extraction liquids. In the western U.S. it has been common practice to hold these liquids in open evaporation pits until the wells are shut down, which could be up to 25 years. These pits have rarely been examined to ascertain their chemical contents outside of some limited parameters (primarily metals, chlorides, and radioactive materials). Our data reveal that extremely toxic chemicals are found in evaporation pits and indeed, these and other similar sites may need to be designated for Superfund cleanup. In the eastern U.S., and increasingly in the west, these chemicals are being re-injected underground, creating yet another potential source of extremely toxic chemical contamination. In other words, what ends up in evaporation pits in the West, will in other parts of the country be injected underground.

## **RECOMMENDATIONS**

TEDX has collected the names of nearly a thousand products used in natural gas operations in the U.S. We have no idea how many more products are in use. We have health data on only a small percentage of the chemicals in use because CAS numbers are often not provided on MSDSs and without a CAS number it is impossible to search for health data. Working under the assumption that our results underestimate the consequences of the health impacts to the labor force, residents living in close proximity to the wells, and those dependent upon potable and agricultural water that could be affected by natural gas operations, we make the following recommendations:

(1) Product labels and/or MSDSs must list the complete formulation of each product, including the precise name and CAS number and amount of every chemical, as well as the composition of the vehicle used to fill the product container. To prevent serious injury and mortality the products used during natural gas operations should be exempt from confidentiality.

(2) If an ingredient does not have a CAS number it must be clearly defined, leaving no doubt about its possible health impact(s).

3) Records should be kept for each drilling and fracking operation, listing the total volume of fluid injected, the amount of each product used, the depth at which the products were introduced, and the volume of fluid recovered.

4) The volume and concentration of all liquids and solids removed from the work sites should be made available to the public. Without this information the full health and environmental hazards posed by natural gas production cannot be predicted.

(5) Air quality monitoring for individual VOCs as well as ozone must become standard procedure in any region where natural gas activity is taking place and must commence prior to initiation of operations to establish baseline levels. Estimating tonnage of VOCs and NOx released and ignoring ozone should no longer be the practice.

(6) Comprehensive water monitoring programs should be established in every gas play across the U.S. both prior to and after gas production commences, that include new chemical species indicators based on toxicity and mobility in the environment, and pollution of sub-surface and above-surface domestic and agricultural water resources, and all domestically-used aquifers and underground sources of drinking water.

(7) We recommend the development of labeled isotopic fingerprints of the chlorinated compounds in products used to drill and fracture. Each manufacturer would have its own fingerprint. A plot of this isotopic data found down gradient of a hydraulically fractured well would aid a state or federal regulator in identifying the contamination source.

(8) Given the general consistency of reported adverse health effects by citizens and laborers across many gas plays, public health authorities should establish an epidemiological monitoring program that merges at the state and national level in order to increase power and be able to reach conclusions early on. The design of the study should include environmental monitoring of air and water as well as any health changes in those living and working in regions of natural gas operations. The health monitoring should be able to detect early trends in parameters, such as asthma, hypertension, chemical sensitization, chronic skin and eye irritation, and neurological alterations, to mention a few.

(9) As underground injection of waste is becoming the most frequent choice for waste disposal, rigid accounting of the date, volume, and source of all materials, and the exact location in the geological formation(s) in which it is injected should become a part of permanent government records that will be publicly available for future generations.

(10) Before a permit is issued to drill for natural gas, complete waste management plans should be reviewed and approved and become part of the permit.

(11) The injection of hydraulic fracturing fluids should be regulated under the Safe Drinking Water Act. This is needed to assure mechanical integrity of the injection wells and isolation of the injection zone from underground sources of drinking water.

## ACKNOWLEDGMENTS

We thank The New York Community Trust, the Winslow Foundation, and the U.S. Environmental Protection Agency (Grant No. EQ-97838701) for their support. This data collection and analyses were partially funded through a USEPA grant. USEPA makes no claims regarding the accuracy or completeness of the information in this article. Competing interest declaration: The authors have no conflicts of interest.

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**Table 1.** Functional categories of hydraulic fracturing chemicals.

---

Acids	To achieve greater injection ability or penetration and later to dissolve minerals and clays to reduce clogging, allowing gas to flow to the surface.
Biocides	To prevent bacteria that can produce acids that erode pipes and fittings and break down gellants that ensure that fluid viscosity and proppant transport are maintained. Biocides can produce hydrogen sulfide (H <sub>2</sub> S) a very toxic gas that smells like rotten eggs.
Breakers	To allow the breakdown of gellants used to carry the proppant, added near the end of the fracking sequence to enhance flowback.
Clay stabilizers	To create a fluid barrier to prevent mobilization of clays, which can plug fractures.
Corrosion inhibitors	To reduce the potential for rusting in pipes and casings.
Crosslinkers	To thicken fluids often with metallic salts in order to increase viscosity and proppant transport.
Defoamers	To reduce foaming after it is no longer needed in order to lower surface tension and allow trapped gas to escape.
Foamers	To increase carrying-capacity while transporting proppants and decreasing the overall volume of fluid needed.
Friction reducers	To make water slick and minimize the friction created under high pressure and to increase the rate and efficiency of moving the fracking fluid.
Gellants	To increase viscosity and suspend sand during proppant transport.
pH control	To maintain the pH at various stages using buffers to ensure maximum effectiveness of various additives.
Proppants	To hold fissures open, allowing gas to flow out of the cracked formation, usually composed of sand and occasionally glass beads.
Scale control	To prevent build up of mineral scale that can block fluid and gas passage through the pipes.
Surfactants	To decrease liquid surface tension and improve fluid passage through pipes in either direction.

**Table 2.** Chemicals with CAS numbers that have 10 or more adverse health effects.

Chemical	CAS #	Number of Products
(2-BE) Ethylene glycol monobutyl ether	111-76-2	22
2,2',2''-Nitrilotriethanol	102-71-6	3
2-Ethylhexanol	104-76-7	7
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	2
Acetic acid	1186-52-3	1
Acrolein	107-02-8	1
Acrylamide (2-propenamide)	79-06-1	6
Acrylic acid	79-10-7	2
Ammonia	7664-41-7	3
Ammonium chloride	12125-02-9	2
Ammonium nitrate	6484-52-2	2
Aniline	62-53-3	1
Benzyl chloride	100-44-7	2
Boric acid	10043-35-3	4
Cadmium	7440-43-9	1
Calcium hypochlorite	7778-54-3	1
Chlorine	7782-50-5	1
Chlorine dioxide	10049-04-4	2
Dibromoacetonitrile	3252-43-5	1
Diesel 2	68476-34-6	19
Diethanolamine	111-42-2	4
Diethylenetriamine	111-40-0	1
Dimethyl formamide	68-12-2	1
Epidian	25068-38-6	1
Ethanol (acetylenic alcohol)	64-17-5	8
Ethyl mercaptan	75-08-1	1
Ethylbenzene	100-41-4	7
Ethylene glycol	107-21-1	17
Ethylene oxide	75-21-8	2
Ferrous sulfate	7720-78-7	1
Formaldehyde	50-00-0	4
Formic acid	64-18-6	8
Fuel oil #2	68476-30-2	9
Glutaraldehyde	111-30-8	11
Glyoxal	107-22-2	2
Hydrodesulfurized kerosene	64742-81-0	1
Hydrogen sulfide	7783-06-4	1
Iron	7439-89-6	3
Isobutyl alcohol (2-methyl-1-propanol)	78-83-1	3
Isopropanol (propan-2-ol)	67-63-0	47
Kerosene	8008-20-6	3
Light naphthenic distillates, hydrotreated	64742-53-6	2



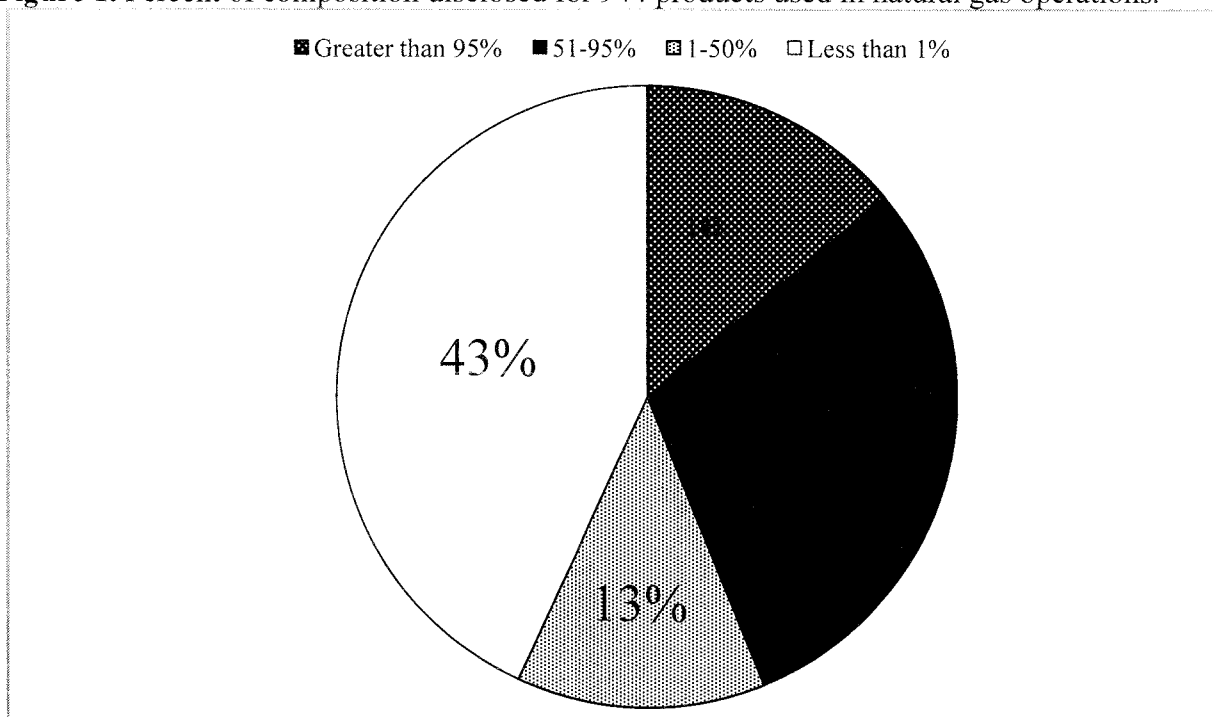
Mercaptoacidic acid	68-11-1	2
Methanol	67-56-1	74
Methylene bis(thiocyanate)	6317-18-6	2
Monoethanolamine	141-43-5	5
NaHCO <sub>3</sub>	144-55-8	5
Naphtha, petroleum medium aliphatic	64742-88-7	2
Naphthalene	91-20-3	18
Natural gas condensates	68919-39-1	1
Nickel sulfate	7786-81-4	1
Paraformaldehyde	30525-89-4	2
Petroleum distillate naptha	8002-05-9	7
Petroleum distillate/ naphtha	8030-30-6	1
Phosphonium, tetrakis(hydroxymethyl)-sulfate	55566-30-8	2
Propane-1,2-diol	57-55-6	6
Sodium bromate	7789-38-0	1
Sodium chlorite (chlorous acid, sodium salt)	7758-19-2	1
Sodium hypochlorite	7681-52-9	1
Sodium nitrate	7631-99-4	3
Sodium nitrite	7632-00-0	3
Sodium sulfite	7757-83-7	1
Styrene	100-42-5	1
Sulfur dioxide	7446-09-5	1
Sulfuric acid	7664-93-9	1
Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine- 2-thione (Dazomet)	533-74-4	3
Titanium dioxide	13463-67-7	2
Tributyl phosphate	126-73-8	1
Triethylene glycol	112-27-6	1
Urea	57-13-6	3
Xylene	1330-20-7	11

**Table 3.** Chemicals with CAS numbers found in the highest number of products.

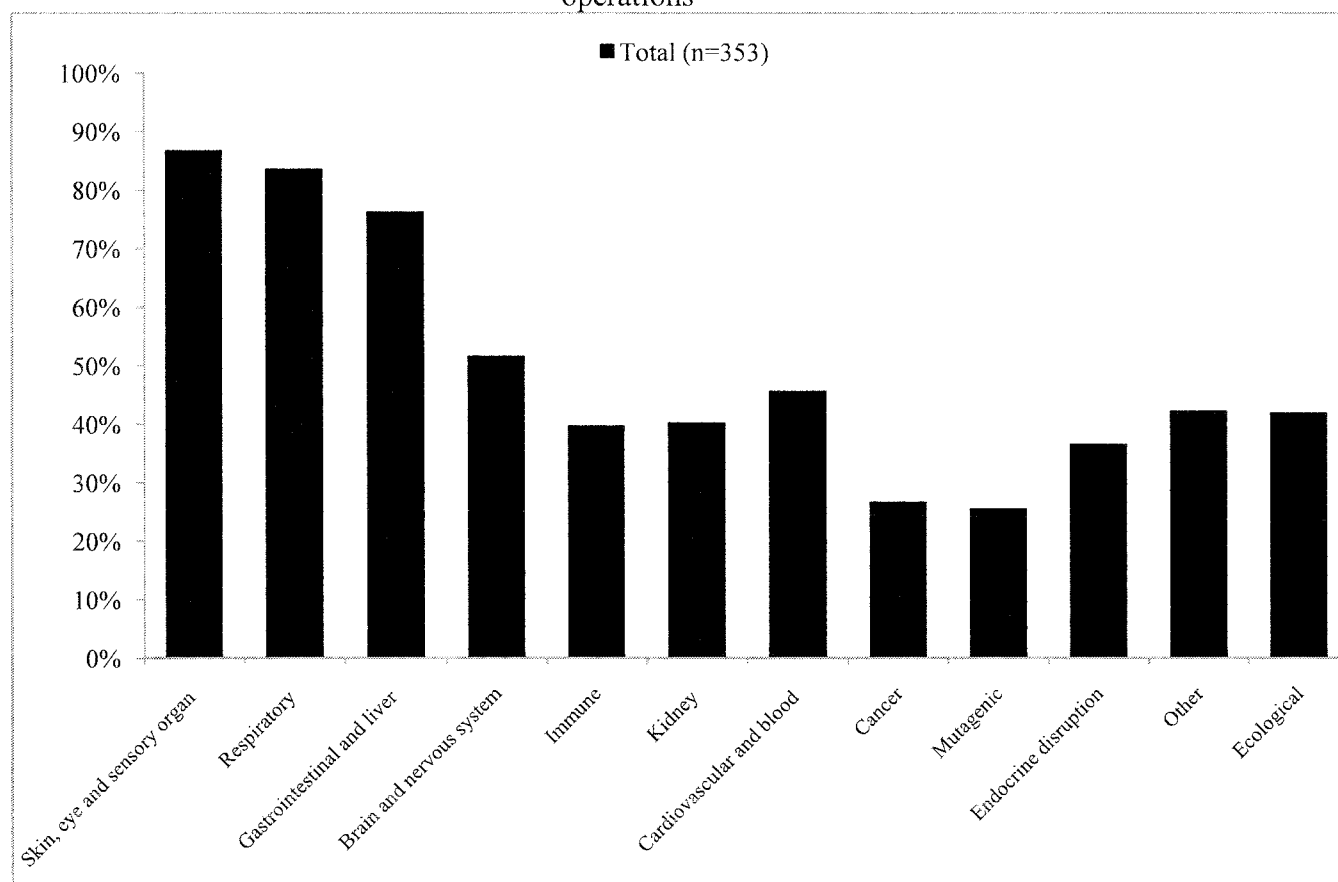
Chemical	CAS #	Number of products	Number of health effects
Crystalline silica, quartz	14808-60-7	125	7
Methanol	67-56-1	74	11
Isopropanol (propan-2-ol)	67-63-0	47	10
Petroleum distillate hydrotreated light	64742-47-8	26	6
(2-BE) Ethylene glycol monobutyl ether	111-76-2	22	11
Bentonite	1302-78-9	20	6
Diesel 2	68476-34-6	19	10
Naphthalene	91-20-3	18	12
Aluminum oxide	1344-28-1	17	3
Ethylene glycol	107-21-1	17	10
Sodium hydroxide	1310-73-2	17	5
Barite (BaSO <sub>4</sub> )	7727-43-7	15	5
Heavy aromatic petroleum naphtha (aromatic solvent)	64742-94-5	15	5
Crystalline silica, cristobalite	14464-46-1	14	5
Mica	12001-26-2	14	3
Sodium chloride	7647-14-5	14	9
Crystalline silica, tridymite	15468-32-3	13	3
Hydrochloric acid (HCl)	7647-01-0	13	7
Glutaraldehyde	111-30-8	11	11
Xylene	1330-20-7	11	10
Guar gum	9000-30-0	10	3
Iron oxide (Fe <sub>2</sub> O <sub>3</sub> , diiron trioxide)	1309-37-1	10	5
Potassium chloride	7447-40-7	10	8
Potassium hydroxide	1310-58-3	10	7
Xanthan gum	11138-66-2	10	4
Fuel oil #2	68476-30-2	9	11
Hydrotreated heavy petroleum naphtha	64742-48-9	9	8
Limestone (calcium carbonate)	1317-65-3	9	2
Polyacrylamide/polyacrylate copolymer	25085-02-3	9	3
Sodium carboxymethylcellulose (polyanionic cellulose)	9004-32-4	9	5
Calcium hydroxide	1305-62-0	8	8
Crystalline silica (silicon dioxide)	7631-86-9	8	4
Ethanol (acetylenic alcohol)	64-17-5	8	12
Formic acid	64-18-6	8	11
Graphite	7782-42-5	8	4
2-Ethylhexanol	104-76-7	7	11
Acetic acid	64-19-7	7	9
Asphaltite (gilsonite, hydrocarbon black solid)	12002-43-6	7	4
Butanol (n-butyl alcohol, butan-1-ol, 1-butanol)	71-36-3	7	8
Calcium carbonate (sized)	471-34-1	7	6
Calcium chloride	10043-52-4	7	8
Ethoxylated nonylphenol	9016-45-9	7	6
Ethylbenzene	100-41-4	7	11
Petroleum distillate naphtha	8002-05-9	7	12

Propargyl alcohol (prop-2-yn-1-ol)	107-19-7	7	9
Tetramethylammonium chloride	75-57-0	7	8

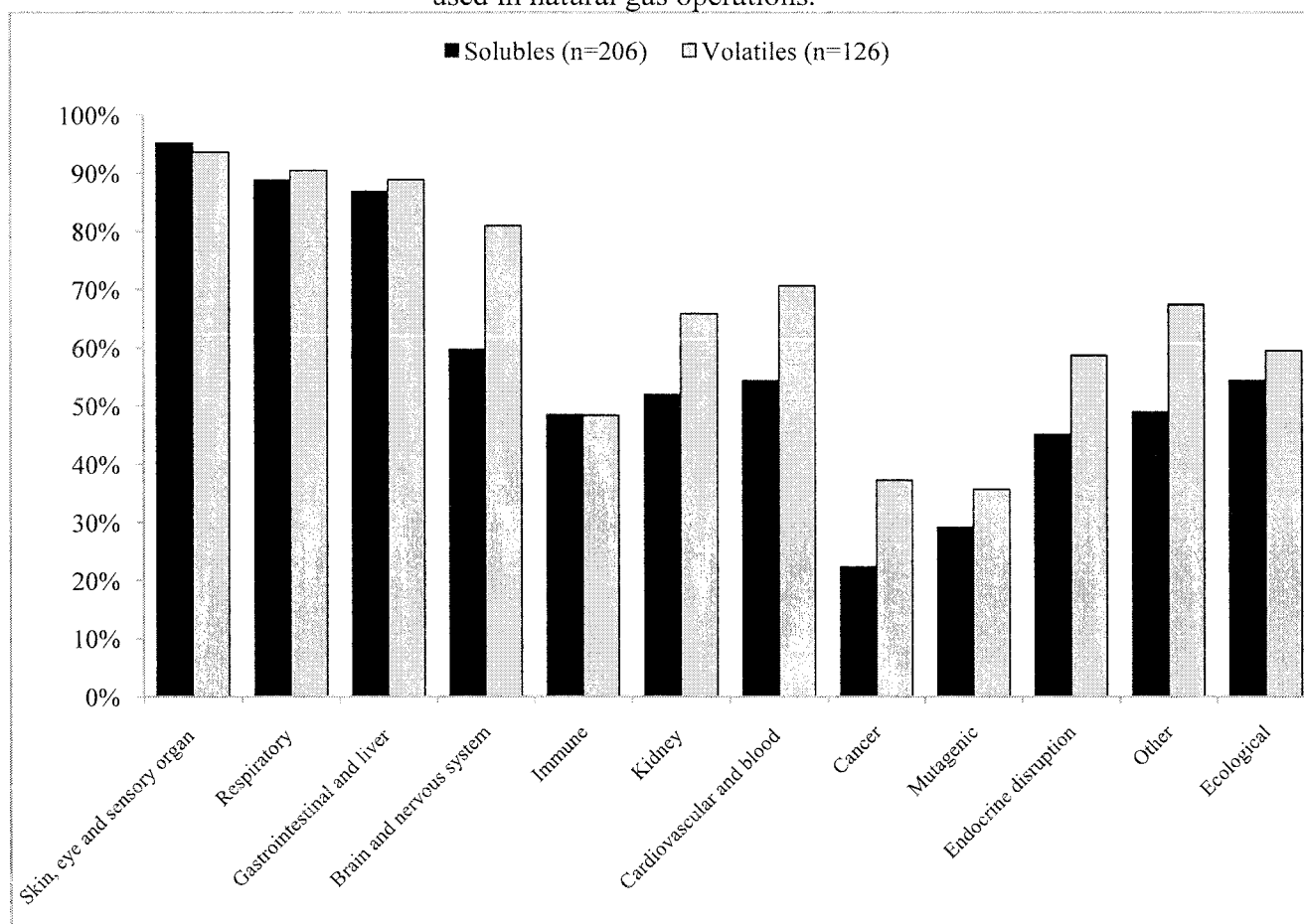
**Figure 1.** Percent of composition disclosed for 944 products used in natural gas operations.



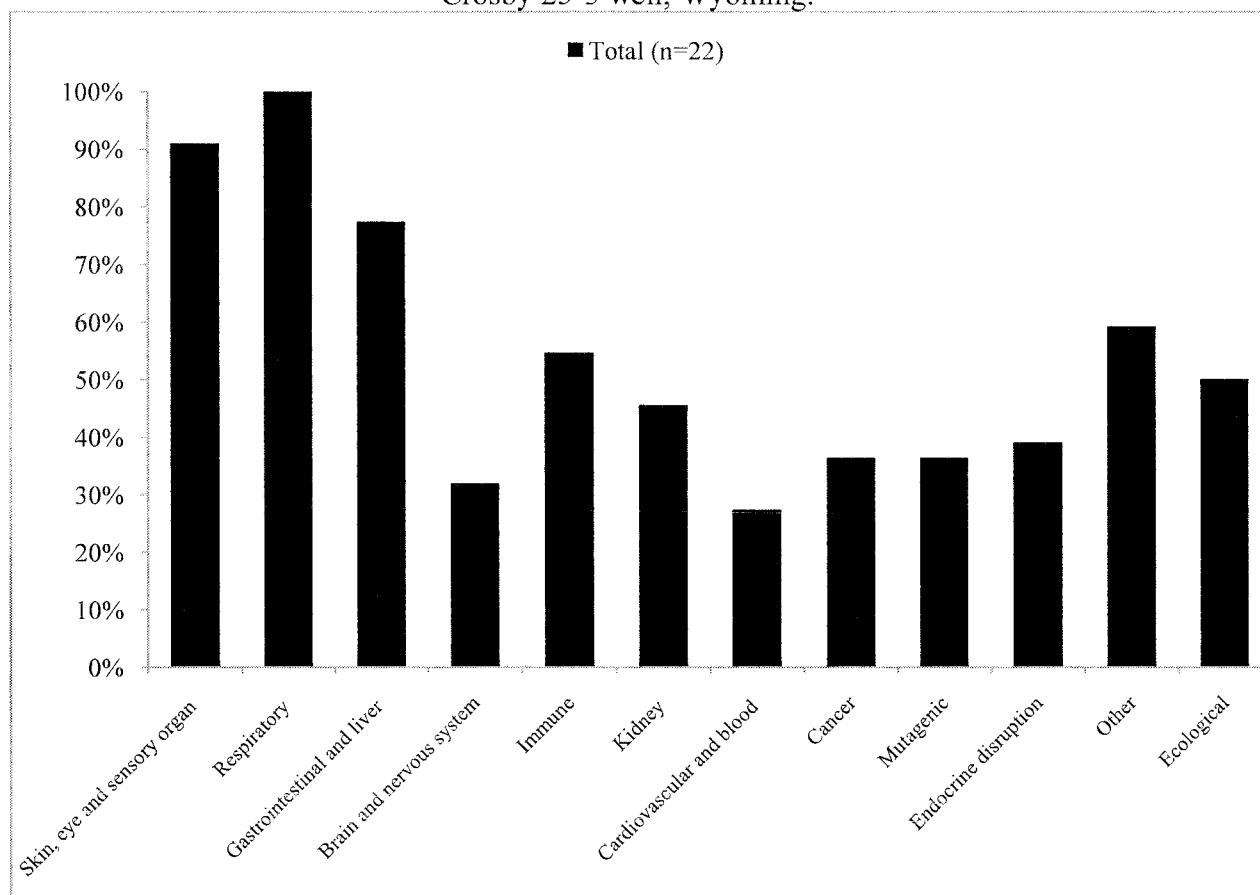
**Figure 2.** Profile of possible health effects of chemicals with CAS numbers used in natural gas operations



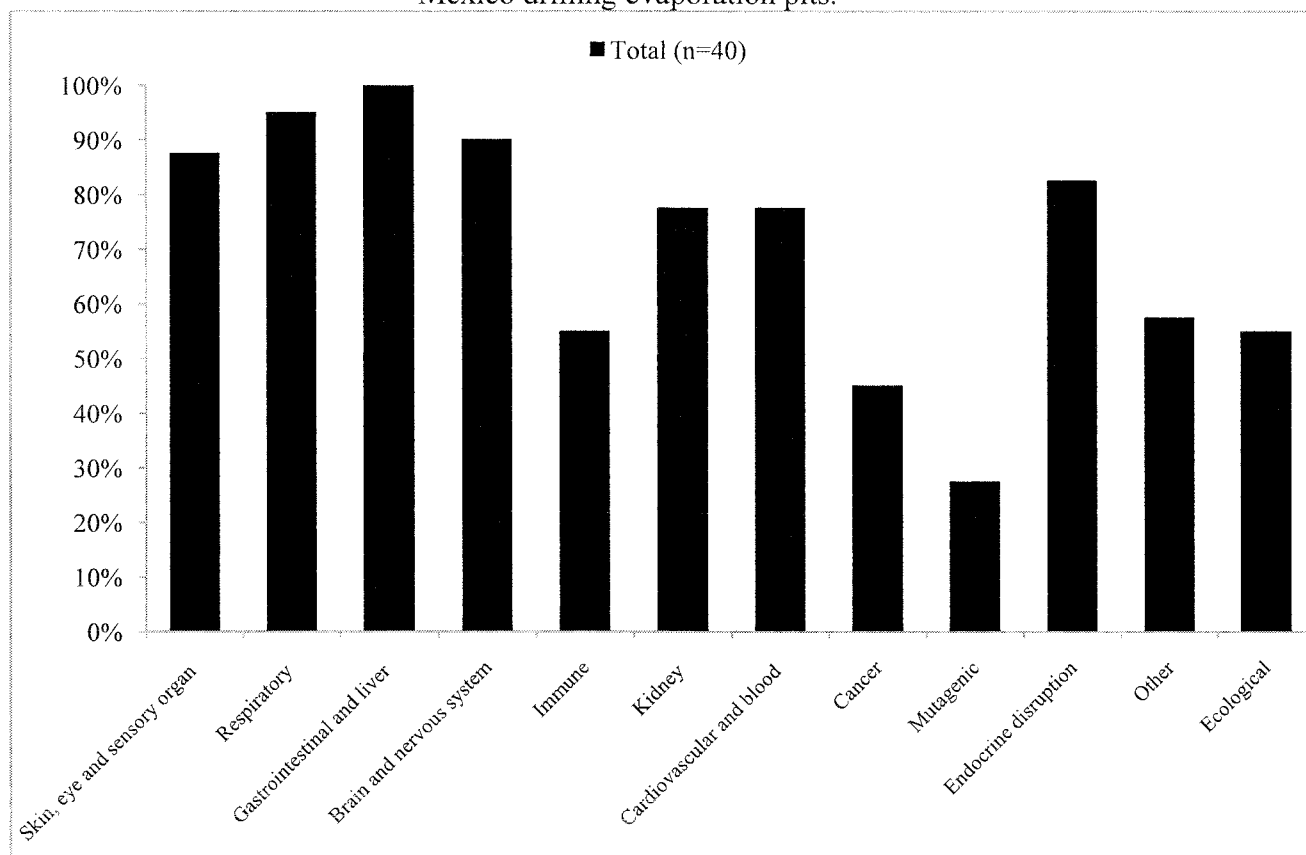
**Figure 3.** Profile of possible health effects of soluble and volatile chemicals with CAS numbers used in natural gas operations.



**Figure 4.** Profile of possible health effects of chemicals with CAS numbers used to drill the Crosby 25-3 well, Wyoming.



**Figure 5.** Profile of possible health effects of chemicals with CAS numbers found in six New Mexico drilling evaporation pits.





**From:** barbara sachau <bsachau@gmail.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 7/23/2011 12:13:28 PM  
**Subject:** green acres program giving away lands in nj state parks to profiteer named tennessee gas pipeline for 25 years - no way any lease should be for that long

the nj public doesnt know what will happen in 25 years. i see no reason to give a lease that long.

in addition, i see no reason to give this profiteer any land in any nj state park. let this profiteer buy private land for his pipeline, on which he will gouge nj residents for gas. there is no reason to allow nj public land, which has been saved at great sacrifice by the citizens of nj to keep as open space for natural plants and animals and people to walk in peace to have gaslines going through them. the residents of nj still get gouged by these companies -these profiteers like tennessee gas. we let them have our land at cheap to nothing use and then they turn around and gouge us for gas prices. what do the people of this state get out of this? nothing. nothing at all. these profiteers have execs who get \$200 million retirement packages while the citizens pay through the nose for gas. The citizens are being scammed by these profiteers, who have absolutely no sense of any public benefit.

the entire proposal should be denied. completely and totally denied. there is no convenience or necessity for this profiteers to be allowed to use state lands at little to no cost at all and to cause this detriment to the citizens of the state of nj. Harming 113 acres is beyond the pale. this whole project is skanky and corrupt with nj political leaders being involved in meetings that had no public comment. The public is being ripped off with these contracts.

barbara sachau 2 glenway flemington nj 08822

N.J. Department of Environmental Protection  
Green Acres Program  
Bureau of Legal Services and Stewardship  
P.O. Box 412  
Trenton, NJ 08625.

Dear Green Acres program,

I am a resident of Ramsey, a member of the NY/NJ Trail Conference and my family and I are frequent users of the Ramapo Valley County Reservation. My family and I are very concerned that the proposed Northeast Upgrade project will disrupt an area that is unique in Bergen County and that the company's construction practices will be insufficient to mitigate the many impacts that will be caused.

The Ramapo Valley County Reservation a unique natural resource as it is the only place in Bergen County where its many residents can find wilderness. Bergen County is the most populous County in the most densely populated state in the nation. Bergen County has more residents than 7 entire states as well as the District of Columbia. Our residents enjoy a fine county park system with many varied recreational opportunities. But there is only one place our residents can go in Bergen County to enjoy the solitude and wildlife that only wilderness can bring - the Ramapo Valley County Reservation.

Northeast Upgrade gas pipeline project will have significant impacts to the Ramapo County Reservation, including the following:

1. The construction of a new gas line into the Reservation will cause the destruction of hundreds of mature trees, many 100 or more years old, for a width of 75 or more feet. These trees cannot be "replaced" by simply replanting seedlings in their place.
2. The construction process will disrupt the park's trails and tranquility for the entire construction period.
3. The existing gas pipeline right of way is currently eroding badly where it crosses steep slopes, contributing to erosion on existing hiking trails and siltation in nearby streams. Widening the right of way on these existing slopes will certainly exacerbate the problem and could permanently damage valuable archeological resources as well.
4. The existing gas pipeline right of way is one of the main entry ways that all terrain vehicles use to illegally enter the Ramapo Valley County Reservation and cause damage. The expansion of the right of way is certain to invite increased ATV use.
5. The existing gas pipeline right of way is a vector for the invasion of non-native destructive plant species into the park. These species provide no food or habitat for native wildlife and crowd out important and rare native plant species that are critical for wildlife. By more than doubling the size of the right of way, the new gas pipeline right of way will greatly increase the opportunity for the spread of non-native invasive plant species.

To ensure that these negative impacts do not occur, I recommend that Bergen County require the company constructing the Northeast Upgrade project to undertake the following actions before agreeing to allow the pipeline expansion project:

A. Minimize the temporary work space to as small an area as possible. The construction company has agreed that they will use little or no temporary workspace where the new gas pipeline crosses the Appalachian Trail. This procedure should be used in the Ramapo Reservation as well.

B. Require the construction company to pay for independent monitoring during the construction period and after construction is complete to minimize natural resource impacts in the Ramapo Reservation. Independent oversight is a necessity to ensure that the construction work is done only within the area granted by Bergen County (the current right of way owned by the company is 50 feet wide but the cleared area is significantly larger) and that it is done in a manner that does not exacerbate erosion or the spread of invasive plants. The company should be required to pay for an independent public interest organization such as the Ramapo College Institute for Environmental Studies to undertake monitoring of the construction process and ensure that the newly planted trees and grasses survive and that erosion is not occurring. The Institute is a part of Ramapo College and is located nearly adjacent to the Reservation and has the experience and credibility to perform this role. This monitoring should last for the length of the lease. The County should also require the construction company to use only native plants in revegetating the site.

C. Require the company to acquire additional lands to add to the Ramapo County Reservation that will compensate for the permanent taking area and impacts to the temporary work space on at least a 5-1 ratio (which is used by the NJ DEP wetlands mitigation rules). There are a small handful of important privately held properties adjacent to the Reservation that can still be acquired. Any acquisition must be adjacent to the Ramapo Valley County Reservation.

D. Require the company to pay for staffing to control the off-road vehicle use from the existing gas pipeline and to ensure that this problem does not worsen with the construction of the new line. The County should require the company to make a one time payment to Bergen County, Ramapo College Institute for Environmental Studies, the NY/NJ Trail Conference or other organization to hire "ridge runners" to patrol the backcountry of the Reservation to ensure that all terrain vehicles stop using the rights of way to illegally enter the Reservation.

Any construction activity in the Ramapo Valley County Reservation will have long-term impacts upon the park as well as the County residents who use it. The goal of the County's negotiation with the construction company should be to ensure that the Reservation is left in better condition than before construction began.

Very truly yours,

  
David and Patricia Epstein  
175 Arch Street  
Ramsey, NJ 07446



**From:** "Kate Millsaps" <Kate.Millsaps@SierraClub.org>  
**To:** <astrobel@co.bergen.nj.us>  
**Date:** 8/10/2011 5:16:42 PM  
**Subject:** Proposed Diversion of Bergen County Parkland Preserved through the Green Acres Program for the Tennessee Gas Pipeline Northeast Upgrade Project

Attached please find the comments of the New Jersey Chapter of the Sierra Club on Proposed Diversion of Bergen County Parkland Preserved through the Green Acres Program for the Tennessee Gas Pipeline Northeast Upgrade Project and the scoping comments on the TGP project for the FERC NEPA document prepared by Columbia Environmental Law Clinic on behalf of the Sierra Club.

Thank you,  
Kate Millsaps

Kate Millsaps, Program Assistant  
NJ Sierra Club  
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**CC:** <kdonovan@co.bergen.nj.us>, <jbaratta@co.bergen.nj.us>,  
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## NEW JERSEY CHAPTER

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August 11, 2011

Mr. Adam Strobel  
Director, Bergen County Open Space Division  
One Bergen County Plaza  
Fourth Floor  
Hackensack, New Jersey 07601-7076  
[astrobel@co.bergen.nj.us](mailto:astrobel@co.bergen.nj.us)

Re: Proposed Diversion of Bergen County Parkland Preserved through the Green Acres  
Program for the Tennessee Gas Pipeline Northeast Upgrade Project

Dear Mr. Strobel,

The New Jersey Chapter of the Sierra Club has significant concerns with the proposed diversion of county owned parkland in the Ramapo Mountain Reservation to Tennessee Gas Pipeline (TGP) company for their proposed Northeast Upgrade project. As you know, the Sierra Club has been working with the county over the last 25 years to save key parcels in the Ramapo Mountains and now that land could be destroyed by this project. Saving this land was the top priority of different administrations from before Pat Schuber until today and these lands are irreplaceable. Bergen County is built out and no mitigation lands can be acquired that equal or exceed the resource values found at the Ramapo Reservation. The highest value land in the Bergen County is already preserved as a result of the great work you, your Department, and the County has done over the years. This is truly the most pristine and resource rich land in the county and cannot be replaced with other land as mitigation. Bergen County has already preserved this best value land and should not let this project impact those resources. An alternative route must be identified to avoid the diversion of park lands.

Considering this diversion application is premature as the company has yet to receive any approvals from the Federal Energy Regulatory Commission (FERC). The company has not presented any realistic alternatives to avoiding county parkland, simply routes that traverse other portions of county and state-owned land. The impacts this project will have on our county parkland will violate the public trust with no public need or public benefit and we urge the Bergen County Parks Commission to deny TGP's diversion request.

As proposed, this project will have significant impacts on critical environmental areas and the proposed route may not even be feasible given the sensitivity of the environmental, archaeological, and cultural resources adjacent to the right-of-way (ROW). The project crosses multiple units under the jurisdiction of the National Park Service. This includes the Delaware National Recreation Area, where an act of Congress is necessary to permanently expand the company's ROW. The project traverses critical watershed lands in the New Jersey Highlands, Newark watershed properties, and underneath the Monksville Reservoir.



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## NEW JERSEY CHAPTER

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[www.SierraClub.org/NJ](http://www.SierraClub.org/NJ)

The Federal Energy Regulatory Commission (FERC) has not approved this project and given current natural gas markets may not be able to as natural gas demand remains flat. There is a glut of natural gas in this country and decreasing demand. The U.S. Energy Information Administration found that, between 1999 and 2009, total natural gas consumption for all sectors decreased by 13.3% in New Jersey and 10.4% in New York. Rather this project is being pushed by gas drillers in the Marcellus Shale to carry the glut of natural gas produced through hydraulic fracturing or fracking from Pennsylvania to eastern markets. This project is not necessary to meet consumer demand and is therefore not in the public need, provides no public benefit, and should not qualify for a diversion of county parkland.

The Ramapo Reservation is sole remaining wilderness area in Bergen County and should not be sacrificed for this project. Bergen County Department of Planning and Economic Development is currently in the process of developing a management plan for the Ramapo Mountains County Park. As part of the planning process a Natural Resource Inventory (NRI) was compiled for the parkland and impacts to critical resources listed in that report must be identified and considered in the county's consideration of the diversion.

The County's NRI specifically lists the existing gas pipeline ROW as a constraint stating, "views (are) interrupted by utility easements" (ix). TGP now wants to widen their ROW with this project, exaggerating the pipeline's impact on the Reservation if this project is approved. The negative scenic impacts to the park has already been identified by County park staff and exacerbating these impacts should not be allowed through further diversions.

Impacts to the reservation will not be limited to scenic resources and viewsheds. The Reservation is home to critical species, both threatened and endangered flora and fauna, that would be impacted by this project. Many of these species depend on contiguous habitat, stands of mature forest and forested wetlands within the Reservation that would be uprooted and destroyed by this project including, Torrey's Mountain Mint, Barred Owl, Cooper's Hawk, Red-shouldered Hawk, Bobcat, and Timber Rattlesnake.

Three Threatened and Endangered Species within the Reservation are Critically Dependent on Regulated Waters for Survival- Contorted Sphagnum (*Sphagnum contortum*), Sphagnum (*Sphagnum majus* ssp. *norvegicum*), and Small-flowered Halfchaff Sedge (*Hemicarpha micrantha*). These species will all be impacted by the project through decreasing water quality, specifically increased sedimentation of water ways, rise in water temperatures, and impacts on groundwater recharge lowering stream flow.

Edge impacts are felt 300 feet into the forest buffer and deforestation needed for this project along the right of way (ROW) will result in edge effects creeping deeper into the Reservation's core forests impacting wildlife and expanding habitat for invasive species. Loss of forest cover and stream impacts will destroy habitat for many of these species. The NRI prepared for the county states, "the forest cover of these wetlands and high water quality of the streams are important factors in maintaining habitat suitable for protected species" (88). Grading along the will impact the rock outcrops on which bobcats and Timber Rattlesnakes depend.



## NEW JERSEY CHAPTER

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Portions of this heavily visited park would be closed off to the public during construction. As the county has already identified the existing ROW as a constraint that depletes visitor enjoyment of the Ramapo Reservation and impacts to critical resources identified in the County NRI are inevitable if this project moves forward, the project will not yield any exceptional recreational and/or conservation benefit. Further diversion of parkland to TGP must not be approved by the County or Green Acres program.

The county must not review this project in a vacuum. The impacts the project will have on other public lands owned by the state, municipalities, and non-profits must be considered. Over 50% of the project is located on public land and the project will devastate critical resources that belong to the people of New Jersey. The cumulative impacts of the project must be reviewed from loss of contiguity with the Ramapo Mountain State Forest to loss of forest cover and groundwater recharge along the entire ROW.

I have attached the scoping comments submitted on our behalf by the Columbia Environmental Law Clinic to FERC for the federal Environmental Assessment for inclusion in the county's review of this diversion request. The scoping comments outline specific concerns we have with impacts to the county parkland resulting from the project such as impacts to the viewshed from Bald Mountain. The comments also outline broader resource concerns the county should include in its consideration of allowing this diversion such as increased erosion along the ROW, invasive species encroachment, and loss of forest connectivity. Resource impacts identified in the attached scoping comments must be examined and underscore the broad range of negative impacts the project will have on land held in the public trust.

The Sierra Club also has concerns with the mitigation that could potentially be proposed for this diversion based on their commitments to the Green Acres program for their last project, the 300 Line. For that project TGP agreed to mitigate permanent impacts at a 4:1 ratio, however the company capped expenditures on this additional land acquisition at no more than \$7,500 per acre, and will be able to "cash out" after two years at \$7,500 per acre if Greens Acres does not identify properties that can be obtained to satisfy the mitigation requirements. \$7,500 per acre is not a realistic figure to permanently preserve high ecological value upland forests in the project region that provide similar ecosystem services as those that would be lost as a result of a diversion. The county must not allow such a cap on the amount of money that can be paid per acre and should identify a parcel for acquisition prior to the diversion if the project moves forward.

Land values for preservation purposes in the Highlands Preservation Area are well over \$7,500 per acre. The New Jersey Water Supply Authority has purchased 20 parcels in the Highlands Preservation Area since the passage of the Highlands Act in 2004. On average NJWSA paid \$13,225 per acre. The most expensive of the 20 parcels was \$36,000 per acre. Properties preserved by the Green Acres Program and Passaic County since 2004 in the project region were purchased for well over \$7,500 per acre. The Lefcovitz parcel was purchased in 2007 for \$25,000 per acre and the Facciglia property was preserved in 2008 at \$83,000 per acre. The



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Woggish parcel next to the pipeline and Long Pond Ironworks State Park was purchased for \$41,000 per acre in 2009. Considering these land values, TGP will not be able to purchase high quality upland forests adjacent to the Reservation to mitigate for the impacts of this project at a 4:1 ratio in the Highlands with the \$7,500 per acre cap in place.

If the project moves forward, we urge the County to require that Tennessee establish an escrow account to ensure the company fulfills all their mitigation commitments and provides the County with funds to address failed mitigation projects. TGP's mitigation commitments for the 300 Line project ceased invasive species monitoring after three years of monitoring. Afterwards, "invasive management will follow regular maintenance schedule, which includes mowing only." The escrow account would provide funding to the County if an invasive species infestation occurs in those revegetation areas after 2015 as a result of the company no longer monitoring the sites.

Deny these diversion requests and tell TGP to go back to the drawing board and outline a route that does not violate the public trust by destroying the resources of our public lands. Do not allow this company to destroy the highest value land in Bergen County while offering us pennies on the dollar in compensation.

Thank you for considering these comments.

Sincerely,

Jeff Tittel

Director, New Jersey Chapter of the Sierra Club

Cc: Kathleen Donovan, Bergen County Executive

Jeanne Baratta, Chief of Staff, Bergen County Executive

Kevin E. Koslosky, Bureau of Legal Services and Stewardship, Green Acres Program

Scott Brubaker, Office of Permit Coordination and Environment Review, DEP



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November 12, 2010

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

Re: Tennessee Gas Pipeline Company, Docket No. PF10-23-000  
Northeast Upgrade Project  
Response to Notice of Intent to Prepare an Environmental Assessment and Request for  
Comments on Environmental Issues

Dear Ms. Bose:

On behalf of the New Jersey Highlands Coalition, the New Jersey Chapter of the Sierra Club, the Delaware Riverkeeper Network, and Save the Park, we submit the following comments on the scope of the Environmental Assessment ("EA") to be prepared by the Federal Energy Regulatory Commission ("FERC") with respect to the Northeast Upgrade Project (the "Project") proposed by Tennessee Gas Pipeline Company ("TGP").

The Project threatens to disturb pristine open space in the New Jersey Highlands region. The Highlands region is important both ecologically and economically as it provides clean drinking water to over 5.5 million people and to key industries such as food processing and pharmaceuticals. The Highlands is one of the last remaining landscapes of contiguous forest, threatened and endangered species habitat, and breathtaking vistas in New Jersey, which underscores the need for FERC to seriously examine all primary, secondary, and cumulative impacts that would result from the Project.

The federal government acknowledged the exceptional value of Highlands resources and the urgent need for their preservation in 2004 when Congress passed the Highlands Conservation Act.<sup>1</sup> The Act "recognize[s] the importance of the water, forest, agricultural, wildlife, recreational, and cultural resources of the Highlands region, and the national significance of the Highlands region to the United States."<sup>2</sup> The New Jersey Legislature also recognized the significance of the Highlands and afforded special protection to the region and its resources in

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<sup>1</sup> Highlands Conservation Act, Pub. L. No. 108-421, 118 Stat. 2375 (2004).

<sup>2</sup> *Id.* § 2.

2004 with the passage of the Highlands Water Protection and Planning Act.<sup>3</sup> The Act created the Highlands Water Protection and Planning Council and the Regional Master Plan to ensure resource-availability-based planning would be used in the Highlands to combat sprawl and the depletion of water quality and quantity.<sup>4</sup> This Project will not only significantly impact the critical resources of the Highlands region, but also High Point State Park, the Appalachian National Scenic Trail ("AT"), and the Delaware Water Gap National Recreation Area ("DWGNRA").

Furthermore, the Project, and others like it, fit into a larger picture of exploding shale gas development in the Marcellus Shale region. Records maintained by the Pennsylvania Department of Environmental Protection show that drilling of wells in the Marcellus Shale increased by nearly 400 percent between 2008 and 2009, from 195 wells to 768 wells.<sup>5</sup> The increased development is not limited to the drilling of wells. FERC has reported that 5.6 billion cubic feet per day of pipeline capacity was constructed in the Northeast in 2008 and 2009, and an additional 1.2 billion cubic feet per day will have been constructed in the region by January 2011.<sup>6</sup> According to FERC, "[m]uch of the new pipeline capacity in the area is targeted at improving the access of shale gas to markets."<sup>7</sup> In fact, TGP itself acknowledges that "th[is] Project will increase natural gas delivery capacity in the region by approximately 636,000 Dth/day...[and] will also provide access to natural gas supplies from the Marcellus Shale supply area."<sup>8</sup> Thus, the proposed Project is both a product of the development of the Marcellus Shale and a likely catalyst for further gas development. The impacts of the Project cannot be understood apart from the totality of the past, present, and reasonably foreseeable future actions associated with Marcellus Shale development.

These comments begin by calling FERC's attention to recent and ongoing action by the Delaware River Basin Commission ("DRBC") that call into question the necessity of this Project. The comments next address the need for a full Environmental Impact Statement ("EIS") to assess this Project's environmental impacts. FERC must evaluate all impacts the Project will have on the resources along the right-of-way ("ROW"), the ROW buffer, access roads, and any secondary and cumulative impacts that will result from project construction. Next, these comments identify crucial matters not listed in the October 8, 2010 Notice of Intent to Prepare an Environmental Assessment (the "Notice of Intent") that FERC must assess.<sup>9</sup> Finally, the

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<sup>3</sup> Highlands Water Protection and Planning Act, N.J. Stat. Ann. §13:20 (2003).

<sup>4</sup> *Id.* §§ 13:20-4, 13:20-8 (2003).

<sup>5</sup> See Bureau of Oil & Gas Mgmt., Pa. Dep't of Env'tl. Prot., *Wells Drilled in 2008* (Dec. 31, 2008), <http://www.dep.state.pa.us/dep/deputate/minres/oilgas/BOGM%20Website%20Pictures/2008/2008%20Wells%20Drilled.jpg>; Bureau of Oil & Gas Mgmt., Pa. Dep't of Env'tl. Prot., *Wells Drilled in 2009* (Jan. 25, 2010), <http://www.dep.state.pa.us/dep/deputate/minres/oilgas/BOGM%20Website%20Pictures/2009/2009%20%20Wells%20Drilled.jpg>.

<sup>6</sup> Fed. Energy Regulatory Comm'n, *Winter 2010-11 Energy Market Assessment* 10 (Oct. 21, 2010), <http://www.ferc.gov/market-oversight/mkt-views/2010/10-21-10.pdf>.

<sup>7</sup> *Id.*

<sup>8</sup> Letter from Jacquelyne M. Rocan, Senior Counsel, Tennessee Gas Pipeline Company, to Kimberly D. Bose, Secretary, Fed. Energy Regulatory Comm'n on Request to Use Pre-Filing Procedures 3 (July 6, 2010).

<sup>9</sup> Fed. Energy Regulatory Comm'n, Docket No. PF10-23-000, Notice of Intent to Prepare an Environmental Assessment for the Planned Northeast Upgrade Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings (Oct. 8, 2010) [hereinafter "Notice of Intent"].

comments address the issues that FERC must consider within the seven categories of potential impacts listed in the Notice of Intent.

**I. FERC Must Not Approve the Project Before the DRBC Takes Further Action Regarding Shale Gas Development.**

The Project is a major component of TGP's plan for accessing and distributing gas extracted from the Marcellus Shale. TGP has negotiated twenty-year contracts with two Marcellus Shale natural gas producers, Chesapeake Energy Marketing, Inc., a wholly owned subsidiary of Chesapeake Energy Corporation, and Statoil Natural Gas LLC, a wholly owned subsidiary of Statoil, both natural gas shippers.<sup>10</sup> TGP will allocate 100 percent of the Project's capacity to gas purchased under these contracts, meaning that the pipeline will only carry gas produced through hydraulic fracturing in the Marcellus Shale region.<sup>11</sup>

Currently, DRBC is drafting specific regulations that will govern natural gas development in the Delaware River watershed and, pending its final adoption of these regulations, DRBC has placed a moratorium on all production gas wells and some exploratory wells.<sup>12</sup> DRBC will not release draft regulations until November or December of this year at the earliest, after which there will be a public comment period and two public hearings.<sup>13</sup> It is not likely that DRBC will be able to adopt final regulations until its May 2011 meeting.

Meanwhile, congressional representatives with constituencies in the Delaware River watershed have called for a cumulative impact study on hydraulic fracturing in the Marcellus Shale to be prepared by the DRBC and the US Geological Survey.<sup>14</sup> Funding for the study is awaiting congressional approval in the federal budget.<sup>15</sup> Environmental organizations throughout the Delaware River watershed, including the Highlands Coalition and the Delaware Riverkeeper Network, have called on the DRBC to defer any approvals of natural gas drilling projects until that cumulative impact study is completed, so that DRBC will be able to incorporate its findings into its regulations. The findings of the cumulative impact study must also be included in any review of pipeline projects that are specifically being constructed to transport Marcellus Shale natural gas. The Project must not be given approval until the true environmental consequences and cumulative impacts of drilling in the Marcellus Shale region are known through the federal study.

In addition to environmental impacts, the cumulative impact study will also assess the potential productivity of wells in the Marcellus Shale region. Currently, their production

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<sup>10</sup> Tennessee Gas Pipeline Company, Application of Tennessee Gas Pipeline Company for a Certificate of Public Convenience and Necessity, FERC Docket No. PF10-23, Initial Draft Resource Reports 1 and 10, at 1-4 (Aug. 2010) [hereinafter "Draft Resource Reports"].

<sup>11</sup> *Id.*

<sup>12</sup> See Delaware River Basin Commission, Natural Gas Drilling in the Delaware River Basin (Nov. 3, 2010), <http://www.state.nj.us/drbc/naturalgas.htm> (detailing the DRBC's actions with respect to gas drilling over the past year and projecting future developments).

<sup>13</sup> *Id.*

<sup>14</sup> Hinchey, Holt, Sestak Secure House Panel Approval of \$1 Million to Study Cumulative Water Impacts of Natural Gas Drilling in Delaware River Basin (July 23, 2010), [http://holt.house.gov/index.php?option=com\\_content&task=view&id=554&Itemid=18](http://holt.house.gov/index.php?option=com_content&task=view&id=554&Itemid=18).

<sup>15</sup> *Id.*

potential is unknown, making investment in infrastructure projects risky. The strength of DRBC's eventual regulations, not yet public, will also affect the amount of natural gas that can be extracted from the region. At this time it is impossible to project the amount of natural gas that will be produced and exported from the region, and whether that amount will be large enough to justify new pipeline infrastructure. If the DRBC implements highly restrictive regulations, the current capacity of the El Paso system may be sufficient to transport the volume of natural gas produced in the Marcellus Shale region. Until the productive capacity of the region is known, FERC should not approve applications to expand pipeline infrastructure. Communities throughout the Delaware River watershed will suffer the environmental harms of the Project; FERC must not impose these harms on them while the anticipated utility of the Project is unknown.

## **II. The Project Will Significantly Affect the Quality of the Environment and Requires an Environmental Impact Statement.**

The National Environmental Policy Act ("NEPA") requires all federal agencies to prepare an EIS prior to taking "action[] significantly affecting the quality of the human environment."<sup>16</sup> FERC has promulgated regulations to implement NEPA that describe major actions significantly affecting the environment normally requiring the preparation of an EIS.<sup>17</sup> One such action is "major pipeline construction projects under section 7 of the Natural Gas Act using right-of-way in which there is no existing natural gas pipeline."<sup>18</sup> Further, FERC has determined that "major greenfield pipelines normally call for EIS's being prepared first."<sup>19</sup> Because this Project is a major pipeline construction affecting significant greenfields, FERC must prepare a full EIS to assess the myriad environmental consequences of the Project.

TGP's August 23, 2010 Initial Draft Resource Report states, "[o]f the 638.1 acres required for construction of the Project facilities ... 112 acres are new permanent easement for the Project."<sup>20</sup> According to TGP, "[a] typical post-construction permanent ROW of 75 feet will be maintained for the new pipeline loop segments ... This permanent ROW generally consists of 25 feet of new permanent maintained ROW and 50 feet of existing permanent ROW associated with the existing 300 Line pipeline."<sup>21</sup> Further, the Project will not only require TGP to attain additional rights-of-way where there are currently no natural gas pipelines, but will also impact sensitive and protected land and water resources, including the Delaware Water Gap National Recreational Area and the Monksville Reservoir.

The Project will significantly affect the quality of the human environment and a brief EA cannot on its own address its secondary and cumulative impacts. The high value of the resources along the ROW requires a more thorough level of study. Because the Project will have a significant impact on these resources, a full EIS is necessary to properly characterize the whole of the affected environment and the full extent of multiple classes of potentially severe impacts.

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<sup>16</sup> National Environmental Policy Act, 42 U.S.C. § 4332(C) (2006).

<sup>17</sup> 18 C.F.R. § 380.6 (2010).

<sup>18</sup> *Id.*

<sup>19</sup> See Order Denying Rehearing and Request for Stay, 116 FERC P 61,182, ¶ 84, 2006 WL2461766, at \*61788 (Aug. 25, 2006) (quotations omitted).

<sup>20</sup> Draft Resource Reports, *supra* note 10, at 1-9.

<sup>21</sup> *Id.* at 1-36.

### III. **FERC Must Assess Crucial Matters Not Included in the Notice of Intent.**

NEPA<sup>22</sup> and its implementing regulations<sup>23</sup> require agencies to consider a full range of environmental impacts, including “ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, [and] cultural” impacts, “whether direct, indirect, or cumulative.”<sup>24</sup> The Notice of Intent fails to address several important issues that FERC must assess as part of the NEPA review process.

#### **A. Legal Requirements in National Park Units**

The Project will affect the DWGNRA, the Middle Delaware National Scenic and Recreational River, and the AT. All three of these environmental resources are protected by federal legislation.<sup>25</sup> The National Park Service (“NPS”) has already submitted comments on the Project to FERC, but if they are to serve their role as a cooperating agency in this NEPA review, the document produced must ensure that the Project meets key requirements of the legislation governing the affected resources. In particular, it is questionable at best whether the Project can be constructed a way that would constitute statutory non-impairment of the DWGNRA and that would not contravene the conservation purpose of the AT.

The enabling legislation of the DWGNRA makes it clear that the public’s recreational use and enjoyment is paramount.<sup>26</sup> Furthermore, the Secretary of the Interior may only authorize utilization of natural resources within the DWGNRA after having developed management policies to ensure that such utilization “is consistent with, and does not significantly impair, public recreation and protection of scenic, scientific, and historic features contributing to public enjoyment.”<sup>27</sup>

Section 1.4.5 of the NPS’s *Management Policies 2006* defines “impairment” as an impact that “would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.”<sup>28</sup> Section 1.4.5 then elaborates on this definition:

An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or

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<sup>22</sup> 42 U.S.C. §§ 4321-4370f (2006).

<sup>23</sup> 40 C.F.R. §§ 1500-08 (2010).

<sup>24</sup> 40 C.F.R. § 1508.8 (2010).

<sup>25</sup> See 16 U.S.C. § 460o (2006) (establishing the DWGNRA); 16 U.S.C. § 1274 (a)(20) (2006) (establishing the segment of the Delaware River within the DWGNRA as a wild and scenic river); 16 U.S.C. § 1241 (2006) (establishing the AT and the Pacific Crest Trail as the initial components of the National Trails System).

<sup>26</sup> 16 U.S.C. § 460o (2006) (stating that the purpose of the park is “for public outdoor recreation use and enjoyment of the proposed Tocks Island Reservoir and lands adjacent thereto”).

<sup>27</sup> 16 U.S.C. § 460o-4 (2006).

<sup>28</sup> See Nat’l. Park Serv., U.S. Dep’t of the Interior, *Management Policies 2006*, at 11 (2006), available at <http://www.nps.gov/policy/MP2006.pdf>.

- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.<sup>29</sup>

If constructed, the Project will impact recreational use of the Milford Beach site, approximately one mile downstream of the Project, and the Kittatiny Canoes campsite, which, although privately owned, increases recreational use of park land.

The AT's enabling legislation states that National Scenic Trails must be "so located as to provide for maximum outdoor recreational potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural or cultural qualities of the areas through which such trails may pass."<sup>30</sup> The upgrade and expansion of a natural gas pipeline is not compatible with the preservation of these wilderness qualities and will impair the recreational value and resources of the Trail. ROW expansion during construction in all parks would require the deforestation of critical forest resources resulting in loss of significant ecosystem services, forest connectivity, and threatened and endangered species habitat. Long-term maintenance of the ROW would prevent these values from being restored to park lands and encourages invasive species infestations, all of which detracts from the natural integrity of the park and the preservation of its scientific features. Thus, the NEPA document must thoroughly consider whether the proposed natural gas pipeline expansion would impair the resources of the DWGNRA and AT.

During the NEPA process, FERC must also evaluate whether any of TGP's proposed alternatives would result in the construction of new roads or facilities or the alteration of existing roads or trails on federal lands within the DWGNRA, including access roads to the ROW. The construction of any such roads and facilities would lead to permanent adverse effects on park landscapes in violation of the NPS Organic Act<sup>31</sup> and the individual pieces of enabling legislation noted above. FERC must evaluate in the NEPA document whether it could authorize a certificate of public convenience and necessity for the Project that would be consistent with the non-impairment mandate of those laws.

## **B. Climate Change and Greenhouse Gases**

Carbon sequestration in forest cover is a critical mechanism in combating climate change. Forests serve as carbon sinks, removing excess carbon dioxide from the atmosphere and storing the compound over several decades. The applicant proposes to clear-cut a stretch of 37 miles of forest, decreasing the ecosystem's ability to provide carbon sequestration services. This impact must be addressed in the NEPA document.

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<sup>29</sup> *Id.*

<sup>30</sup> 16 U.S.C. § 1242(a)(2) (2006) (establishing requirement for siting of National Scenic Trails).

<sup>31</sup> See 16 U.S.C. § 1 (2006) (requiring the NPS to "promote and regulate the use of Federal areas known as national parks, monuments, and reservations hereinafter specified . . . as provided by law, by such means and measures as conform to the fundamental purpose of the said parks, monuments and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.").

The construction of the Project will require a large amount of fossil fuel to power construction equipment. The NEPA document must explore what impact construction vehicle emissions will have on global warming.

Further, FERC should consider the cumulative impacts of the Project's direct and indirect GHG emissions. Direct emissions may include but are not limited to carbon dioxide ("CO<sub>2</sub>") and nitrous oxide ("N<sub>2</sub>O") emissions from compressor engines, line heaters, and generators; fugitive methane emissions from compressors and pipelines;<sup>32</sup> and black carbon emissions from diesel vehicles and equipment. Notably, methane is 56 times and N<sub>2</sub>O is 280 times more warming than CO<sub>2</sub> over a twenty-year period,<sup>33</sup> while black carbon is estimated to be 2,200 times more warming than CO<sub>2</sub> over the same period.<sup>34</sup>

Indirect emissions, "which are caused by the [proposed] action and are later in time or farther removed in distance, but are still reasonably foreseeable,"<sup>35</sup> are among the effects that agencies are required to consider under NEPA.<sup>36</sup> CEQ Draft Guidance has noted that "for Federal actions that require an EA or EIS *the direct and indirect GHG emissions from the action should be considered in scoping*," and these GHG impacts should be considered in the context of the "aggregate effects of past, present, and reasonably foreseeable future actions."<sup>37</sup> One indirect effect of the Project's transportation of natural gas from the Marcellus Shale region is that this gas will be combusted for use, releasing greenhouse gases that cause climate change. This effect is not only reasonably foreseeable, it is certain. Where CEQ has called for NEPA analyses of GHG sources to "take account of all phases and elements of the proposed action over its expected life,"<sup>38</sup> such certain downstream effects of a gas pipeline should be assessed. Moreover, cumulative impact analysis requires that these GHG emissions be considered in the context of GHGs emitted from the aggregate of natural gas that have been and will reasonably foreseeably be extracted from the Marcellus Shale region.

### C. Energy

Energy impacts must also be examined in the NEPA document. Aspects of the Project that should be studied for their energy impact include: all energy-consuming equipment and

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<sup>32</sup> "The U.S. natural gas transmission network contains more than 279,000 pipeline miles. Along this network, compressor stations are one of the largest sources of fugitive emissions, producing an estimated 50.7 billion cubic feet (Bcf) of methane emissions annually from leaking compressors and other equipment components such as valves, flanges, connections, and open-ended lines." Env'tl. Prot. Agency, Lessons Learned from Natural Gas STAR Partners 1 (Oct. 2003), *available at* [http://www.epa.gov/gasstar/documents/ll\\_dimcompstat.pdf](http://www.epa.gov/gasstar/documents/ll_dimcompstat.pdf).

<sup>33</sup> See United Nations Framework Convention on Climate Change, *Global Warming Potentials* [http://unfccc.int/ghg\\_data/items/3825.php](http://unfccc.int/ghg_data/items/3825.php) (last visited Nov. 10, 2010).

<sup>34</sup> See L. Bruce Hill, Clean Air Task Force, The Carbon Dioxide-Equivalent Benefits of Reducing Black Carbon Emissions from U.S. Class 8 Trucks Using Diesel Particulate Filters: A Preliminary Analysis 3 (2009), *available at* <http://www.catf.us/resources/publications/files/CATF-BC-DPF-Climate.pdf>.

<sup>35</sup> 40 C.F.R. § 1508.8(b) (2010).

<sup>36</sup> See *id.* § 1508.25(c).

<sup>37</sup> Council on Env'tl. Quality, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions 5, 9-10 (Feb. 18, 2010) (emphasis added), *available at* [http://ceq.hss.doe.gov/nepa/regs/Consideration\\_of\\_Effects\\_of\\_GHG\\_Draft\\_NEPA\\_Guidance\\_FINAL\\_02182010.pdf](http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf) (notice of availability published at 75 Fed. Reg. 8,046 (Feb. 23, 2010)).

<sup>38</sup> *Id.* at 5.

processes that will be used during the construction and operation of the Project; the energy efficiency of required materials, fuels, and equipment; the number of maintenance trips necessary for maintaining the ROW; the mode of transportation and use of fuel for these activities; and an estimate of the total energy requirements for each proposed alternative.

The NEPA documents should also examine the impacts of increased energy consumption that will result from upgrading the natural gas pipeline. Part of this analysis should discuss how bringing more energy into New Jersey will affect future energy conservation efforts.

Energy consumption impacts should be calculated for the lifetime of the proposed Project and Project alternatives, and should be an aspect of the irreversible commitment of resources section of the NEPA document.

#### **D. Infrastructure, Access, and Circulation**

FERC must examine the potential degradation of roadways due to utilization by construction vehicles. The heavy construction machinery and high traffic volumes associated with Project construction activities could ruin roads, leaving taxpayers to pay for repairs. FERC should consider this eventual tax burden as it weighs alternatives during the NEPA process.

Moreover, construction activity traffic will impact visitor experience at federal, state, and county parklands as portions of these parks will be completely inaccessible or will require detours. Visitors will have to fight congestion to access the parks, and the messy sight of construction activity will greet them once they arrive. Park visitation may well decrease, causing an adverse impact on the local economy.

FERC must also address localized impacts along access roads arising from the removal of vegetation, which will in turn lead to loss of forest connectivity, increased edge effects on the core forest, and increased erosion. The heavy construction equipment utilizing these roads will compact the soil, leading to a degradation of groundwater recharge capabilities. Finally, the installation of fill materials along these roads will also import invasive species to the ROW. The NEPA document must examine these long-term effects.

#### **E. Environmental Justice**

The Project affects an area that includes the Ringwood, New Jersey and Ramapo Mountains areas, which raises substantive environmental justice issues. FERC is obligated to address these issues in accordance with Executive Order 12898 ("Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations").<sup>39</sup> In particular, this region is home to Ramapough Lenape American Indians, who have suffered adverse social challenges as an unrecognized tribe that has suffered from past discrimination.<sup>40</sup>

The Ramapough Lenape people and other residents continue to undergo health and social harm as a result of having to deal with the Ringwood Mines Superfund site.<sup>41</sup> This site was a

<sup>39</sup> Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

<sup>40</sup> See New Jersey Committee on Native American Community Affairs, Report to the Governor Jon S. Corzine (Dec. 17, 2007) (affirmed on Oct. 1, 2008 by Gov. Jon Corzine's Executive Order #122).

<sup>41</sup> See Env'tl. Prot. Agency, EPA Ringwood Mines/Landfill Superfund Site Community Involvement Program, [http://www.epa.gov/region2/superfund/npl/ringwood/cip\\_plan\\_for\\_ringwood.pdf](http://www.epa.gov/region2/superfund/npl/ringwood/cip_plan_for_ringwood.pdf) (accessed Nov. 12, 2010).



former waste dump associated with the Ford Motor Company plant located in Mahwah, New Jersey. The waste products included car parts, solvents, paint sludge, and potentially other toxic materials, and they were dumped both on the ground surface and possibly also in abandoned mine shafts.

This history of environmental destruction caused significant harm to the Ramapough Lenape, who depend on natural resources for their livelihoods, such as by subsistence hunting of small game. Sinkholes and paint sludge were discovered on properties throughout the region. At the same time, health impacts were found including heightened levels of respiratory disease, skin disease, female reproductive disorders, miscarriages, birth defects, learning disabilities, behavioral problems in children, and various cancers. In addition, the Ramapough Lenape community was warned against their vital hunting activities.<sup>42</sup>

This past experience powerfully demonstrates how the Ramapough community living in the area impacted by the TGP particularly relies on the conservation of the natural environment. The disproportionate impact on this community must be included in the scope of FERC's environmental review.

#### **F. Land Pricing**

FERC must require the applicant to consider alternative routes that do not impact public open space. Utilities routinely propose pipeline routes that impact public open space because these lands are valued at a lower rate when compared to non-preserved lands.<sup>43</sup> FERC must not permit this "savings" to the applicant to drive the siting process. Public and preserved lands must be priced according to their value to the utility. The commenters urge FERC to be mindful of the distorted pricing of open space as it evaluates alternative routes for this Project and as it considers the cumulative environmental harms of the proposed pipeline expansion. The commenters respectfully suggest that FERC's historical approach to evaluating cumulative impacts, exhibited in FERC's approval earlier this year of TGP's 300 Line Project, gives inadequate consideration to the distorted incentives of utility companies.<sup>44</sup>

#### **IV. FERC Must Thoroughly Assess All of the Potential Impacts Identified in the Notice of Intent**

The Notice of Intent identified seven categories of impacts that could occur as a result of

<sup>42</sup> See *N.J. Warns Hunters Not to Eat Squirrel Meat Possibly Contaminated by Toxic Dump*, Associated Press, Jan. 25, 2007, available at <http://www.foxnews.com/story/0,2933,246803,00.html>.

<sup>43</sup> See *Portland Natural Gas Transmission Sys. v. 19.2 Acres of Land*, 195 F. Supp. 2d 314, 323-4 (D. Mass. 2002) (valuing "industrial park" parcels at \$50,000/acre and \$30,000/acre; valuing "open space" parcels at \$983/acre); Letter from John J. Donahue, Superintendent, Delaware Water Gap National Recreation Area, Nat'l Park Serv., U.S. Dep't of the Interior, to David Hanobic, Fed. Energy Regulatory Comm'n 2 (Oct. 8, 2010) (hereinafter "Nat'l Park Serv. Comment") ("[u]tility companies normally assert the least environmental impacts result from utilizing utility corridors located in this national park unit. This is flawed logic and can adversely affect the natural and cultural resources in [the DWGNRA] as well as the mission of the [NPS].").

<sup>44</sup> See Order Issuing Certificate and Approving Abandonment, 131 F.E.R.C. ¶ 61,140, at ¶ 84, 2010 WL 2007482, at \*20 (May 14, 2010) (finding no "significant cumulative impact" on "special water resources in Pike County" from the concurrent development of the 300 Line Project, the Susquehanna-Roseland Electric Transmission Line project, the Columbia Gas Pipeline (Line 1278/Line K Replacement) Project, and Marcellus Shale Development Activities).

the construction and operation of the Project:

- geology and soils;
- water resources, fisheries, and wetlands;
- vegetation, wildlife, and endangered and threatened species;
- cultural resources;
- land use and cumulative impacts;
- air quality and noise; and
- public safety.<sup>45</sup>

FERC must address these impacts in light of the fact that parts of the Project will traverse the Highlands region,<sup>46</sup> a portion of New Jersey that is subject to additional protections and regulations under the Highlands Water Protection and Planning Act due to its critical resources.<sup>47</sup> Although the Highlands Council will conduct its own review of the Project if FERC decides to approve it, in the first instance, FERC must consider that many of the above categories of impacts are strictly regulated under the Highlands Act as implemented by the Highlands Council's Regional Master Plan.<sup>48</sup>

The following comments identify particular issues of concern within the Notice of Intent's first six categories. Given the dramatic growth of natural gas development in the Marcellus Shale, and the significant environmental degradation resulting from that development, the comments begin with FERC's obligations to consider the cumulative impacts of this Project.

#### **A. Cumulative Impacts and Land Use**

##### **i. Cumulative Impacts**

Cumulative impacts are:

impact[s] on the environment which result[] from the incremental impact of the action *when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions*. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.<sup>49</sup>

The Council on Environmental Quality ("CEQ") has emphasized that cumulative effects analysis includes a "[f]ocus on truly meaningful effects" of "past, present, and future actions" as well as "all federal, nonfederal, and private actions."<sup>50</sup>

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<sup>45</sup> Notice of Intent, at 5.

<sup>46</sup> Draft Resource Reports, *supra* note 10, at 10-12.

<sup>47</sup> Highlands Water Protection and Planning Act, N.J. Stat. Ann. § 13:20-1 to -35 (2004).

<sup>48</sup> New Jersey Highlands Council, Regional Master Plan (2008), *available at* [http://www.highlands.state.nj.us/njhighlands/master/rmp/final/highlands\\_rmp\\_112008.pdf](http://www.highlands.state.nj.us/njhighlands/master/rmp/final/highlands_rmp_112008.pdf).

<sup>49</sup> 40 C.F.R. § 1508.7 (2010) (emphasis added).

<sup>50</sup> Council on Env'tl. Quality, Considering Cumulative Effects Under the National Environmental Policy Act 11 (1997), *available at* <http://ceq.hss.doe.gov/nepa/ccenepa/sec2.pdf>.

CEQ has made clear that “[t]he statutory clause ‘major Federal actions significantly affecting the quality of the human environment’ is to be construed by agencies with a view to the overall, cumulative impact of the action proposed (and of further actions contemplated).”<sup>51</sup> Whether a project “significantly” affects the quality of the human environment<sup>52</sup> depends on “considerations of both context and intensity.”<sup>53</sup> Intensity refers to “the severity of impact” and requires consideration of factors including “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.”<sup>54</sup> “Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.”<sup>55</sup>

The requirement to consider cumulative impacts applies to EAs.<sup>56</sup> In fact,

The importance of analyzing cumulative impacts in EAs is apparent ... consider[ing] the number of EAs that are prepared. The Council on Environmental Quality noted . . . that “in a typical year, 45,000 EAs are prepared compared to 450 EISs . . . . Given that so many more EAs are prepared than EISs, *adequate consideration of cumulative effects requires that EAs address them fully.*”<sup>57</sup>

Cumulative impacts caused by “reasonably foreseeable” future actions are cognizable under NEPA.<sup>58</sup> Moreover, FERC must consider the cumulative effects of actions similar to the proposed action, whether existing or reasonably foreseeable.<sup>59</sup>

<sup>51</sup> Statements on Proposed Federal Actions Affecting the Environment, 35 Fed. Reg. 7,390, 7,391 (May 12, 1970).

<sup>52</sup> 42 U.S.C. § 4332 (C) (2006).

<sup>53</sup> 40 C.F.R. § 1508.27 (2010).

<sup>54</sup> 40 C.F.R. § 1508.27(b)(7) (2010).

<sup>55</sup> *Id.*

<sup>56</sup> See *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1076 (9th Cir. 2002); *Soc’y Hill Towers Owners’ Ass’n v. Rendell*, 210 F.3d 168, 180 (3d Cir. 2000).

<sup>57</sup> *Kern*, 284 F.3d at 1076 (quoting Council on Env’tl. Quality, *supra* note 50, at 4) (emphasis in original).

<sup>58</sup> See 40 C.F.R. § 1508.7 (2010); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214-15 (9th Cir. 1998).

<sup>59</sup> See, e.g., *Nat’l Audubon Soc’y v. Dep’t of Navy*, 422 F.3d 174, 196-97 (4th Cir. 2005) (stating that cumulative impact analysis of a proposed outlying landing field for Navy aircraft should have considered whether flights from and between the aircraft homebase station and the field would “add any significant noise-related or other environmental impacts to those that the *existing* military airspace currently imposes” and whether the proposed field would have cumulative effects in light of the reasonably foreseeable designation of additional military operating areas, even in non-adjacent areas) (emphasis added); *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005) (finding environmental impact analysis of timber harvesting activity inadequate where the agency did not consider “in detail past timber harvesting projects and the impact of those projects,” in combination with the proposed timber harvest, on the environment); *Grand Canyon Trust v. Fed. Aviation Admin.*, 290 F.3d 339, 347 (D.C. Cir. 2002) (noting that the EA for the proposed construction of a replacement airport “must evaluate the cumulative impact of noise pollution [on a nearby national park] as a result of construction of the proposed replacement airport *in light of air traffic near and over the Park, from whatever airport, air tours near or in the Park*”) (emphasis added); *Natural Res. Def. Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988) (determining that cumulative impact assessment of an Outer Continental Shelf (“OCS”) oil and gas leasing activity must consider the cumulative impacts of “simultaneous OCS development in different areas”); *Mountaineers v. U.S. Forest Serv.*, 445 F. Supp. 2d 1235, 1247-48 (W.D. Wash. 2006) (concluding that cumulative impact analysis that only accounts for

In one particularly instructive case in the Northeast region, the Postal Service proposed construction of a facility that would require the paving of six acres of undeveloped land adjacent to an existing airport and highway.<sup>60</sup> The court found the agency's Finding of No Significant Impact arbitrary and capricious, noting that the EA's consideration of the proposed facility's cumulative impact on water quality only addressed "the interaction of expected runoff from the site with present levels of runoff from the nearby" highway and airport.<sup>61</sup> The court commented:

This inquiry included no consideration of possible future development of those facilities or of other nearby land. While such an omission may be excusable where future development is unlikely or difficult to anticipate, in the present case there currently exist plans to expand the airport dramatically, and movants have identified substantial additional development in progress or being planned in the vicinity. The impact of this array of near-certain future development will in fact be felt in combination with the effects of the facility's construction and operation, and accordingly must be analyzed.

The failure of the EA to consider the facility's cumulative impact in conjunction with nearby anticipated development is a matter of particular concern in light of the regulations' clear statement that agencies should account for the impact of "reasonably foreseeable future actions."<sup>62</sup>

The Court further found the EA lacking because it "framed its cumulative impact analysis too narrowly by considering only the facility's two immediate neighbors," the airport and highway.<sup>63</sup> "[A] critical consideration in determining the facility's cumulative environmental effects must be the interaction of its runoff with other pollutants . . . from whatever source."<sup>64</sup> In short, the determination that must be made in an EA – whether a proposed project will have "significant" impacts – necessarily includes a consideration of the impact of the action when added to other past, present, and reasonably foreseeable future actions, whether federal, non-federal, or private.<sup>65</sup>

FERC therefore is required to consider the impacts of the Project in the context of existing and reasonably foreseeable Marcellus Shale development, which includes but is not limited to the hundreds of miles of gathering and transportation pipelines that have been and will need to be constructed to move the gas from the thousands of wells that have been and will be drilled to interstate markets.

FERC must examine the cumulative impact of the multiple utility and other linear projects that are being proposed or constructed in the DWGNRA, AT, Highlands region, and in

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the incremental environmental effect of a proposed trail project on current trail use and only in a narrowly defined area is inadequate and must instead address "the overall level of environmental impact caused by the [entire] trail system").

<sup>60</sup> See *U.S. v. 27.09 Acres of Land*, 760 F. Supp. 345, 347 (S.D.N.Y. 1991).

<sup>61</sup> *Id.* at 351.

<sup>62</sup> *Id.* (citing 40 C.F.R. §§ 1508.6, 1508.27(b)(7)).

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 351-52.

<sup>65</sup> See 40 C.F.R. §§ 1508.7-8, 1508.27 (2010).

state and county parks. These projects do not occur in a vacuum. As one by one they steadily deplete the natural and scenic resources of the region, the combined impact becomes potentially devastating. While FERC is reviewing the Project, NPS is preparing an EIS reviewing PSE&G's proposed new 500-kilovolt power transmission line from Susquehanna, Pennsylvania, to Roseland, New Jersey, which passes through the DWGNRA and the AT.<sup>66</sup> If utility infrastructure proposals continue to move forward at this pace, the impact on federally protected parklands will be ruinous. As recommended by the NPS in its comments, FERC must address this phenomenon in the NEPA document.<sup>67</sup>

The Highlands region is also seeing an influx in applications for utility and other linear projects that negatively impact the resources of the region. Another example in addition to the Susquehanna-Roseland transmission line is TGP's own 300 Line Project, which will disturb approximately 230 acres within the Highlands region and result in the deforestation of 45.15 acres of established forested land on state owned properties.<sup>68</sup> It is clear that the 300 Line Project and the Project at issue here are all part of a larger development plan, as they involve interlocking loop upgrades of the same pipeline.<sup>69</sup> TGP must not be allowed to circumvent heightened environmental scrutiny by segmenting their upgrades in such a way. The cumulative consequences of all these projects, many of them previously subject to FERC approval, must be assessed in the NEPA document.

## **ii. Land Use**

Any action by FERC must recognize and address the role that state regulations play in the Project.

The New Jersey Department of Environmental Protection ("NJDEP") administers the Green Acres Program in the State of New Jersey. The Program provides funding for local government units and non-profits "to acquire lands that have significant recreation and conservation attributes and to preserve natural resources for the current population and future

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<sup>66</sup> Nat'l Park Serv., Planning, Environment & Public Comment page on Susquehanna to Roseland 500kV Electric Transmission Line (last visited Nov. 11, 2010), <http://parkplanning.nps.gov/projectHome.cfm?projectId=25147>.

<sup>67</sup> See Nat'l Park Serv. Comment, *supra* note 43 at 2 (Oct. 8, 2010) (stating that utility company preference for routing projects through park land "can adversely affect the natural and cultural resources in [DWGNRA] as well as the mission of the [NPS]").

<sup>68</sup> See Highlands Water Prot. and Planning Council, Highlands RMP Consistency Determination Review (Revised) 1 (Jan. 11, 2010), available at [http://www.highlands.state.nj.us/njhighlands/projectreview/tgp\\_gas\\_cdr\\_final.pdf](http://www.highlands.state.nj.us/njhighlands/projectreview/tgp_gas_cdr_final.pdf) (stating total affected acreage); Tennessee Gas Pipeline Co., 300 Line Project: No Net Loss Reforestation Plan 15 (July 29, 2010), available at [http://www.state.nj.us/dep/parksandforests/forest/community/images/TGP\\_PPT\\_Presentation\\_NNL\\_Reforestation\\_Plan\\_7-29-10.pdf](http://www.state.nj.us/dep/parksandforests/forest/community/images/TGP_PPT_Presentation_NNL_Reforestation_Plan_7-29-10.pdf) (Powerpoint presentation detailing forest impacts of the 300 Line Project and stating total affected forested acreage).

<sup>69</sup> Compare El Paso Corp., 300 Line Project Map, <http://www.elpaso.com/tgp300lineproject/images/300Line%20ProjectMap.png> (showing that the 300 Line Project will entail construction of roughly "127 miles of 30" looping b/w Sta. 313 and Mahwah, NJ," and showing anticipated loop construction in the 313, 315, 317, 319, 321, 323, and 325 loops of the pipeline) with El Paso Corp., Northeast Upgrade Project Map, <http://elpaso.com/northeastupgrade/images/NortheastUpgradeProjectMap.pdf>, (showing that the Northeast Upgrade Project (the Project at issue here) will entail construction of new pipeline in the 317, 319, 321, 323, and 325 loops of the same pipeline).

citizens of the State.”<sup>70</sup> Lands subject to Green Acres restrictions must be used for outdoor recreation and conservation purposes.<sup>71</sup> While the Program recognizes that there may be certain “limited circumstances”<sup>72</sup> under which a government unit could lease or use Green Acres land “for a beneficial public purpose other than recreation and conservation purposes,” such a diversion must be approved by NJDEP.<sup>73</sup> The diversion application must propose a mitigation plan for uses that will have an adverse impact on the land’s natural resources.<sup>74</sup> Furthermore, NJDEP must hold two public hearings on proposed leases longer than twenty-five years.<sup>75</sup> TGP may not lease or use Green Acres lands in the State of New Jersey without complying with the Program’s rules and procedures.

The lease or use of State park land funded by the Green Acres Program must comply with the procedures and regulations described above.<sup>76</sup> Furthermore, the Division of Parks and Forestry must approve a reforestation plan with “a goal of no net loss of existing forested area” before any project that will result in the removal of trees from areas of one half-acre or more in State park land commences.<sup>77</sup>

The Land and Water Conservation Fund Act of 1965 created a fund “for and authorizing Federal assistance to the States in planning, acquisition, and development of needed land and water areas and facilities and ... for the Federal acquisition and development of certain lands and other areas.”<sup>78</sup> These lands must be “continually maintained in public recreation use unless NPS approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value.”<sup>79</sup> The NEPA document must address whether the Project will impact any lands receiving assistance from the Land and Water Conservation Fund. If the Project will convert such lands “in whole or in part to other than public recreation uses[,]” an application must be submitted to the National Park Service and “[a]ll practical alternatives to the proposed conversion [must] be[] evaluated.”<sup>80</sup>

## **B. Geology and Soils**

This section must include a full examination of the geological formations that will be impacted by construction activities, such as groundwater aquifers and water table depth, sinkholes, and springs. An in-depth evaluation of impacts must be prepared for the overturned antiform and overturned synform folds, glacial erratic, and Ramapo Fault in the Ramapo Mountains County Park. FERC must disclose how this Project will avoid all negative impacts to these features.

The geologic resources of the DWGNRA and the Scenic and Recreational River are perhaps the park unit’s most significant resources. The remarkably steep topography of the

<sup>70</sup> N.J. Admin. Code § 7:36-1.1 (2010).

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> N.J. Admin. Code § 7:36-25.14 (2010).

<sup>74</sup> *Id.*

<sup>75</sup> N.J. Stat. Ann. § 13:1D-52 (2003).

<sup>76</sup> N.J. Stat. Ann. § 13:1L-8 (2003).

<sup>77</sup> N.J. Stat. Ann. § 13:1L-14.2 (2003).

<sup>78</sup> Land and Water Conservation Fund Act of 1965 Pub. L. No. 88-578, 78 Stat. 897 (1965).

<sup>79</sup> 36 C.F.R. § 59.3 (2010).

<sup>80</sup> *Id.*

Delaware Water Gap, the Delaware River valley slopes, and the Kitatinny Ridge maximizes the potential for erosion, rock slides and even avalanches caused by construction of the Project. Significant permanent scarring of the geological resources could occur, with geologic impacts far more severe than would occur in level topography.

Several areas of steep slopes will be traversed by the Project. Therefore, the feasibility of erosion control mechanisms in these areas must be evaluated. TGP has proposed to implement special construction techniques only in areas where the slope exceeded 28 degrees.<sup>81</sup> This is inappropriate as the Highlands Water Protection and Planning Act protections apply to all slopes greater than 10 degrees<sup>82</sup> and this standard must be used in the NEPA review since the Project must be consistent with the goals and policies of the Highlands Water Protection and Planning Act to qualify for an exemption from the Highlands Water Protection and Planning Council.<sup>83</sup>

The digging of trenches for the Project will involve excavating tons of soil and requires that soil surveys be conducted in relation to the Project. Construction and re-establishment of vegetation along the ROW provides an opportunity for run-off and the loss of productive soil. Construction activities will change the drainage patterns along the ROW and necessitate detailed studies of impacts to water resources. Expansion of the ROW has the potential to affect the physical properties of the soil along and adjacent to the ROW by clearing land cover, thus changing the sunlight exposure and moisture content of the soil. Reduction in soil moisture increases the risk of wind erosion. ROW expansion will also require increased use of herbicides in federally protected lands and state and county parklands for ROW maintenance, which will chemically alter soil composition. Spillage of fuel oil and the creation of trench breakers during construction activities may also result in the chemical alteration of soil.

Construction activities will also necessitate the removal and disposal of material. The NEPA document must address where the removal will be conducted and where the material will be disposed, whether digging to install the pipeline is likely to intercept the water table, and what effects the resultant pumping will have.

## **C. Water Resources, Fisheries, and Wetlands**

### **i. Water Resources**

The commenters have serious concerns about the applicant's proposal to drill underneath the Monksville Reservoir and through the watershed lands of the North Jersey District Water Supply Commission.<sup>84</sup> The Commission's reservoirs and watershed lands provide drinking water to over 2,400,000 New Jersey residents. Expanding infrastructure for corporate profit while endangering the water supply for state residents is not a wise policy nor is it required by

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<sup>81</sup> Draft Resource Reports, *supra* note 10, at 1-23.

<sup>82</sup> See N.J. Admin. Code § 7:38-1.4 (2010) (defining "steep slope" as "a land area with a grade greater than 10%"); N.J.A.C. 7:38-3.8 (setting forth restrictions on building in steep slope areas).

<sup>83</sup> See N.J. Stat. Ann. § 13:20-28(a)(11) (2004) (setting forth an exemption for the upgrade of public utility systems provided that the proposed activity is "consistent with the goals and purposes" of the HWPPA).

<sup>84</sup> In New Jersey, a request must be made to the DEP to convey "land utilized for the purpose of the protection of a public water supply." N.J. Stat. Ann. § 48:2-23.1 (2003). DEP must "review and make recommendations on an assessment ... of the impact that the conveyance, and the prospective use or uses of the land conveyed, would have on the water quality of the affected public water supply." *Id.*

public convenience and necessity. Locating the Project on these lands is especially alarming as the pipelines and gravel surrounding them create new conduits for water, altering the hydrologic pattern of the watershed lands. Water will run parallel with the new pipeline instead of recharging aquifers and river ecosystems, degrading the quality and quantity of water available to New Jersey residents.

The commenters also have concerns about the chemical contamination of water resources. Any expansion of the ROW will require that the applicant provide maintenance to a larger area. Current practices call for the ROW to be clear of vegetative matter to prevent damage to the gas pipeline. Herbicides are used to accomplish this. Widening the ROW will result in increased herbicide use on the federal, state, and county parklands along the ROW and, as run-off capacity will be intensified in the ROW due to lack of vegetation and forest cover, the herbicides may travel downstream to the Upper Delaware Watershed and the Delaware River (a major source of drinking water for New Jersey and Pennsylvania), the Monksville Reservoir, and the Ramapo River and Wanaque River Watersheds (components of the Passaic River Watershed).

Beyond chemical contamination, water quality effects will also result from an increase in suspended solids in the water due to erosion. Upon entering the stream ecosystem, this increase in suspended solids will result in a reduction to the streams' water bearing capacity, in turn reducing oxygen availability and impacting aquatic plant and animal species, especially habitat for fish reproduction and macroinvertebrate diversity.

Impacts to groundwater have not been examined and, as the installation of the Project will involve drilling and digging into the bedrock, potential effects must be considered. If these activities result in interception of the water table, dewatering activities would result in the localized drawdowns of water table elevation and could impact local wells. These construction activities may also result in contamination of groundwater by creating a direct flow of contaminants, including herbicides, into local aquifers due to drilling. FERC must determine whether any of the aquifers along the ROW are sole-source as this would magnify any negative impacts of construction.

Mahwah Township recently completed an Environmental Resource Inventory (ERI) as part of the municipality's petition for conformance with the Highlands Council's Regional Master Plan that underscores the importance of groundwater quality preservation in the Highlands region. The ERI found that "Residents of the Township of Mahwah rely on ground water supplies as a primary source of drinking water. To protect the health, safety and welfare of Mahwah residents and to ensure a supply of safe and healthful drinking water and the protection of the ground water resources that provide water to potable water supply wells is primary goal of the Township of Mahwah."<sup>85</sup> Similar language can be found in Ringwood's ERI, again stating that protection of the groundwater supply is the primary goal of the Borough.<sup>86</sup> As this is the most crucial concern for both Highlands municipalities being impacted by the gas pipeline, the negative impacts to groundwater quality and quantity must be heavily weighted in FERC's

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<sup>85</sup> Mahwah Township, Highlands Environmental Resource Inventory 33 (2009), *available at* [http://www.highlands.state.nj.us/njhighlands/bergen\\_county/mahwah/0233\\_ERI\\_091208.pdf](http://www.highlands.state.nj.us/njhighlands/bergen_county/mahwah/0233_ERI_091208.pdf).

<sup>86</sup> Borough of Ringwood, Highlands Environmental Resource Inventory 33 (2009), *available at* [http://www.highlands.state.nj.us/njhighlands/passaic\\_county/ringwood/1611\\_ERI\\_091208.pdf](http://www.highlands.state.nj.us/njhighlands/passaic_county/ringwood/1611_ERI_091208.pdf).



review of the public necessity of this Project. This review should also take into account any costs that would be borne by these municipalities or the North Jersey District Water Supply Commission if the Project depleted the quality of the water supply and groundwater to a point that water treatment facilities became necessary.

Increasing the runoff potential of soils will negatively impact the prime groundwater recharge areas surrounding the ROW. By removing the topsoil layer and associated forest litter and humus, runoff will decrease the soil porosity and moisture retention capacity. This will induce even greater levels of runoff and will damage the groundwater recharge capabilities of the ecosystem. The decreased ability to absorb water resulting in runoff and sedimentation severely decreases water quality.

To determine current water quality, the NEPA document must include a survey of the established benthic community in potential impacted streams. This should include the composition, quantity, and diversity of the community.

Construction related water impacts include the possibility of fuel spills and contamination of runoff and further erosion and sedimentation. This concern and possible prevention must be addressed in the general construction activity stormwater permit as required under the Clean Water Act.<sup>87</sup>

Any potential channel relocations that occur due to construction must be studied as an impact. Installing the Project will require stream diversions that will impact wetland areas. These areas of stream channel modification must be identified so that the impacts on wildlife resources be can fully examined with the coordination of NPS, Fish and Wildlife Service, and New Jersey and Pennsylvania agencies as required under the Fish and Wildlife Coordination Act.<sup>88</sup>

In studying impacts to water quality, consideration must also be given to visitor experience and how diminished water quality would affect recreational uses of the Delaware River and state and county parklands (e.g., boating, canoeing, aesthetic qualities, and degradation of fisheries).

Finally, this expansion Project is specifically being proposed to facilitate transportation of Marcellus Shale natural gas and the NEPA document must review the environmental consequences of using hydraulic fracturing techniques in the Delaware River watershed as a cumulative impact of the Project. This must include an examination of the impacts to the Delaware River watershed from withdrawing water for drilling purposes, use, and disposal of water containing fracking compounds back into the ecosystem. The impact on benthic communities stemming from increased total dissolved solids in ecosystems as a result of drilling and water withdrawal activities must be examined.

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<sup>87</sup> See 33 U.S.C. § 1342(p) (2006); 40 C.F.R. § 122.26 (b)(15) (2010); 40 C.F.R. § 450.10 to §450.24 (2010) (except for the turbidity limitations of §450.22(a), which according to §450.10(b), are not applicable to gas pipeline construction activity).

<sup>88</sup> 16 U.S.C. § 662 (a) (2006).

## **ii. Wild and Scenic Rivers Act**

The Middle Delaware Wild and Scenic River will potentially be impacted by the proposed project alternatives. This potentially impacted segment of the Delaware is protected under the Wild and Scenic Rivers Act because the area has “outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or ... similar values.”<sup>89</sup> The Act explains that rivers are given the scenic designation when “shorelines or watersheds [are] still largely primitive and shorelines largely undeveloped...”<sup>90</sup> This Project as proposed will impact the very reason for protecting this river under the Act. Furthermore, as a scenic river, the environment surrounding this segment of the Delaware must be protected for the benefit and enjoyment of present and future generations. The Act specifically states:

Each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeologic, and scientific features.<sup>91</sup>

This Project would mar the scenic landscape, increase significant sedimentation and water quality degradation, and impact aquatic ecosystems and wildlife, thereby damaging the values that caused the river to be protected and interfering with the public use and enjoyment of those values. These impacts must be addressed in the NEPA document.

## **iii. Wetlands**

Any impacts to the physical characteristics of wetlands resulting from the use of fill must be examined. Wetland delineations and assessment of values and functions will be required. As part of this analysis, hydrology, vegetation, and soils must be examined in delineations. Assessment of function and value must consider all ecosystem services being provided, such as groundwater recharge, water quality and sedimentation, wildlife habitat, flood protection, biological diversity, recreation, and aesthetics, so that potential impacts and alternatives can be properly assessed.

The NEPA document must assess impacts to wetlands such as changes in water levels, flow characteristics, circulation patterns, or flooding frequencies due to the Project. Changes in substrate conditions may affect the ability of the wetland to sustain vegetation and wildlife populations. Increased run-off as addressed above may introduce contaminants or more sedimentation to the ecosystem. Increased nutrient loading could produce algal blooms and reduce available oxygen in the water.

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<sup>89</sup> Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271-1287 (2006).

<sup>90</sup> *Id.* § 1273.

<sup>91</sup> *Id.* § 1281.

#### **iv. Floodplains**

Beneficial floodplain values identified in the Unified National Program for Floodplain Management<sup>92</sup> should be utilized in examining impacts. These include the accelerated runoff produced along the ROW that will result in more erosion and deposition within streams, increased transport and loading of contaminants, increase in flood peaks due to accelerated runoff (in turn reducing the amount of water entering the ground), decrease in groundwater recharge, blocked or diverted groundwater flow, and the removal of habitat and food source for wildlife and fishery resources. These impacts can also produce a “ripple” effect by upsetting the balanced ecosystem of the landscape through construction activities. The NEPA document must consider these long-term, cumulative impacts.

#### **v. Fisheries**

Impacts to the entirety of the Ramapo River, Wanaque River, and Upper Delaware River watersheds caused by the Project must be examined, including tributaries and wetlands.

The headwater streams impacted by the Project must be surveyed for native brook trout. The crossing of multiple streams, all of which are trout waters, will have a large impact on the trout populations and spawning in the region, especially during construction, and will degrade the waterways long after the Project is completed.

Beyond impacts resulting from construction of the Project, the NEPA document must examine impacts to all wetland ecosystems caused by the channelization of groundwater to new areas as it runs parallel to the new pipeline. A recent gas pipeline installation that crosses the Musconetcong River in Asbury, New Jersey has resulted in an alteration in the channelization of groundwater towards running parallel with the pipeline and away from the river, decreasing water levels in the river and negatively impacting trout spawning and macroinvertebrate populations.<sup>93</sup>

### **D. Vegetation, Wildlife, and Endangered and Threatened Species**

#### **i. Vegetation**

The Project, as proposed, requires the removal of vegetation from an additional 75 feet off the ROW, creating a new expanded 100 foot ROW for construction.<sup>94</sup> This will have a multitude of secondary effects including increasing runoff potential and erosion, allowing for the encroachment and establishment of invasive species and destruction of wildlife habitat along with primary impacts of loss of biodiversity, loss of forest cover and increase and magnification of forest edge impacts, including deer browse, to the core forest, and increased use of herbicides along the ROW that will impact the surrounding ecosystem. Removal of forest cover would change the light exposure and soil moisture content, which will have impacts to the surrounding vegetative community. Vegetation removal will also be required along proposed access roads and similar impacts should be expected in these areas as well.

<sup>92</sup> The Fed. Interagency Floodplain Mgmt. Task Force, A Unified National Program for Floodplain Management (1994), available at <http://www.fema.gov/library/viewRecord.do?id=4150>.

<sup>93</sup> See Stephen E. Laney, *Spring Flow Restoration*, The Professional Geologist, March/April 2007, at 43.

<sup>94</sup> Draft Resource Reports, *supra* note 10, at 1-10.

## **ii. Wildlife**

Clearance along the ROW and proposed access roads will result in loss of habitat and even individual animals. FERC should assess the likelihood of displaced animals surviving in adjacent areas because often that community will be at a carrying capacity for that particular species.

In areas of highly valued but threatened ecosystems, the best available science must be employed to ensure protection of wildlife and avoid jeopardy to wildlife habitat. Failure to employ the best available science to determine the biological baseline and evaluate potential impacts would thwart the purposes of NEPA.<sup>95</sup>

## **iii. Endangered and Threatened Species**

According to the DWGNRA website, the park is home to a significant number of endangered, threatened, and rare species, including 49 plant species, 9 fish species, 13 mammal species, 7 reptile species, and 10 amphibian species.<sup>96</sup> Bergen County's Natural Resource Inventory for the Ramapo Mountains County Park identifies seven state threatened and endangered plant species within Mahwah and Oakland, three of which are included on the List of Threatened and Endangered Species that are Critically Dependent on Regulated Waters for Survival- Contorted Sphagnum (*Sphagnum contortum*), Sphagnum (*Sphagnum majus* ssp. *norvegicum*), and Small-flowered Halfchaff Sedge (*Hemicarpha micrantha*). The NEPA document must assess how impacts on water quality resulting from construction and operation, such as increased sedimentation of waterways, increased water temperatures, and impacts to groundwater recharge, would affect these plant species. The County Park also contains a globally rare, state-listed endangered species, Torrey's Mountain Mint (*Pycnanthemum clinopodiodes*), which is found in the Ramapo Valley Natural Heritage Priority Site. All possible impacts to this plant resulting from the Project must be studied.

The Ramapo Mountains County Park provides habitat to a number of threatened and endangered fauna, specifically 7 avian species, 1 mammal, 2 mollusks, 1 amphibian, and 1 reptile. The park provides critical contiguous wetland forest habitat that will be interrupted by the deforestation practices and negative impacts to stream quality associated with this Project. Loss of forest cover and stream impacts will destroy habitat for Barred Owl (*Strix varia*), Cooper's Hawk (*Accipiter cooperi*), and Red-shoulder Hawk (*Buteo lineatus*), Eastern Lampmussel (*Lampsilis radiata*), Triangle Floater (*Alasmidonta undulata*) and Wood Turtle (*Glyptemys insculpta*). The Bergen County NRI states, "the forest cover of these wetlands and high water quality of the streams are important factors in maintaining habitat suitable for

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<sup>95</sup> See 42 U.S.C. § 4332 (2006) (requiring, "to the fullest extent possible," that "all agencies of the Federal Government shall - (A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decision making which may have an impact on man's environment"); 40 C.F.R. § 1502.6 (2010) (implementing this statute); 40 C.F.R. § 1502.8 (2010) (interpreting this statute to require Environmental Impact Statements to be written and edited "based upon the analysis and supporting data from the natural and social sciences and the environmental design arts.").

<sup>96</sup> See Nat'l Park Serv., Delaware Water Gap Park Statistics (2005) (August 15, 2005), <http://www.nps.gov/dewa/parkmgmt/statistics.htm>.

protected species.”<sup>97</sup> This Project will have significant impacts on steep slope areas and rock outcrops as well, which provide habitat for the state protected Eastern Timber Rattlesnake (*Crotalus h. horridus*) and Bobcat (*Felix rufus*). The NEPA document must carefully assess whether this Project can move forward without disrupting this habitat or resulting in the taking of any of the above listed state protected species. In the 300 Line Project, TGP was obligated to avoid direct impacts to a timber rattlesnake den and to mitigate for the loss of habitat.<sup>98</sup>

New Jersey’s Highlands Water Protection and Planning Act extends protections to all rare species as well<sup>99</sup> and as the Project is located in the Highlands region and must be consistent with the goals and purposes of the Highlands Act to receive an exemption from the Highlands Water Protection and Planning Council, the NEPA document must also study impacts to the following rare species:

- Cornel-leaf Aster (*Doellingeria infirma*)
- Log Fern (*Dryopteris celsa*)
- Winged Monkey-flower (*Mimulus alatus*)
- Black-girdle Woolgrass (*Scirpus atrocinctus*)
- Northern Copperhead (*Agkistrodon c. contortrix*)
- Arrowhead Spiketail (*Cordulegaster obliqua*)
- Brush-tipped Emerald (*Somatochlora walshii*)
- New England Bluet (*Enallagma laterale*)
- Sable Clubtail (*Gomphus rogersi*)
- Tiger Spiketail (*Cordulegaster erronea*)
- Williamson’s Emerald (*Somatochlora williamsonii*)
- Creeper (*Strophitus undulatus*)
- Cliff Swallow

These species and their suitable habitat must be carefully studies as part of the NEPA document. Species monitoring is an extensive process and the timeframe for conducting these studies must not be cut short simply to satisfy the applicant’s desired in-service date. More time may be needed to study the true impacts to these threatened, rare, and endangered species if this Project moves forward.

FERC must provide full information on this aspect of impacts as no federal agency may assist or sponsor any activity that may adversely affect an endangered species in compliance with the Endangered Species Act.<sup>100</sup>

<sup>97</sup> Townships of Mahwah and Oakland, 2010 Natural Resource Inventory and Assessment: Ramapo Mountains County Park, 88 (Sept. 22, 2010), *available at*

<http://www.co.bergen.nj.us/planning/os/2010RevisedFinalRamNatResReport.pdf>.

<sup>98</sup> See Permits # 0000-9-0038.1 FHA10001, 0000-09-0038.1 FWW10001, and 0000-09-0038.1 FWW10002, at 18-20 (State of New Jersey, Dep’t Env’tl. Prot., Land Use Regulation Program) (Sep. 23, 2010) (requiring avoidance of impacts on rattlesnakes as a condition of issuing the permits).

<sup>99</sup> N.J. Stat. Ann. § 13:20-2 (2004) (finding that the Highlands Region provides habitat for fauna and flora and characterizing such habitats as “exceptional natural resources;” implementing stringent land use regulations to protect such resources); N.J. Stat. Ann. § 13:20-10 (b)(3) and (c)(2) (2004) (stating wildlife conservation as one of the goals of the Regional Master Plan in the preservation and planning areas).

<sup>100</sup> See 16 U.S.C. § 1536(a)(2) (2006) (requiring each Federal agency to insure, using the best scientific and commercial data available, that any action authorized by such agency “is not likely to jeopardize the continued

The scope of study for impacts to threatened, endangered, and rare species cannot be limited to the ROW. The ROW forest buffer, and access roads and buffer must be examined for species and habitat. The effects of increased forest edge and habitat degradation due to the impacts of construction and permanent impairment of resources on these species must be analyzed as well.

#### iv. Invasive Species

Invasive vegetation out-competes native vegetation and spreads rapidly through forest openings.<sup>101</sup> The entire Project would extend the ROW an additional 75 feet during construction,<sup>102</sup> creating edge impacts on forest communities that were previously undisturbed. The newly-created forest edge will be a direct impact of the Project and will be a prime spot for invasive species infestation due to the increased light intensity on the newly-created edge. Moreover, the Project's disturbance of vegetation in the ROW, access roads, and temporary workspace will require re-vegetation following construction, which will itself introduce new invasive species.

The spread of invasive species, whether already established and able to find new favorable habitats due to the Project, or inadvertently brought in during re-vegetation, would have a major impact on the biodiversity of DWGNRA, the AT, and critical state and county parklands through widespread loss of native vegetation. The loss of biodiversity is a tragedy in its own right, but it will also affect visitor experience and may result in less utilization of the affected parklands by flora enthusiasts in favor of more biologically diverse sites in New Jersey and Pennsylvania. The reestablishment of native vegetation, especially considering the effects of deer herbivory,<sup>103</sup> will take many years, and until reestablishment is achieved the area will be susceptible to further invasive species infestation. FERC must consider these impacts in the NEPA document

Moreover, NEPA review must also encompass the impacts of invasive species on groundwater recharge. Invasive species often have shallower root systems than native plants, which allows the soil to erode more readily and to degrade the quality of watersheds by adding to "suspended sediment loads and turbidity."<sup>104</sup>

If TGP anticipates treating restoration sites with lime and fertilizer, infestation by invasive species might be facilitated. The impacts of adding these compounds to the soil

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existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary . . . to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section.").

<sup>101</sup> New Jersey Audubon Society, Forest Health and Ecological Integrity Stressors and Solutions: Policy White Paper (March, 2005), available at

<http://www.njaudubon.org/Portals/10/Conservation/PDF/ForestHealthWhitePaper.pdf> (stating that unpalatable exotic plants rapidly take over forest openings, because white tailed deer only eat the native plants).

<sup>102</sup> Draft Resource Reports, *supra* note 10, at 1-10.

<sup>103</sup> *Id.* at 6.

<sup>104</sup> T. Stohlgren, C. Jarnevich & S. Kumar, Forest Legacies, Climate Change, Altered Disturbance Regimes, Invasive Species and Water, *Unasylva* 229, 2007, at 44, 47-8, available at <http://www.fao.org/forestry/unasylva/8707/en/>; Audubon Society of Portland, Invasive Plant Management <http://audubonportland.org/sanctuaries/invasives> (last visited Nov. 11, 2010).

structure and its effects of creating a suitable habitat for invasive species must be addressed in the NEPA document.

TGP's 300 Line Project, approved by FERC earlier this year, will cross Bearfort Mountain Natural Area, which has special protections under the NJDEP Natural Areas Program.<sup>105</sup> Inside Loop 325, the Loop of the pipeline which will pass through the Natural Area, TGP committed to long-term invasive species management, including inspection and maintenance to coincide with ROW mowing every 3-5 years from 2016 on.<sup>106</sup> TGP further committed to conduct invasive species management in Loop 325 not only within the ROW, but also in the forest buffer outside the ROW.<sup>107</sup>

Unless FERC requires similar management practices for the entire length of the ROW and forest buffer of the Project here, the impacts of invasive species infestations stemming from the Project will be vast, and TGP's proposed mitigation of the 300 Line Project will be for naught. The NEPA document must consider the interaction of these two tandem Projects, especially given that TGP has chosen to segment the two in such a way as to reduce the apparent impact of the proposed construction.

Finally, the financial impacts of invasive species management must be considered. If the applicant does not commit to conducting invasive species management for a long time and outside the ROW in the associated forest buffer, the NPS, NJ Division of Parks and Forestry, and county park programs will be left to foot the bill for future eradication programs and efforts. This will be especially difficult for the NPS as President Obama earlier this year announced his intention to freeze government spending for the next three years.<sup>108</sup> An expansion of an invasive species management program would be difficult under these conditions. State and county entities have suffered similar cuts in funding as Governor Christie has diverted funds from DEP programs to close gaps in the New Jersey State Budget and county governments are looking for ways to stabilize local taxes.<sup>109</sup> Just last year Governor Christie's DEP diverted money set aside for Forest Stewardship Plans on state parklands to close a budget gap.<sup>110</sup> The NEPA document

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<sup>105</sup> See N.J. Admin. Code § 7:5A-1.8(b) (2010) (stating that the primary purpose of a Natural Area Management Plan is to "describe the natural features of the area and prescribe management practices and public uses to ensure preservation in accordance with the management objective of the natural area."); 7:5A-1.13(a)(4) (designating Bearfort Mountain Natural Area as a conservation preserve and as part of the Natural Areas system).

<sup>106</sup> Tennessee Gas Pipeline, Comprehensive Mitigation Plan: Highlands Region 2-40 to 2-41 and Table 2.24-1 (Sept. 2009) (verifying TGP's commitment to use "[m]echanical cutting methods" incorporated into "ROW maintenance/mowing plan" to control invasive species, and its commitment to utilize herbicides on an "as-needed basis" after the third year of monitoring.), *available at* [http://www.highlands.state.nj.us/njhighlands/projectreview/tgp\\_cmp\\_091009.pdf](http://www.highlands.state.nj.us/njhighlands/projectreview/tgp_cmp_091009.pdf).

<sup>107</sup> See Tennessee Gas Pipeline, Invasive Species Management Plan, 300 Line Project 3 (June 2010).

<sup>108</sup> See Posting of Jesse Lee to The White House Blog entitled "Budgeting for a New Era of Responsibility" (Feb. 1, 2010, 4:34 PM EST) <http://www.whitehouse.gov/blog/2010/02/01/budgeting-era-responsibility>.

<sup>109</sup> See Office of Mgmt. and Budget, Fiscal 2011 Budget in Brief 141 (March 16, 2010), *available at* <http://www.state.nj.us/treasury/omb/publications/11bib/BIB.pdf> (showing DEP's 2009 actual budget as 445,357 thousand dollars, its 2010 projected budget as 377,259 thousand dollars, and its 2011 projected budget as 380,557 thousand dollars).

<sup>110</sup> See Fiscal 2011 Budget Statement of Commissioner Bob Martin, Department of Environmental Protection, Before the Assembly Budget Committee, at 3 (April 12, 2010) *available at* [http://www.njleg.state.nj.us/legislativepub/budget\\_2011/Testimony/DEP\\_testimony.pdf](http://www.njleg.state.nj.us/legislativepub/budget_2011/Testimony/DEP_testimony.pdf) ("The NJ State Park System is managing the impact of its budget reductions through multiple means . . . In developing our FY 2011 budget projections, we have been able to use a variety of non-State General Fund revenues to keep the parks open and

must consider the Project in light of the unavailability of government resources to ensure the applicant's mitigation and restoration projects are successful on public trust lands.

The Project is likely to result in further encroachment of robust and undesirable invasive vegetation species into forest and park lands, destroying biodiversity, reducing the effectiveness of groundwater recharge, and driving away recreational visitors. Further, the Project will jeopardize invasive species mitigation measures that TGP has already promised to undertake in connection with the 300 Line Project. FERC cannot allow TGP to proceed without investigating the possible extent of these impacts during NEPA review, especially at a time when the state and federal budgets cannot cushion the affected communities from the environmental impact.

#### **v. Landscape Connectivity**

The expansion of the ROW will create further fragmentation of the forest, allowing edge species, specifically white-tail deer and cowbirds, to encroach deeper into the core forest. These edge effects can negatively impact species at least 300 feet within the forest boundary.<sup>111</sup> As deer herbivory is a major culprit in the declining health and biodiversity of forest sub-canopies,<sup>112</sup> these impacts must be examined to ensure rare, threatened, and endangered plant species populations can be maintained in the ecosystem surrounding the ROW. This will similarly decrease habitat for fauna and result in dislocation of species. These habitats must be examined to ensure no portions of the planned expansion area are an essential functional portion of a species' overall habitat requirements, such as nesting or feeding, and therefore could not or would be very difficult to replace. An overall decline in population numbers could result if the remainder of habitat area cannot meet the specific requirements of the species. Furthermore, species requiring large integral home ranges will be negatively impacted and coordination with NPS and Fish and Wildlife Service is necessary to identify whether such species will be impacted by further forest fragmentation.

#### **E. Cultural Resources**

##### **i. Archaeological Resources**

FERC must include its cultural resources guidelines in the scope of this study.<sup>113</sup> The DWGNRA website states that there are "487 [archaeological] sites covering more than 500 acres."<sup>114</sup> DWGNRA has the most significant concentration and diversity of known archeological resources, from prehistoric to historic in the northeastern U.S. Montague Township also has two significant archeological sites, Millville Historic and Archeological

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support their operations. These include the use of No Net Loss Revenues (\$10 million) and the use of park staff to support wildlife management efforts (\$150,000).

<sup>111</sup> See Janzen, D.H., *The Eternal External Threat*, in Conservation Biology, The Science of Scarcity and Diversity (Soulé, M. E., ed. 1986).

<sup>112</sup> See New Jersey Audubon Society, Forest Health and Ecological Integrity Stressors and Solutions: Policy White Paper 9 (March, 2005), available at <http://www.njaudubon.org/Portals/10/Conservation/PDF/ForestHealthWhitePaper.pdf> (stating that "[e]levated deer densities have devastating impacts on the understory of forests and even the regeneration of the forest itself.>").

<sup>113</sup> See FERC Office of Energy Projects, Guidelines for Reporting on Cultural Resources Investigations for Pipeline Projects (Dec. 2002), available at <http://www.ferc.gov/industries/gas/enviro/culresor.pdf>.

<sup>114</sup> Nat'l Park Serv., Delaware Water Gap Park Statistics (2005) (Aug. 15, 2005), <http://www.nps.gov/dewa/parkmgmt/statistics.htm>.



District and Minisink Archaeological Historic District. There are also a number of archeological sites surrounding the Monksville Reservoir. These resources are protected by the Archeological Resources Protection Act of 1979,<sup>115</sup> which requires that permits be issued to remove or excavate all archeological resources that will be impacted by the Project before construction can begin.<sup>116</sup> Thorough studies must be conducted along the ROW, access roads, and all areas that will be potentially impacted by this Project, i.e. locations along the Delaware River, for such resources to determine impacts and if excavation would be successful. This will require cooperation with tribal groups for permission to remove these remnants.<sup>117</sup> All areas must be identified and studied in depth before permits can be granted to the applicants.

## ii. Viewsheds

Bergen County Department of Planning and Economic Development is currently developing a management plan for the Ramapo Mountains County Park, which the existing TGP ROW crosses at Ramapo Reservation. As part of the planning process, a Natural Resource Inventory (NRI) was compiled. This document specifically lists the existing gas pipeline ROW as a constraint, stating, "views [are] interrupted by utility easements."<sup>118</sup> TGP will be widening their ROW with this Project, exaggerating the impact on the Reservation if this Project is approved. As the county has already identified the existing ROW as a constraint that depletes visitor enjoyment of the Ramapo Reservation, this impact must be examined as a serious resource concern, especially with regard to scenic views from Bald Mountain.

Viewshed impacts should be examined in a way that describes any physical changes to the landscape, examines consistency with the objectives of the NPS, Highlands Council, and state<sup>119</sup> and county parkland management plans to preserve scenic resources, compatibility in mass, scale, and prominence, and degree of contrast in line, color, and form.

Viewer sensitivity will be extremely high to viewshed impacts as the lands impacted by the Project are some of the last remaining contiguous forests in the state and are preserved lands highly utilized by recreational visitors. Altering the natural visual environment on these lands through the expansion of a gas pipeline would be adverse to user's expectations that the area will have natural, wild viewsheds. These impacts should be heavily weighted keeping in mind the objectives of the DWGNRA, Appalachian Trail, and the Highlands Act and RMP. Congress has conferred the authority to build critical infrastructure projects on federal lands. But, commenters urge FERC to follow Congress's consistent recognition that any construction must be subject to the long-standing laws (such as the NPS Organic Act and National Trails System Act) that conserve those unique American spaces that still provide scenic, natural vistas ROWs for projects on federal lands.

<sup>115</sup> See 16 U.S.C. §§ 470aa-mm (2006).

<sup>116</sup> 43 CFR §§ 7.4, 7.5 (2010).

<sup>117</sup> 43 CFR § 7.7 (2010).

<sup>118</sup> Townships of Mahwah and Oakland, 2010 Natural Resource Inventory and Assessment: Ramapo Mountains County Park, ix (Sept. 22, 2010), *available at* <http://www.co.bergen.nj.us/planning/os/2010RevisedFinalRamNatResReport.pdf>.

<sup>119</sup> On information and belief, a specific condition of the conveyance of Ringwood Manor to the State of New Jersey included a provision asserting that the scenic view could not be marred.

In particular, the Bureau of Land Management's Visual Resources Management Program under the Department of the Interior sets a high management standard for Visual Resource Management (VRM) class I.<sup>120</sup> Given their substantial importance in terms of scenic quality, cultural importance, and uniquely preserved nature in a highly developed and urbanized region, affected resources like DWGNRA and the AT should qualify for VRM class I status. To properly assess these impacts, following must be identified: probable viewers and their viewer sensitivity, all significant vistas and viewsheds that could be impacted by any of the alternatives, and the dominant elements of the current viewsheds and how each alternative will impact that viewshed or vista. Moreover, the construction activities, expansion of the ROW, and clearing of access roads will produce localized scenic resource impacts that must be assessed in the NEPA document. The document should address all foreground, middle-ground, and background vistas in its analysis of impacts.

## **F. Air Quality and Noise**

### **i. Air Quality**

This Project will have serious impacts on the air quality along the ROW, ROW buffer, access roads, and surrounding landscape. Air quality degradation needs to be examined in relation to visitor experience and wildlife. Diesel emissions during construction will also impact visitor experience and wildlife. Further increases in diesel emissions as a result of the Project may lead to a higher level of ozone along the ROW as the cleared ROW provides more sunlight for nitrogen oxides and reactive organic gases to combine.

The cumulative impact analysis also should include consideration of the incremental impact of the Project on air quality, added to the air quality impacts of existing and reasonably foreseeable Marcellus Shale development in the region, including other pipeline construction. Natural gas and oil production and transmission emit substantial amounts of air pollution, including volatile organic compounds ("VOCs"), nitrogen oxides ("NOx"), and toxic air pollutants.<sup>121</sup> The toxic air pollutants include benzene, a known carcinogen; toluene, nhexane, and xylenes, which can lead to nervous system effects; and ethylbenzene, which can cause blood disorders.<sup>122</sup> Recent tests suggest that compressor stations also may emit harmful levels of formaldehyde, another known carcinogen.<sup>123</sup> VOCs and NOx contribute to local and regional ozone pollution, which has serious impacts on human respiratory and cardiovascular health as well as on vegetation and forest ecosystems.<sup>124</sup> Particulate matter too, whether directly emitted

<sup>120</sup> Bureau of Land Mgmt., Manual H-8410-1 - Visual Resource Inventory, at V.B.1., *available at* <http://www.blm.gov/nstc/VRM/8410.html> (providing that "[t]he objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention").

<sup>121</sup> See Al Armendariz & Env'tl. Def. Fund, Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements 24 (2009), *available at* [http://www.cdf.org/documents/9235\\_Barnett\\_Shale\\_Report.pdf](http://www.cdf.org/documents/9235_Barnett_Shale_Report.pdf); see also Env'tl. Prot. Agency, Outdoor Air – Industry, Business, and Home: Oil and Natural Gas Production – Additional Information, [http://www.epa.gov/oaqps001/community/details/oil-gas\\_addl\\_info.html](http://www.epa.gov/oaqps001/community/details/oil-gas_addl_info.html) (last visited Nov. 11, 2010).

<sup>122</sup> See *Id.*

<sup>123</sup> See Aman Batheja, *Carcinogen from gas compressor stations being monitored*, Star-Telegram, Oct. 4, 2010, *available at* <http://www.star-telegram.com/2010/10/03/2516374/formaldehyde-from-gas-compressor.html>.

<sup>124</sup> See National Ambient Air Quality Standards for Ozone, 75 Fed. Reg. 2,938, 2,938, 3,000 (Jan. 19, 2010);

from exhaust and fugitive dust during construction or from operation of diesel-fired engines or indirectly created from interactions of NOx emissions in the atmosphere, affects respiratory and cardiovascular health.<sup>125</sup>

An examination of 2009 emissions data shows that in north-central Texas, VOCs and NOx emissions from compressor engines in the Barnett Shale area amounted to four times the emissions from all airports in the Dallas-Forth Worth area,<sup>126</sup> which includes the Dallas-Forth Worth International Airport, one of the busiest airports in the world. 2009 NOx and VOC emissions from Barnett Shale oil and gas development generally were comparable to emissions from all the cars and trucks in the nine-county Dallas-Forth Worth metropolitan area.<sup>127</sup> These figures suggest that any proper assessment of a Marcellus Shale development project must consider the cumulative impacts of all oil and gas development in the area in order to truly comprehend the Project's effect on the quality of the human environment.

The NEPA document must assess air emissions from the construction and operation of the Project infrastructure based on the cumulative impact of the proposed hub line's emissions *together with* air emissions from existing and reasonably foreseeable Marcellus development.

## **ii. Noise**

FERC must explore the impacts of construction, operation, and maintenance of the Project on wildlife and visitor experience.

Noise associated with construction can have a devastating impact on wildlife. Certain species depend on hearing for courtship and mating behavior, prey location, predator detection, or homing and will suffer serious detrimental impacts from construction. Such aspects of temporary impacts must be considered.

Noise impacts to visitor experience must be examined as sensitivity to noise is very variable and these impacts may lead to less utilization of the associated parklands by the public. These areas are generally given additional protection when projects are evaluated. For example, the Federal Highway Administration's Exterior Noise Abatement Criteria has an activity category "Land where serenity and quiet are of extraordinary importance" and the maximum noise level is 57 dBA.<sup>128</sup> Consequently, we urge FERC to consider the proposed construction area a noise sensitive area and hold the Project to at least the minimal standards<sup>129</sup> given other sensitive areas (i.e. a 55 dBA day/night limit for new compressor stations) and also evaluate whether even that impact might be excessive in terms of affecting natural preservation and public enjoyment of the Highlands wilderness resource.

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see also Judy Fahys, *Ozone Raises Its Ugly Head in Utah*, Salt Lake Tribune, Oct. 21, 2010, available at <http://www.sltrib.com/sltrib/home/50516943-76/ozone-county-basin-epa.html.csp>.

<sup>125</sup> Env't. Prot. Agency, Particulate Matter: Health and Environment, <http://www.epa.gov/pm/health.html> (last visited Nov. 11, 2010).

<sup>126</sup> See Armendariz, *supra* note 121, at 25.

<sup>127</sup> See *id.*

<sup>128</sup> 23 C.F.R. § 772.19 (2010) (Table I ("Noise Abatement Criteria") sets a limit of 57 dBA for "[l]ands on which serenity and quiet are of extraordinary significance and serve an important public need and where preservation of those qualities is essential if the area is to continue to serve its intended purpose").

<sup>129</sup> See 18 C.F.R. § 157.206(b)(5).

In addition, given the scale of the Project and sensitivity of its location, FERC must include construction impacts in the scope of its environmental review. To determine these impacts, the applicant must be asked to provide specific details on construction activities, including the type of equipment that will be used and when it will be used, what season and time of day construction activities will occur, and the specific noise-producing attributes of each piece of equipment. Noise levels produced at 50 ft are about 84 to 85 dBA from backhoes and bulldozers, 91 to 92 dBA from graders, and 80 to 88 dBA from compressors.<sup>130</sup>

The possibility of ground-borne vibration and noise impacts related to construction activities on habitat, steep slopes, etc. must be studied. Resources near the Project will be especially susceptible to ground-borne vibration as the applicant is proposing to construct an underground pipeline that will require the creation of a trench across an extremely sensitive landscape.

Noise impacts to the landscape will be exacerbated by the expansion of the ROW and the removal of vegetation. As the ROW expands, noise from construction, operation, and maintenance of the pipeline will penetrate farther into the forest, affecting wildlife. FERC must assess the severity and nature of this impact.

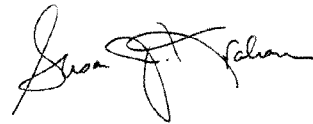
The movement of construction equipment and long-term maintenance vehicles may impact sensitive receptors in the surrounding local communities along utilized roadways and access roads. Further, if detours are used during the construction project, the roadways that bear the re-directed traffic may be impacted by the increased noise. The NEPA document must address both of these secondary noise impacts.

### Conclusion

FERC must require a full Environmental Impact Statement that analyzes the extensive and egregious impacts the Project threatens on water resources, forest ecosystems, habitats, air quality, and parks and open space. The NEPA document must assess cumulative and secondary impacts. To do so, the analysis must be thorough and objective.

Thank you for the opportunity to comment on the scope of the assessment. We look forward to full participation in this important process.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan J. Kraham".

Susan J. Kraham  
Senior Staff Attorney  
Counsel for Commenters

---

<sup>130</sup>

U.S. Department of Transportation, FHWA, CADOT, and SBAG 1993.

**Michelle Tuorto-Collins**

26 Walter Street · Bloomfield, New Jersey 07003 · Tuorto@aol.com

Kevin E. Koslosky  
Bureau of Legal Services and Stewardship  
Green Acres Program  
Department of Environmental Protection  
P.O. Box 412  
Trenton, NJ 08625-0412

14 August 2011

Dear Mr. Koslosky:

I am writing to oppose the conveyance of state owned lands in High Point State Park, Long Pond Ironworks State Park, and Ringwood State Park for the Tennessee Gas pipeline.

The receipt of \$45,000 for a 24 year lease of lands, which will bring Tennessee Gas profits far in excess of their lease payment, is an insult to the taxpayers of this state. While Tennessee Gas notes that they may spend upwards of \$2 million on mitigation projects, and New Jersey officials have noted the low "value" of Highlands lands due to restrictions on development, simple economics shows that this is a sweetheart deal that does not benefit New Jerseyans in any way.

The Highlands preservation area was developed to protect open space in an area that is ecologically important and provides water to fuel industries ranging from pharmaceuticals to tourism. Every permitted foray into those lands, in defiance of the Highlands Act, sends New Jersey one step closer to remaining a state known for its pollution and sprawl. It takes us many steps closer to depriving our people – especially our children – from the enjoyment and appreciation of nature; deals like this send a very clear message that it is only appropriate to protect the environment when convenient or profitable.

I also fail to understand how work has already begun on the pipeline in other areas while clearance is gained to run pipe through the aforementioned areas. Are we to believe that work would actually halt if Highlands lands are not conveyed? Certainly, it seems that conveyance of lands is fait accompli if work has already begun elsewhere, and that the state thinks of its populace as naïve and unintelligent in expecting them not to notice.

Finally, I appeal to you on behalf of my students. I teach at an inner city high school, and our freshmen spend a month every year hiking the Appalachian Trail. It is often their first contact with unspoiled natural lands, and it is a powerful lesson for them to see New Jersey as it was, not as we have made it. They understand the concept that knowing better means that you are able to do better. Please put that lesson into practice by opposing this damaging and unlawful construction.

Sincerely,



Michelle Tuorto-Collins

**From:** <wilma@njconservation.org>  
**To:** "Kevin E. Koslosky " <kevin.koslosky@dep.state.nj.us>  
**Date:** 8/22/2011 2:07:28 PM  
**Subject:** Tennessee Gas Pipeline Northeast Upgrade Project Proposed Conveyance of State-owned Lands: Comments of NJ Conservation Foundation, 18Aug2011, Ringwood NJ

Date: August 22, 2011

To: Mr. Kevin E. Koslosky

Bureau of Legal Services and Stewardship

Green Acres Program, NJ Department of Environmental  
Protection

Re: Tennessee Gas Pipeline Northeast Upgrade Project comments

Dear Mr. Koslosky:

Please find attached the comments of New Jersey Conservation Foundation, delivered at the public hearing in Ringwood, NJ on August 18, 2011. We also expect to provide additional comments in September.

Thank you very much for responding to our questions regarding the application, and, in advance, for Green Acres' consideration of our comments.

Sincerely,

Wilma E. Frey

Senior Policy Manager

New Jersey Conservation Foundation

Bamboo Brook - 170 Longview Road

Far Hills, NJ 07931

908-234-1225x131 fax 908-234-1189

**CC:** "Alison Mitchell" <alison@njconservation.org>, "Amy Hansen " <amy@njconservation.org>, "Michele Byers " <michele@njconservation.org>



## New Jersey Conservation

F O U N D A T I O N

Bamboo Brook, 170 Longview Road

Far Hills, NJ 07931

Ph 908.234.1225 Fax 90.234.1189

[wilma@njconservation.org](mailto:wilma@njconservation.org)

[www.njconservation.org](http://www.njconservation.org)

Comments of Wilma E. Frey, Senior Policy Manager,  
New Jersey Conservation Foundation  
Before the  
NJ Department of Environmental Protection Green Acres Program  
On the Proposed 25-year Conveyance to  
Tennessee Gas Pipeline Company, Northeast Upgrade Project  
Ringwood NJ, August 18, 2011

New Jersey Conservation Foundation is extremely concerned about the proposed Tennessee Gas Pipeline Northeast Upgrade Project. Tennessee has requested expedited review of its application, with its desired authorizations issued by December 15 of this year. We urge the NJDEP, including the Green Acres Program, the Endangered and Nongame Species Program, the Land Use Program and any other affected programs, to take all the time they need to review the Tennessee Gas proposal, and not to make any determinations until substantial, detailed information on the proposal is received from Tennessee Gas. Green Acres must not be forced by Tennessee Gas and FERC into addressing a moving target.

We are concerned that the NJDEP Report on Proposed Conveyance of Lands to Tennessee Gas Pipeline Company is inadequate as an analysis of the impacts of the proposed pipeline upgrade to State lands and other preserved lands, and the impacts to the natural, cultural and recreational resources held in trust by the State for the people of New Jersey. The facts provided and the analysis are sketchy at best. The enormous impacts are substantially under-represented by the Report. ***The Report is therefore inadequate as a basis for determining the appropriate compensation and mitigation for the project.***

1. The engineering and direct impacts of the construction access routes are not described or evaluated in any detail. It is unlikely that the access routes will be confined “within existing” access routes, paths or logging roads. As a result, the access routes will for all intents and purposes be **new** roads. While 16 or 20 feet may be the width of the travel way (the hardened roadway surface or pavement equivalent), an area **adjacent to** the travel way will clearly be

subject to vegetation removal, grading and soil compaction. Clearing and straightening, grading, removal of rocks, trees and adjacent vegetation, substantial soil compaction and destruction of local plant and animal habitat on and directly adjacent to the travel way will occur.

A more realistic estimate of the extent of direct impacts due to the construction access routes is between 40 feet in width (16' hardened travel way plus an estimated 12' of disturbance and compaction on each side) up to 70 feet in width (20' of hardened travel way plus an estimated 25' of disturbance and compaction on either side).

In order to frame a realistic context within which to assess the direct impacts of constructing the access routes, the DEP should require that Tennessee Gas provide them with detailed information on the size of the largest vehicles that will be required to accommodate the equipment necessary to construct the pipeline, including their width, length, height, weight loaded and unloaded, number of axles, length of segments, and perhaps most importantly, the minimum turning radius. The extent and severity of the potential impacts of the construction access routes requires that they be fully examined and analyzed by the DEP, in order to fully evaluate the impacts.

2. There is no recognition in the Report of the long-term permanent impacts of the access routes, which Tennessee Gas chooses to call "temporary," on the ecosystem. Access routes will facilitate the spread of invasive species of animals and plants, causing long-term, permanent degradation of the ecosystem. These impacts cannot be avoided or mitigated by "reseeding" the access routes. These decades-long impacts are permanent and must be fully recognized in the leasing agreement and should be compensated for, at a minimum, by replacement land preservation at a 4 to 1 ratio.

3. There is absolutely no recognition in the Report of the *forest fragmentation impacts* of the construction on interior forest species.

Long Pond Ironworks, Ringwood and Ramapo Mountain State Parks are all located in the New Jersey Highlands Region. The Highlands Council Ecosystem Management Technical Report 2008 defines Highlands interior or "core forest," as follows: "Core forest habitat is defined as a forest located more than 300 feet from altered land or a road." Page 39. ***In core forest areas, construction access routes will destroy interior forest at the rate of one acre per every 72.6 feet of access road length, fragmenting specialized habitat critical to interior forest-dependent rare, threatened and endangered species.*** These impacts are permanent or long term, not "temporary," and Tennessee Gas should be required by the State of New Jersey to provide replacement lands at the 4:1 ratio. Forest fragmentation impacts caused by construction access routes are not even mentioned in the Tennessee Gas application. However, the size of the required construction vehicles and equipment will clearly necessitate removal of tree canopy, creating openings that fragment core forests, in addition to the impacts directly adjacent to the access routes noted above.

Calculations show that a 20-foot wide access route within core forest impacts a swath of interior forest habitat 600 feet in width. ***Every 72.6 feet of construction access route that opens up the forest canopy within a core forest area destroys an entire acre of interior forest value, thus a***



***single mile of access route destroys 72.7 acres of interior forest habitat.*** For example, the total length of the project within Ringwood State Park is approximately 3.62 miles. Should this be located in core forest, over **263 acres** would be permanently impacted, as opposed to the 59.86 acres noted in the Report on page 9.

4. The Assessment of Environmental Impact and Impact on Plants, Endangered and Non-Game Species is entirely inadequate. The impacts on the ecology of this sensitive area, much of it located in the Highlands region, will be huge. Among other deficiencies, the Report does not acknowledge that the Highlands Act protects RARE, as well as threatened and endangered species, and it does not address impacts on these RARE plant and animal species. It does not address the impacts of construction noise and ground vibration from heavy machinery and proposed tunneling under the earth on behavior of species affected, probably hundreds, if not thousands of feet from the actual construction site.

5. The concept of a “giveback” of 10 ft. of the existing ROW as a way to reduce Tennessee’s obligation for permanent impacts to be mitigated or compensated is without merit, and should be rejected out of hand by the State of New Jersey. It is absurd to equate existing managed ROW to undisturbed natural lands and suggest an equal exchange.

The state parks and forests through which the proposed gas pipeline will run are precious public lands, forests and trails that New Jersey citizens have preserved with their taxes, their toil and their love. These lands are entrusted in Green Acres’ care on our behalf. We hope that our State’s Green Acres Program and the DEP will stand up for this public trust for the citizens of New Jersey and protect and preserve these lands and their multiple resources to the very best of their ability. We will help you in any way that we can.

Thank you for your consideration of our comments.

**From:** Jessica Ciccarelli <jchgar@gmail.com>  
**To:** <Melissa.Dettling@ElPaso.com>  
**Date:** 8/26/2011 1:58:16 PM  
**Subject:** Gas Pipeline

To Whom It May Concern:

I have just become aware of the proposed gas pipeline through HighPoint State Park, home to so many of our beloved black bears in NJ. This horrid pipeline would also affect the surrounding areas of Vernon, Wantage, and into PA. By implementing this pipeline you are destroying the homes of our Black Bears. This will greatly effect their homes and the only areas they are familiar with. I beg of you to reconsider this pipeline and to stop destroying homes to Bears. I have reached multiple media outlets regarding this and have a petition signed by over 15,000 residents in NJ against this pipeline. I urge you to rethink this.

Regards,  
Jessica Ciccarelli

**CC:** <Kevin.Koslosky@dep.state.nj.us>, <news12nj@news12.com>, <newsroom@njherald.com>

From: [howie t <tidclear@gawab.com>](mailto:howie t <tidclear@gawab.com>)  
 To: [Koslosky, Kevin](#)  
 Subject: Pipeline Public Comment

Sent: 8/31/2011 8:47:16 PM



Dear Kevin Koslosky,

This letter is in response to the NJDEP Hearing Public in regards to the El Paso/Tennessee Pipeline Company expansion project going through High Point State Park and others. I am concerned this public hearing had some serious democratic deficiencies and possibly legal flaws. I'm afraid that this public meeting may be considered null and void for all intensive legal purposes.

When entering the local municipal building in Montague, NJ I was greeted at the door by 4 individuals. 3 of which were sitting in the lobby area behind a desk and one standing ordering me to sign in at the table a sheet which demanded my name, address, phone # & email address. sheet did not properly identify itself as El Paso or Tennessee Pipeline but has a quasi official looking state seal.

These people I assumed when I in the building where the hosts of the meeting (Part of the D.E.P.) This however was not the case.

These 4 individuals were from the El Paso Company posing themselves as Government Officials. which I found out after 5 minutes of talking to them. I'm certain many individuals like me were tricked into giving these people our personal information including home addresses. Posing as a government official is an illegal act. I'm demanding an investigation.

Plentiful of information as supplied by El Paso laid out on the table but I was struck by the lack of information supplied by the D.E.P. I could only find one brochure describing FERC's general functions. (not pertaining to the expansion of the pipeline, the issue at hand) No information was supplied from the D.E.P. the "Hosts" of the meeting. After learning that the people standing and sitting in the lobby were not government officials but representatives from El Paso I asked them if there were any one I could speak with representing the DEP or Government Official. They could not point me to anyone except for the person on the stage, sitting with the panel from El-Paso. I could talk to her since I would be interrupting the meeting. I finally learned after that her name was "Judeth Yeany". I could not speak to not one "host" of the meeting until after the meeting was done. Judith Yeany, the only representative from the government was not available from the entire duration of the meeting. NOT one representative from the government was available during this meeting. This is incredibly irresponsible! No written contact information was made available to the public regarding her name, title, email, phone, ect. Several members of the audience had to ask her several times for her name and spell it. One audience member even asked if she had a business card she could provide and said she did not think so. This is incredibly unprofessional. This meeting was a disgrace. Judeth Yeany sold the Idea as the DEP is powerless and its all about how much money the state could get. That is a very narrow opinion and further discouraged members of the public that there concerns were meaningless. Judeth Yeany shamed the public on that day for the most pathetic public hearing I've ever witnessed. She seemed like she worked for the El Paso Corp. That is what it seemed like.

Again commenting on the general tone of the meeting I have never felt more disrespected in the lack of preparation from the DEP and disregard for the public on any public meeting I've ever been to. Every government meeting I've ever been to has been hosted by that government and not the Private Party hosting the public meeting which is what seemed to happen here. This is unacceptable.

Another troubling, dangerous and illegal aspect of the meeting was the fact that maximum occupancy of the room had been reached and more people came into the room. The max occupancy sign had read a believe 47 or 49. I counted 59 in the room at one point. And people where spilling out into the lobby room, unable to hear a lot of what was being said inside the meeting. That is dangerous and illegal. The meeting should have been called off and a new one rescheduled in bigger setting. This reflects poorly on Judeth and the DEP. Endangering the safety of citizens is not wise and is illegal.

To end I must say ths meeting must be held again. In the "meeting" that happened in Montague, the understanding was the Public did not matter and seemed to only to be held for legal reasons. No effort at all was put into this sham. The range and legal aspect for the construction of his pipeline in our land was how much money can we get. Thats it. Thats the way it was presented. Judeth Yearney had presented a seriously flawed legal opinion. In her total Incompetence in "hosting" a public meeting and offering some bad legal advice I strongly recommend removing her from this matter regarding the pipeline. The DEP should not be leaning on her for any Legal Advice or Be hosting any Public Meeting. I am demanding another Public Meeting to be hosted respectfully, accordance to law, and hosted by the DEP, Not by El Paso or Judeth.

Sincerel,y

Howard T. Murray

P.S.

The DEP didn't even bring with them there own public recorder, that was supplied by El Paso. This is pathetic. If you want to save a buck or two get rid of opinions like the ones put forward from the DEP at this meeting.

---

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**AMY BOYLE GEISEL  
ATTORNEY-AT-LAW\*  
10 JUNIPER TERRACE  
RINGWOOD, NJ 0746-2606  
(973) 835 8189**

*\*Admitted in NYS*

Sept.9, 2011

Kevin E. Koslosky  
Bureau of Legal Services and Stewardship  
Green Acres Program  
NJ Dept. Of Environmental Protection  
PO Box 412  
Trenton, NJ 08625-0420

Re: Northeast Upgrade Project - Tenn. Gas Pipeline Co. ("Tenn.")  
FERC Project Docket No. CP11-161 (the "Project")  
Ringwood Public Hearing, Aug.18, 2011 (the "Hearing")

Dear Mr.Koslosky:

I submit this letter in opposition to the Project and hope that consideration will be given to the issues/concerns that I raise herein. I will forward a copy of this letter to our local newspaper, 'Suburban Trends' for review and publication if deemed appropriate. A statement was made at the Hearing that you would accept and consider public comment on the above referenced Project up to the end of September 2011.

I must oppose the Project and the underlying Lease. I believe that New Jersey will not be adequately compensated by Tenn.or adequately protected should Tenn. fail to fulfill its Lease obligations. I believe that essential terms of the Lease in question have not yet been thoroughly researched or negotiated. Further, a new federal report co-authored by Energy Secretary Chu finds that hydraulic fracking as currently conducted poses substantial risk to the environment. The Project will enable Tenn. to incur substantial corporate profit over the life of the Lease in transporting natural gas obtained from fracking, while causing long term negative impact upon an unknown number of acres of pristine NJ State Parkland and watershed areas. The ends do not justify the means. In my opinion, NJ must bring Tenn. back to the negotiating table before this application and approval process goes any further.

Substantial terms of the proposed Project Lease have yet to be determined. At the Hearing, it was made known that there is no definition of 'mitigation measures' as yet incorporated into the Lease. By assumption in this context, mitigation should mean those efforts that will need to be undertaken by Tenn. to restore the lands that they have blasted, cleared, deforested, striped 7 feet below grade and trenched for the pipeline.

The definition of mitigation must be a concise term of this Lease. There is no agreement as to the number or location of acreage Tenn. will Deed to NJ in exchange for acreage Tenn. seeks to have permanently released from the NJ Cons.Rest.and Hist.Preservation Rest.Act ("NJSA"). Further, at the Hearing, one of the representatives of Tenn. acknowledged that Tenn. was **in the middle of** impact studies regarding Grade Rock blowing at Ringwood State Park. ("RSP"). Much of the work to be done in RSP will involve blasting. At the Hearing, several representatives of the local residents and indigenous peoples of Ringwood expressed great concern over blasting and the lack of communication with those families that live near the proposed blasting sites and construction areas. To continue the administrative process when the Corporation that seeks the approval is still conducting studies on blasting impact in a partially inhabited area seems reckless if not dangerous.

In addition, this proposed Lease for the Project does not provide what I believe to be adequate compensation to NJ for the permanent alteration and use of pristine parkland and watershed areas. At the Hearing, we were told by the representative of NJ that the Lease price is in effect, 15 cents per square feet with a 2-cent annual escalation. This price equates to close to \$65,000 an acre or approximately \$344,000 a year for a pipeline that will greatly increase the total amount of natural gas transported by Tenn. to this region of the U.S. Accordingly, Tenn. and its corporate parent El Paso Corporation will, one assumes, garner an exponential profit over the life of this Lease. In reality, this is a permanent 'use' and not just a simple Lease of the lands over which the existing pipeline and this connecting pipeline or 'loop' will cross. I believe that the amount of compensation to NJ is too low. At the Hearing, the NJ representative repeated that NJ is not in this to make money. Why not? Tenn. needs this Lease, NJ does not. Make Tenn. pay more. Make Tenn. come back to the table with more money and negotiate the specific lease terms that to date have not been resolved.

I believe that Tenn.should be made to post a 25 or 50 year Maintenance Bond or place adequate sums into escrow to ensure full performance of all lease terms. I believe that Tenn. must fully restore the land it alters or blasts and long-term oversight by NJ is needed to ensure that Tenn. properly regrades the soil, reseeds, replants and takes proper measures to prevent silt or debris from washing into local waterways, streets and yards. Tenn. must be held accountable should its blasting cause damage. As the terms of construction repair or 'mitigation' have not yet been negotiated, there is no understanding as to what exactly Tenn. must do to restore the acreage. There is no safety net in place should Tenn.or its parent not perform, go bankrupt or be acquired. A Bond must be posted or adequate monies must be placed in escrow.

I was concerned over what I felt to be an atmosphere of mistrust and fear at the Hearing. We as a population are mistrustful of government and big business. This may be naive but I would suggest that Tenn. and NJ make a better effort to educate and reach out to the communities that will be impacted upon by this Project. There was not one fan of Tenn. at that Hearing. Why is that? Is Tenn. hiring locally? They should

guarantee a certain number of local/NJ wide jobs - both temporary and permanent. Is Tenn. making any kind of investment in the communities by which it will profit? Donations by Tenn. to local schools, libraries, Boroughs should be encouraged. I am not saying that we will be bought off but, they should be made to pay more for the Lease and they should share some of the profit with the areas of NJ that will bear the brunt of their expansion efforts.

I have seen the '300 Pipeline' construction work on Marshall Hill Rd. in West Milford, NJ. This is a different pipeline expansion project: same parties, similar construction, similar lease and apparently, approval by NJ and our Federal Government. In less than 10 days, a roughly 60 foot wide section over seven feet deep and miles in length of 50-year-old forest was cleared. All shrubs, rocks, topsoil was removed - to the layperson, this looked like a dirt ski run. It has been over two months since that West Milford phase of the 300 pipeline was started and there has been little if any re-planting or mitigation. This is not good community relations by Tenn.

This Lease administrative process should be put on hold to afford Tenn. and NJ the opportunity to finalize all studies and for Tenn. and NJ to conclude negotiations and resolve substantial Lease terms. I oppose this pipeline expansion Project with reservation until such time as:

1. The amount of compensation to NJ is increased;
2. All lease terms that define Tenn.'s obligations, responsibilities and liabilities are negotiated;
3. Tenn. completes and releases to the public all of its impact and environmental studies;
4. The exact number of acres, the location and value of all acres of land that Tenn. will Deed to NJ in exchange for acreage that Tenn. seeks to have permanently released from NJSA pursuant to the lease are determined and negotiated;
5. Tenn. guarantees a reasonable number and term of local and statewide jobs;
6. Tenn. agrees to donate a certain amount to each community through which the Project will cross or will be impacted upon via donations of equipment, financial support or future pledges of support to local schools, libraries, local park systems and;
7. Tenn. and its corporate parent agree to the terms and conditions of the new federal report issued by Energy Secretary Chu with regards to hydraulic fracking methods and materials in order to minimize the risks to the environments at site of origin (well head) of the gas this expanded pipeline will transport.

I realize that I am asking a lot. We deserve more. I am a Ringwood, NJ homeowner and parent of two small children. We came to Ringwood, NJ in part for its natural beauty. We use the parks. I am a member of the NY/NJ Trail Conference, NJBG and the Weis Ecology Center of Ringwood. I consider myself a guardian of our public lands and our environment. We teach our children to be 'Earth Crusaders'. While I understand the realities for our country and the perceived need to get more natural gas to the northeast, I am greatly concerned over how we accomplish this and how we obtain

Page 4/4 Geisel d.9/9/11

the natural gas. The drilling method by which a majority of the gas that will be transported by this expanded pipeline is obtained is, in my opinion not safe. The proposed Lease that will allow Tenn. to deforest wide sections of our State Parks for construction of its expanded pipeline is not in the best interests of, nor safe for the citizens of NJ. We should not permit Tenn. to bulldoze large tracts of NJ State Park lands for inadequate compensation, pursuant to a Lease that is currently not fully or reasonably negotiated. This Lease and the Project will have implications for decades over vast acres and millions of people.

To the State of NJ and the Federal representatives and agencies that over see this process, you are our elected representatives. Do not 'fast track' this Project application and permit approval process. Slow this down. Do your due diligence. Go back to the negotiating table with Tenn. and get this right.

I thank you for your attention.

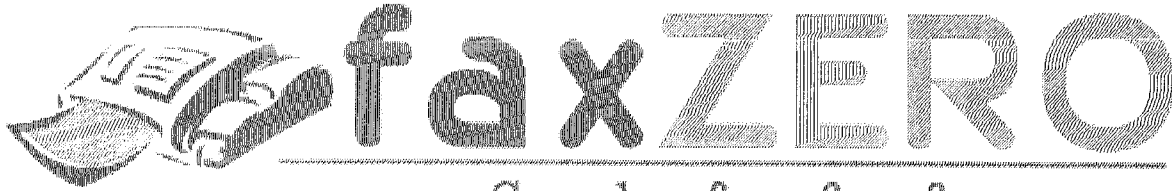
Very truly yours,



AMY BOYLE GEISEL

Cc: Suburban Trends Newspaper





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**Recipient Information**

**To:** green acres program  
Company: state of nj  
Fax #: 6099840608

**Sender Information**

**From:** jean public  
Email address: jeanpublic@yahoo.com  
Sent on: Thursday, September 15 2011 at 12:42 PM EDT

i am not in favor of leasing any public land preserved for natural protection to tennessee gas pipeline. i cann ot attend these meetings because we are having earthquakes, and two hurricanes in nj. please consider this anti pipeline comment. i note the cheapness with which your agency values land in nj is distressing to me. you let these profiteers get our land for cheap cheap rates for dangerous purposes.

in addition are there any hearings scheduled on cats? please advise

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Linda Reik  
695 Wall St.  
Ridgewood, NJ 07450  
Sept. 20, 2011

Kevin E. Koslosky  
Bureau of Legal Services and Stewardship  
Green Acres Program  
P.O. Box 412  
Trenton, NJ 08625-0412

To: NJ DEP

Re: Conveyance of state-owned, state park lands to Tennessee Gas Pipeline Company

I request that NJDEP deny this proposal. The purported "need" to increase service to Tennessee's northeast market remains speculative and tied to whether fracking becomes profitable. Bullish public comments made by the gas industry are not supported by their activities of selling off properties now determined uneconomical to drill, and accepting major investments in U.S. shale by foreign companies. New & lucrative markets for LNG are likely to be overseas, and ports are being prepared to supply LNG for export. Exporting large amounts of natural gas will change the minds of people who otherwise might put aside environmental concerns for the sake of America's energy independence. The NJ Legislature voted overwhelmingly to ban fracking in New Jersey; they recognized the risks outweigh the benefits. In the TGP proposal, the risks to years of acquired forest lands are greater than TGP's request to benefit from, while permanently deforesting, the Ramapo Forest. The people of New Jersey will be better served if NJDEP protects the Ramapo Forest and helps develop sustainable energy sources such as solar and off shore wind.

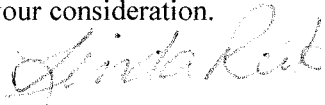
The economically risky business of fracking gas reminds me of the tobacco industry's success in delaying federal regulations about tobacco even after science experts published facts about unhealthy effects of tobacco smoke on Americans. Gas companies could be doing hundreds of things safer and better than now. Their rigs look like early autos from the 1800's. They have technical and financial resources to do better - to build better pipelines, to test for gas leaks, to prevent explosions, to build better casings of drill shafts, to prevent radioactivity and toxic chemicals in drilling waste from entering the environment, to process millions of gallons of water used in fracking operations for re-use, to reduce the number of trucks traveling over small roads, and to pay for and perform repair of damaged roads.

If gas companies were interested in doing better for American residents' health and environment, they would have instituted better practices already. For example, smog levels in desert drilling towns in Wyoming are higher than in Los Angeles. For example, Millennium pipeline was ordered to be re-inspected over the Binghamton to New Jersey distance because a faulty weld was discovered. Similarly, TGP has not done its best work during research of this proposal in the 2009 - 2011 period. At the public hearings in July and Aug., 2011, citizens complained about TGP overlooking their long-time, and large, land holdings in the Ramapo Forest region. Citizens complained about the deforestation already conducted in Waywayanda State Park.

Are regulation and monitoring needed to gain better workmanship from gas companies? Josh Fox, Emmy award-winning director of a documentary about fracking, recently stated that fracking is not being effectively regulated anywhere in the world. Similarly, we all know that NJDEP staff reductions means there will not be enough staff to regulate TGP on sites. Idea: a citizen's advisory group should have the power to monitor and, if necessary, halt TGP practices in the field. Idea: permit fees should be raised high enough for NJDEP to hire more staff/inspectors. If you can't deny this proposal, at least set up a way to halt work if TGP's field work is not satisfactory.

Thank you for your consideration.

Sincerely,  
Linda Reik



**From:** "jamie onint" <kinersmore@mail.com>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/20/2011 12:00:03 AM  
**Subject:** Pipeline Hearing Montague Meeting #1

Where are the transcripts from the meeting from Montague Municipal Building on 8/17 regarding Tennessee Gas Pipeline Company for the Northeast Upgrade Project? It was stated at the meeting the transcript of the meeting would be posted online within 2 weeks. I do not see them anywhere. Can you provide me the link so I can review them. Also when are the public comments to this specific meeting going to be posted online. Public Comment for this meeting Closed on Sept. 1.

Thank You

**From:** Georgia P Van Giezen <georgia.vangiezen@basf.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/23/2011 10:12:02 AM  
**Subject:** Proposed Conveyance (Lease) of State-owned Lands in High Point State Park (Montague Township, Sussex County),

Please note I have several comments documented at FERC and have reached out to non-profit environmental groups for their support in stopping this project. As a life-long NJ resident, and 16 year Sussex County resident, I speak for many when I say NJ is looking for clean, renewable energy such as wind and solar. This would be a step forward. I have no neighbors, friends, or colleagues who have any interest in so-called "natural" gas. The lease back to the park is like damage control - first, we'll cause great disturbance to your land, and the wildlife dependant upon it, not just for the next 25 years but forever. But don't worry, we'll pay you for it. Some things do not come with a price tag, and our NJ state parks are one of them. Drive along Route 23 or visit Montague, Wantage, and Vernon townships today, (nearly one month later), and you will see devastation from the storms of late August and early September. That was just outer bands of Tropical Storm type weather, what would happen with a full hurricane or multiple tornados? NJ needs to think ahead, and not submit to pressure, and bribery, from out of state, for profit entities who have no regard for our air or water quality, or our parklands.

The parks belong to the plants, animals and citizens of NJ. Please urge the DEP to say NO to this proposal.

Thank you,

Georgia Van Giezen  
Montague, NJ

**CC:** Michael Cheski <michaelcheski@yahoo.com>

September 27, 2011

Kevin Koslosky  
Bureau of Legal Services and Stewardship  
Green Acres Program  
Dept. of Environmental Protection  
Mail Code 501-01  
P.O. Box 420  
Trenton, New Jersey 08625-0420

Dear Mr. Koslosky:

Please review the enclosed DVD with a presentation of photographs from the devastation and destruction of the Tennessee Gas Pipeline Expansion Project at Wawayanda State Park (April-August 2011) and a/v from the September 7<sup>th</sup> public meeting.

What happens on paper in a mitigation plan is different than what happens at the site. Why was this permitted? Life is tough enough in New Jersey. Why do our state parks have to be DESTROYED? They are the great escape!

The purpose of this letter and DVD are to help convince the state NOT to allow continued destruction at HIGH POINT, LONG POND IRONWORKS, RINGWOOD and RAMAPO MOUNTAIN STATE PARKS. Why can't the wealthiest industry in the world use an alternative plan? Please stand up for the people of New Jersey and our restricted, pristine lands! Thank you.

Yours Truly,

A handwritten signature in cursive script, appearing to read "Michael Cheski".

Michael Cheski  
P.O. Box 161  
Glenwood, New Jersey 07418  
[michaelc@savenjstateparks.org](mailto:michaelc@savenjstateparks.org)

*Deborah Brick  
48 East Shore Trail  
Sandyston, NJ 07826  
September 27, 2011  
Via email and regular mail*

*Kevin E. Koslosky  
Bureau of Legal Services and  
Stewardship Green Acres Program  
Department of Environmental Protection  
Mail Code 501-01  
PO Box 420  
Trenton, NJ 08625-0420*

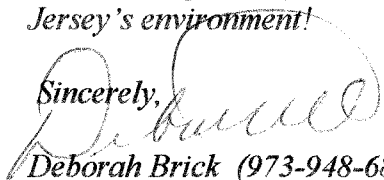
*Dear Mr. Koslosky:*

*I am writing to oppose the additional gas pipeline being proposed that will traverse four New Jersey state parks. The natural gas company admitted during the public meeting held in Montague that they have had explosions in the past. This past year another gas company was responsible for a deadly explosion in California. The pipeline in California was 30 years old. I understand that the pipeline that already exists through our parks was installed in the 1950's making it over 50 years old and no one seems concerned as to whether that old pipeline has been inspected and is not leaking gas into our rivers and streams right now or whether it could explode. And now the gas company wants to place more gas lines through our parks. I find it incredible that a state environmental agency is giving away our most precious green land to a commercial enterprise with very little consideration of the millions of people who have visited and will visit that land over the years. New Jersey has a checkered history of toxic industrial projects and now corporate interests are trumping the people's interest in one of the last beautiful places in New Jersey, the northernmost area parks.*

*Additionally, the gas going through this pipeline is from fracking in Pennsylvania and those areas are already despoiled with water contamination. This pipeline is not in the long term best interest of the people and wildlife of New Jersey and should be stopped.*

*Regarding the relatively small amount of money that is being charged to this multibillion corporation, it will not cover the cost of their negligence with our parks. They have already shown little regard for our environment when they were surprised at the rainfall and didn't prepare adequately for runoff. They do not live in New Jersey and care little for our state except as a highway for their gas. Their interest is to make billions and they don't care who they sell this gas to on the world market. So it could end up that the main beneficiary of this project is not New Jersey or its people but rather China. I respectfully ask that you live up to your name and be a good steward of New Jersey's environment!*

*Sincerely,*

  
*Deborah Brick (973-948-6808)*

**From:** Georgia P Van Giezen <georgia.vangiezen@basf.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/28/2011 9:56:10 AM  
**Subject:** Proposed Conveyance (Lease) of State-owned Lands in High Point State Park (Montague Township, Sussex County),

DEP - Please note the flooding (and landslide) reports throughout NorthWest NJ today. Why? Because it's raining. There is the undeniable law of cause and effect. For every disturbance to the land, there are unforeseen and often, dire, consequences. I don't think anyone in Tennessee Gas, El Paso, or FERC has a crystal ball to see the future. Leave our parks alone! Please say no to this proposal, and squash this project for good.

Thank you,

The Van Giezen Family

----- Forwarded by Georgia P Van Giezen/NTC/ROCKAWAY/BASF-CORP/BASF on 09/28/2011 09:38 AM -----

Traffic issues due to weather:

This notice issued courtesy of 511NJ

As of 9:10am, there's Flooding on US 206 northbound at CR 607/Lackawanna Dr in Byram Twp. All lanes closed and detoured.

As of 9:09am, there's a Landslide on US 206 in both directions South of CR 517 in Byram Twp. 1 to 2 lanes closed.

As of 9:07am, there's Flooding on US 46 eastbound East of CR 604/NJ 182/Willow Grove St in Hackettstown. Left lane closed.

As of 9:07am, there's Flooding on US 206 in both directions area of CR 519/Newton Av in Branchville. All lanes closed and detoured.

As of 8:46am, there's Flooding on NJ 94 northbound North of CR 618/Willows Rd in Fredon Twp. Right lane closed.

As of 8:45am, there's Flooding on US 46 westbound ramp to NJ 183/Netcong Circle in Netcong. Ramp closed and detoured.

As of 8:34am, there's Flooding on US 46 eastbound at NJ 183/Netcong Circle in Netcong. All lanes closed and detoured.

As of 8:32am, there's Flooding on NJ 182 in both directions at NJ 57 in Hackettstown. All lanes closed.

As of 8:31am, there's Flooding on I-80 eastbound East of Exit 19 - CR 517 in Allamuchy Twp. Left lane closed.

As of 8:29am, there's Flooding on US 206 in both directions from CR 618/Fredon Springdale Rd in Andover Twp to CR 621/Woodside Av in Newton. All lanes closed.

As of 8:26am, there's Flooding on US 22 westbound West of CR 523/Oldwick Rd in Readington Twp. All lanes closed.

As of 7:48am, there's Flooding on US 46 in both directions West of CR 517/High St in Hackettstown. All lanes closed and detoured.

Want to save money on gas? Try carpooling!

**From:** Michael Bender <michaelbender1@hotmail.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/28/2011 2:43:59 AM  
**Subject:** Pipeline comment deadline

Kevin, I wanted to comment on this project as per the local newspaper article. I understand that a right of way already exists for this pipeline and this is a very strong point for allowing this project to proceed. However when you look at this project and the proposed Power Line project it just shows that our precious State Parks are under assault. I am not sure when it will all end with these type of projects. Is it possible to identify how all State Parks are presently affected by outside threats like these? How can we plan now to be proactive to make sure that just because something exists already (in this case right of ways) that we can defend our Parks from future scenario's. How do we set up a plan that says "No More"?

Thank You

Michael Bender 158 Brooklyn Road Stanhope NJ 07874 973-347-4722

By STEVEN REILLY  
sreilly@njherald.com

Sussex County residents will have until Friday to submit any written comments on the planned natural gas pipeline that is slated to cut through High Point State Park.

According to a notice issued on Sept. 16 by the state Department of Environmental Protection, the public is being afforded an extra week to review the transcripts of three public meetings held in Montague on Aug. 17, Ringwood on Aug. 18 and Trenton on Sept. 7, and submit comments on the pipeline project to the state.

The original deadline for public comment was on Sept. 15, but delays in the posting of the transcripts prompted the NJDEP to extend the date, the notice said.

To view the transcripts residents can go online at <http://www.state.nj.us/dep/greenacres/neup.html>.

According to Kevin Koslosky from the Bureau of Legal Services and Stewardship at the NJDEP, all public comments submitted before the Sept. 30 deadline will be reviewed before any formal action is taken regarding the pipeline project.

The Tennessee Gas Pipeline Co., a subsidiary of the Texas-based El Paso Corp., plans to run a 30-inch diameter pipeline next to the company's existing 24-inch pipeline, that will bring natural gas from fracking projects into New Jersey from Marcellus Shale gas wells throughout the Midwest and Pennsylvania.

The public hearing held in Montague on Aug. 17 addressed the state permits needed to begin the five-mile section of the project that will traverse High Point State Park.

The permits are needed for both parties to move forward on the \$7.84 million, 25-year lease of the property easements between the Tennessee Gas Pipeline Co. and the DEP that will allow the pipeline to cross the state-owned land.

Under the proposed lease, the company will pay the state the \$7.84 million in one lump sum to retain control for the 25 years of the lease over 30.21 acres of parkland along the pipeline easement.

The lease also includes a clause that will allow the Tennessee Gas Pipeline Co. to control an additional 83.17 acres of parkland for the estimated two years of construction of the pipeline.

The lease also states that Tennessee gas must reforest the land once the construction of the pipeline is completed under the No Net Loss Reforestation Act. The company must also take steps to ensure a minimal impact to environmentally sensitive areas and endangered animals in the state park.

The High Point section of the pipeline project is set to begin in 2012 and would run from the Twin Lakes



section of Pennsylvania, across the northern borders of Milford, Pa., near the Pine Hill section, and across the Delaware River into Montague. The pipeline path would cut through High Point State Park and connect with existing pipelines in Wantage.

Beverly Budz, vice chairman of the Vernon Township Environmental Commission, raised concerns at the Aug. 17 meeting over the impact the pipeline work will have on the state park as well as current issues rising out of the ongoing pipeline work that is cutting through Vernon.

"I have walked the pipeline worksites that were only supposed to use a minimum of 30 feet to install the pipe, but I measured 200 feet at parts," Budz said. "They use the word minimal a lot. But we are talking about the loss of trees and damage to our wetlands. How do you put a price on this?"

Judeth Yeany, the chief lawyer for the state Department of Environmental Protection's Legal Services and Stewardship Division, has said the state will get between \$7 million and \$8 million for the lease of more than 30 acres in three state parks affected by the pipeline project.

This revenue will be funneled into the general budget of the state park system's operational accounts, Yeany said. The proposed lease agreement will require Tennessee Gas to purchase 120 acres that will be added to state Green Acres rolls as a replacement for the land taken from the state parks.

However, the additional acres are not required to be adjacent to High Point State Park.

According to a Rutgers University study on the economic impact of the pipeline expansion project, the construction of the pipeline will bring 695 jobs into New Jersey for the three years the project is expected to run. The state will see an additional \$63 million in revenue through increased retail sales and tax revenues the project brings with it.

The Tennessee Gas pipeline Northeast Upgrade Project, which, when complete, will allow an additional 636,000 dekatherms per day of natural gas (enough to supply electricity to about 10,000 homes) to be transported along Tennessee's 300 Line in Pennsylvania, and delivered to the expanded Mahwah Meter Station in Bergen County, to growing markets in the Northeast.

According to the Tennessee Gas Pipeline Co. website, in early 2010, Chesapeake Energy Marketing Inc. and Statoil Natural Gas LLC contracted with Tennessee Gas for the additional capacity to be provided by Nov. 1, 2013. Without the proposed Northeast Upgrade Project facilities being constructed, the company could not meet this need.

The Northeast Upgrade Project is expected to cost approximately \$400 million with a majority of the capital spending occurring in 2013.

If you want to comment

To Submit Written Comments Before Sept. 30; mail a typed copy to:

Kevin E. Koslosky

Bureau of Legal Services and Stewardship Green Acres Program

Department of Environmental Protection

Mail Code 501-01

P.O. Box 420

Trenton, New Jersey

08625-0420

609-984-0631

kevin.koslosky@dep.state.nj.us

**From:** Georgia P Van Giezen <georgia.vangiezen@basf.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/28/2011 10:11:57 AM  
**Subject:** Re: Proposed Conveyance (Lease) of State-owned Lands in High Point State Park (Montague Township, Sussex County),

In response to yesterday's article in the NJ Herald, I would add comments as follows: Regarding the creation of jobs, we have seen these projects before where the out- of-state, for profit company, brings in out-of-state workers (one currently on trial for murder in Vernon) and sure, they need a place to stay and they need to eat - but aren't we overstating the retail revenue? These are not the go shopping or dinner and a movie crowd. If NJ residents are offered any employment, it tends to be the low paying, temporary positions.

Regarding the pipeline itself, since NJ is against fracking, why are we then supporting the very same because it will be done (under much citizen protest) in neighboring PA and NY? There are many unanswered questions here, and the biggest one may be - why would Tennessee Gas make such a deal with NJ if it did not stand to make huge profits? It is like the big oil companies - take the risk and pay the fines or lawsuits (delay, delay, delay) later - there are making millions or billions in the meantime. Whomever negotiated this proposed deal on the NJ side needs to talk to a sharp, progressive team of attorneys. This deal STINKS, and NJ DEP would be giving away (dirt cheap- no pun intended) our beautiful, and absolutely irreplaceable parkland.

Please, we beg you, say NO!!!

**From:** Alma Dhuyvetter <adhuyvetter@metroymcas.org>  
**To:** "Kevin.Koslosky@dep.state.nj.us" <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/28/2011 2:25:04 PM  
**Subject:** gas pipe

Please do not allow these looping gas pipes to run through our beautiful State Parks and through our beautiful farm home land. This is a disgrace to the environment to the wild life and to those who live here! Stop the pipeline!

Alma Dhuyvetter  
Health and Wellness Director

Sussex County YMCA  
15 Wits End Road  
Hardyston NJ 07419

973-209-9622 Ext 208  
Fax 973-209-1483  
[www.sussexcountyyymca.org](http://www.sussexcountyyymca.org)<<http://www.sussexcountyyymca.org>>

The Y: We're for youth development, healthy living and social responsibility.

P Please consider the environment before printing my e-mail

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**From:** <loveless.scott.e@gmail.com>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/28/2011 5:40:06 PM  
**Subject:** Proposed Lease of State Property to Tennessee Gas Pipeline Company for the Northeast Upgrade Project (NEUP)

Dear Mr Koslosky

I would just like to let you know that I feel the state should not grant permits for the pipeline expansion in High Point, Long Pond Ironworks, Ringwood and Ramapo Mountain State Parks.

Furthermore, a better / broader effort for communication with the public should be made before matters such as these are moved forward, and this case in particular where there zero benefit to the State of NJ, a massive communication effort should be made.

Sincerely,

Scott Loveless.

**From:** "Beverly Budz" <bbudz@warwick.net>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/28/2011 11:19:23 PM  
**Subject:** FW: TPL and Vernon

Kevin,

I spoke at both Montague and Ringwood and I listened carefully to what was presented to the public and I must say that seeing first hand the destruction that Vernon is enduring I am highly concerned for any lands in the paths of this pipe line and the DEP should be also. I have photographed 100's of pictures of lack of soil retention, oil in major water sources from the machines leaking, 100's of fragments of splintered railroad ties laying in wetlands, garbage laying around the work site areas even used toilet paper from workers to lazy to enter the port a potties. Wawayanda State Park is a mess a disgusting mess it smells, the wetlands are most definitely contaminated with all sorts of outside particulates, how does the DEP feel about what is going on, and what will be going on, and is 7.8 million enough compensation for a lifetime of devastation, and why is El Paso paying only for 75 feet of pipe line and right away, what about the other 100 feet they clear cutted, they only pay rent on that for 8 months while they are physically messing up our town, then they throw down a little seed and walk away leaving a scar in our State Park that will never heal, maybe they'll come back once in a while to make sure the seed weed mix they laid down to replace the 100 foot oak tree they harvested for profit is doing ok, seriously talk about taking it in the neck what is wrong with New Jersey, it is not living up to it's reputation of being the greediest state in the country, or is that only when they are taxing the public, how about making El Paso pay for the entire 200 feet X 7 miles they cleared from Wawayanda State Park for 25 years, that would up the bill quite a bit and lord knows New Jersey could use the money. Maybe there is a bigger picture here, New Jersey may be standing true to the other reputation it has so justly been given, as being the most corrupt State in the country, that is the only reason to let El Paso commit such arborside to our beautiful forests and to let them off so dirt cheap, get it together DEP does the P still stand for protection or maybe Personal Profit without the public knowing. The public is now watching the NJDEP with wide eyes and I can tell you it is not looking good from here.

Bev Budz

201-919-1787

bbudz@warwick.net

**From:** Debbie Brick <debbrick@gmail.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/29/2011 1:03:28 PM  
**Subject:** Public comment on natural gas line

\*Dear Mr. Koslosky:\*

\* I am writing to oppose the additional gas pipeline being proposed that will traverse four New Jersey state parks. The natural gas company admitted during the public meeting held in Montague that they have had explosions in the past. This past year another gas company was responsible for a deadly explosion in California. The pipeline in California was 30 years old. I understand that the pipeline that already exists through our parks was installed in the 1950's making it over 50 years old and no one seems concerned as to whether that old pipeline has been inspected and is not leaking gas into our rivers and streams right now or whether it could explode. And now the gas company wants to place more gas lines through our parks. I find it incredible that a state environmental agency is giving away our most precious green land to a commercial enterprise with very little consideration of the millions of people who have visited and will visit that land over the years. New Jersey has a checkered history of toxic industrial projects and now corporate interests are trumping the people's interest in one of the last beautiful places in New Jersey, the northernmost area parks. \*

\* Additionally, the gas going through this pipeline is from fracking in Pennsylvania and those areas are already despoiled with water contamination. This pipeline is not in the long term best interest of the people and wildlife of New Jersey and should be stopped. \*

\* Regarding the relatively small amount of money that is being charged to this multibillion corporation, it will not cover the cost of their negligence with our parks. They have already shown little regard for our environment when they were surprised at the rainfall and didn't prepare adequately for runoff. They do not live in New Jersey and care little for our state except as a highway for their gas. Their interest is to make billions and they don't care who they sell this gas to on the world market. So it could end up that the main beneficiary of this project is not New Jersey or its people but rather China. I respectfully ask that you live up to your name and be a good steward of New Jersey's environment!\*

\* \*

\* Sincerely,\*

\* \*

\*Deborah Brick (973-948-6808)\*

**From:** S Maryann Agnes Mueller <smaryann@feliciansisters.org>  
**To:** "Kevin.Koslosky@dep.state.nj.us" <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/29/2011 3:21:02 PM  
**Subject:** oppose pipeline expansion

I oppose the expansion of the gas pipeline through New Jersey and specifically High Point, Ringwood, and the Ramapo State Parks. Could you please redirect the funds and resources to developing clean energy such as solar and wind.

Sister Maryann Agnes

Justice and Peace Coordinator

Our Lady of Hope Province

"You must be the change you want to see in the world."

Gandhi

**From:** Lola Cheski <lolacheski@verizon.net>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/29/2011 5:25:33 PM  
**Subject:** pipeline expansions

Attention:

I hope that the state does not grant permits for the pipeline expansion in High Point, Long Pond Ironworks, Ringwood and Ramapo Mountain State Parks!

It is a disgrace with what was permitted at Wawayanda State Park and I am disgusted that the public had no input.

Lola Cheski



**From:** "Robert W Simpson" <robertwsimpson@verizon.net>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/29/2011 6:21:34 PM  
**Subject:** Re: Docket No. CP11-161-000

Dear Mr. Koslosky:

I am writing as a concerned citizen of New Jersey and as an environmentalist -- which we all should be as our environment very much determines how we live, how long we live, and the condition of our existence on this planet.

The issues on and around hydraulic fracturing, or "fracking", seem to be stirring the public of late, and for just reason. Yes, I admit, that not until I saw a segment of the film/documentary "GasLand", did I have any contact with "fracking"; my efforts to save the planet were concentrated "above ground". Having seen that documentary and having discussed the possible ramifications with a number of people, I have come to some very logical conclusions: we don't need it, we can't accept the risks involved with it, and we can't afford it.

I am sure I am not the first to raise these simple objections, but I would like to add some logical insights that may not get enumerated often, if at all:

Historically, the human race occupied and used the environment basically "on or above ground level", as did most of the other animal species. Somewhere along the way, we -- humans -- decided we had certain "rights" over other animals (less smart than we--maybe). Among those rights was the ability to dig below the surface and find materials that we could use to our benefit (we didn't care about the rest of the living world). In a further human "development" we declared that certain entities had the right to "own" portions of the land's surface, and material (especially "minerals") below ground level. (I don't know from what power that ownership "right" came, but certainly it was not from the native Americans, and certainly not God!) I would declare -- without any proof to the contrary -- that the "right" to own "mineral rights" is really non-existent -- a creation of someone's imagination about something he, himself, did not have a "God-given" right to! The same goes, basically, for water, and for air. Indeed, I believe according to the native Americans -- and I agree -- we can use and share what Mother Earth provides, but we do not own it -- not the river or the air or the land.

This brings us to an environmental realism of the current era: We -- all the people of the earth -- have a responsibility to respect and protect the earth (and what's below it), the water (everywhere), and the air we and other species breathe. No matter in what form, or from what source these

basic, life essential entities come to us -- or pass over or under or around us -- we have a responsibility to protect them and preserve them so they can be used and reused by every future generation.

Bottom lines: The evidence that already exists concerning "fracking" -- some of which was presented in the movie GasLand -- indicates that hydraulic fracturing, as it has been practiced so far, has too many unanswered questions about its safety to human beings, other animal species, the ground water and the surface land around the wells. Further, the failure of the natural gas companies to be required to abide by the federal clean air and clean water acts -- that in and of itself is a clear "red flag" that these companies "may" engage in practices that "may" be harmful to our air and water, the failure of the companies to "come clean" with a list of all the ingredients the drillers inject into these wells, and the obvious -- but seldom mentioned reality -- that we have no idea what "devils lurk in the details" beyond what have been exposed so far -- this all should make it clear that "fracking" should be stopped immediately and prohibited from occurring in NJ.

Further, the expansion of pipelines that appears to be intended to bring "fracking gas" from other states through New Jersey to our NJ and/or NY ocean ports has multiple negatives: disruption of our already limited natural land and resources, and, apparently, for the purpose of selling it "overseas". At a time when "energy conservation" is a big topic, some people will ask why we would destroy and/or sell off our natural resources. Obviously, there will be a lot money made from this project, but not by the poor; they will see their neighborhoods altered and endangered. What we and the rest of the world need is "renewable energy". Natural gas may be a necessity in the future; why deplete it now?

Another unanswered question -- one that we can't answer now -- is: What effect(s) is "fracking" and all the other deletion of underground recourses causing our planet? Will it/they have any effect on earthquakes? (some evidence says "yes"), other geological disturbances within the earth? Why add to the "unknown chance". And what about this issue of "endocrine disruption"?

And finally -- thank you for reading, so far -- one of the points that I have not often heard raised is the physical danger of terrorist activity. With all the visible oil tanks in our state, why would we want to bring in more natural gas to these same ports? It boggles the mind -- at least my mind.

Therefore, and in closing, I sincerely request that the State of New Jersey reject: any gas produced by "hydraulic fracturing" from being produced in the State and/or being delivered through or being sold within or from the

State of New Jersey, and reject the enlargement of current gas pipelines in NJ.

Thank you for your kind attention,

Robert W. Simpson

Brother Sun Solar

224 Mohawk Trail

Wayne, New Jersey 07470

973-835-2694

Re: CP11-161-000

**CC:** <robertwsimpson@verizon.net>, "Jackie Schramm" <Jschramm@stmarys-pompton.org>

## **Kevin Koslosky - Pipe line in bergen Co**

---

**From:** budfeder <bfeder@verizon.net>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/29/2011 10:02 PM  
**Subject:** Pipe line in bergen Co

---

**This is to express my opposition to the proposed pipeline, at least in its current configuration.**

**Thank you**

Bud Feder  
H: 40 Beach St, 1R  
Bloomfield, NJ 07003-3593  
T: 973-680-0475  
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*The most important thing in one's life is friendship....A. Lincoln*

**From:** "A.B." <ab1759hist@gmail.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/29/2011 11:28:49 PM  
**Subject:** DEP public comment submitted

Mr. Koslosky,

The attached will also be sent by mail = re: the El Paso Corp.'s Northeast Upgrade Tenn Gas Pipeline project and its planned lease of NJ State owned property.

Alicia Batko

P.O. Box 1341  
Montague, NJ 07827  
Sept. 29, 2011

Kevin E. Koslosky  
Bureau of Legal Services and Stewardship Green Acres Program  
Department of Environmental Protection  
Mail Code 501-01  
P.O. Box 420  
Trenton, New Jersey 08625-0420

Dear Mr. Koslosky:

I was in attendance at the public hearing in Montague and voiced personal concerns about El Paso's Northeast Upgrade project anticipated impact on High Point State Park – without being aware a written script was preferred. In reading the transcript of that sate, as posted online

[http://www.state.nj.us/dep/greenacres/pdf/aug\\_17\\_2011\\_hearing\\_transcript\\_montague.pdf](http://www.state.nj.us/dep/greenacres/pdf/aug_17_2011_hearing_transcript_montague.pdf), it appears the Court reporter hired by El Paso did not report verbatim what was indeed stated. I am known to speak in a soft-spoken manner, and possibly the mike was not sensitive enough to pick my comments up accurately. The comments as recorded are, in some parts, neither of my usual manner nor style of speaking. I would also not have reason to make mention of Ringwood Park, as noted on page 114. I had stated that land has been added to High Point State Park's jurisdiction which is not immediately contingent to the park itself. It is also Kuser Mansion – not Couser [page 113] – but that term is phonetically correct.

Although we all trust that the recent reoccurring rainstorms will abate, we have read many reports of damages which such unexpected downpours had wrought along the currently underway 300 Line project.

<http://www.njherald.com/story/news/082911greatgorgemud-clone> ;” In West Milford, where mud or sediment spilled into Lake Lookout, Wheatley said the company estimates it will spend a year pumping out the "siltation" or muddy sediment until the lake is clear again.” [http://www.strausnews.com/articles/2011/08/28/advertiser\\_news/news/10.txt](http://www.strausnews.com/articles/2011/08/28/advertiser_news/news/10.txt); [http://www.northjersey.com/news/127920983\\_Heavy\\_rains\\_force\\_mud\\_into\\_pristine\\_lake.html](http://www.northjersey.com/news/127920983_Heavy_rains_force_mud_into_pristine_lake.html); <http://www.riverreporteronline.com/news/14/2011/09/21/pipeline-problems-persistfrustration-mounts>.

Any similar rain or snow melt runoff and related soil erosion will damage nearby classified streams.. particularly those stocked for trout fishing - which thus impacts communities downstream. You could not easily clear out mud that might be directed into these mountain streams from any pipeline project runoff.

On page 115, I addressed the fact that the project will cross two Natural Heritage areas: Mashipacong Bog and Sawmill Swamp. The very explanation of what they are states that: "The Natural Heritage Priority Sites Coverage was created to identify critically important areas to conserve New Jersey's biological diversity, with particular emphasis on rare plant species and ecological communities."... "Although the primary focus of these sites is rare plant species and ecological communities, the DEP Endangered and Nongame Species Program also provided key information and assisted with the delineation of a number of the sites that encompass significant habitats for rare animals. These areas should be considered to be top priorities for the preservation of biological diversity in New Jersey. If these sites become degraded or destroyed, we may lose some of the unique components of our natural heritage." Yet the applicant counters *Note: No federally or state-listed species (including plants) were identified in field surveys on either property.* Slide 19 at [http://www.state.nj.us/dep/greenacres/pdf/sept\\_7\\_2011\\_tennessee\\_pipeline\\_presentation.pdf](http://www.state.nj.us/dep/greenacres/pdf/sept_7_2011_tennessee_pipeline_presentation.pdf)

High Point Park was donated to the people of the State of NJ for their enjoyment and was intended to remain generally undisturbed. Any 4 to 1 mitigation does nothing to help assure that. I would also ask for greater remuneration to compensate for the permanent change to the overall grounds of the all the parks affected.

The Appalachian Trail is hiked locally year-round, and connects with some of the park's own trails. Loss of visitation, due to the pipeline project presence in the park and of the AT, will affect surrounding communities and businesses which depend on tourists. The expanded right of way will also negatively contribute to the immediate, sustained loss of natural habitat.

The state park budgets have been severely cut back, and while some might welcome the influx of money into state coffers – I would wish to qualify my previous comment at the hearing and ask that any such funds received from this lease be specifically earmarked for special projects at the state parks being directly affected – which cannot be addressed through their normal yearly budget allotments.. and that it in no way it serve to lessen the amount they are to receive via their regular yearly budget from the state.

A concern I did not address at the hearing was the potential impact of industrial and logging grade vehicles on the roadways leading to and within the park. Passenger cars are not of similar weight, and repetitive access to the work areas will further damage roads that are in need of attention. Will El Paso foot the bill to replace damaged asphalt roadbeds - be they state, town, or park roadways? Being that the work area as shown was in some segments nowhere near any park road [most of which are narrow to begin with] how will this affect the total anticipated impact.. as the company may have to still establish other ingress/egress routes?

Recently, around Sussex County, the aftershocks of an earthquake located father away were felt. There are faults lines in the northeast – and if there was ever was a more localized tremor, what safety measures would be already in place if the line were ever to rupture? My preference remains towards the greater development and more widespread use of renewable energy.. so I do not condone any project that not only affect our unspoiled environment, but

which may be used as a vehicle to transport highly controversial hydrologically fracked natural gas which has potential to have serious environmental repercussions as is.

No money can adequately compensate for permanent damage to the environment. – which I do not consider “progress”.

Alicia Batko



**From:** Camille Gaines <camillek@optonline.net>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/30/2011 9:51:17 AM  
**Subject:** Opposition to the Pipeline to the expansion of the Tennessee Pipeline

I am greatly opposed to the expansion of the Tennessee Pipeline altogether.  
An especially as it is going through Ringwood state park etc.

NO MORE PIPELINE EXPANSION!!!!!!!!!!!! IT HAS DONE ENOUGH DAMAGE!!!!!!!!

Camille Gaines

**From:** "Nicole Dallara" <Nicole.Dallara@sierraclub.org>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/30/2011 11:58:22 AM  
**Subject:** Proposed Diversion of State Parkland for the Tennessee Gas Pipeline Northeast Upgrade Project

September 29, 2011

Kevin E. Koslosky

Bureau of Legal Services and Stewardship Green Acres Program

Department of Environmental Protection

Mail Code 501-01

P.O. Box 420

Trenton, New Jersey

Re: Proposed Diversion of State Parkland for the Tennessee Gas Pipeline Northeast Upgrade Project

Dear Mr. Koslosky,

The New Jersey Chapter of the Sierra Club has significant concerns with the proposed diversion of state owned park land in High Point, Long Pond Ironworks, and Ringwood State Parks to Tennessee Gas Pipeline (TGP) company for their proposed Northeast Upgrade project. These portions of Northern New Jersey are some of the most environmentally sensitive areas and most important lands for water supply in the state and the Green Acres program has worked hard over the past sixty years to preserve these State Parks for the enjoyment of the public and to preserve the habitat, water supply, and biodiversity values of the region. The proposed diversion of publically owned land to TGP for this project goes against the Green Acres program goals of recreational use and conservation.

Since this pipeline has to cross the Appalachian Trail, Delaware River Wild and Scenic and the Delaware Water Gap there should be no movement for New Jersey approval until there is federal approval. We are concerned that they may not get these approvals leaving a useless scar on these lands. They will also need federal approval for any lands in New Jersey that was purchases by Land and Water Conservation funds since it is prohibited to divert those lands without approval. We want a list of all those lands and without those approvals this pipeline should not go forward.

A landmark US Supreme court case the Sierra Club v. New York State Power Authority regarding diverting lands that were bought through Land and Water Conservation funds.

Before considering this diversion the DEP must determine if the project is even needed and there is no other alternatives that will not cause as much damage to our public lands. An alternative route must be identified to avoid the diversion of park lands. The company's proposal heavily targets public land. Fifty percent of the Northeast Upgrade is located on lands that were preserved using Green Acres funding. Alternative routes that completely avoid state parkland, such as running the pipeline adjacent with Route 80 should be examined by the FERC and DEP. We need to look to see if there are contracts in hand by TGP that the gas is bought or if it is a speculative pipeline. If a speculative pipeline than New Jersey should not be diverting lands.

This diversion application is premature as the company has yet to receive any approvals from the Federal Energy Regulatory Commission (FERC). The company has not presented any realistic alternatives to avoiding state parkland, simply routes that traverse other portions of state-owned land. The impacts this project will have on our state parkland will violate the public trust with no public need or public benefit and we urge the Green Acres Program to deny TGP's diversion request.

This diversion is too premature and there needs to be a Historic Site Impact Analysis on the impacts on the historic sites and view sheds. The Ringwood Manor, a National Historic Landmark and its view shed is supposed to be protected not only by the Park Service, but by Hewitt Will that is part of the deed. New Jersey has to uphold the Hewitt Will since the deed restrictions are part of the donation of that property to the state of New Jersey. This pipeline is also going through a National Historic Landmark district in Long Pond and Ringwood where proper National Park Service reviews need to be held as well.

There needs to be a needs assessment as natural gas demand has remained constant, if not dropping in some sectors. All alternatives need to be analyzed to determine if this is really the best place for the project. Allowing this diversion for an unnecessary gas pipeline violates the public trust.

The company is offering the state more money than it did for its 300 Line Project which is currently under construction in Wantage, Vernon, and West Milford, however we are still concerned with the diversion of any public land for fossil fuel energy projects. The project will destroy critical habitat, stands of forest, and water supply watersheds on land owned by all of us. There needs to be approval from Highlands Council and DEP for the impact on the streams and wetlands in the Highlands. For the last project TGP originally negotiated a \$45,000 lease with the DEP that was raised to \$140,000 by the State House Commission. The compensation offer has gone up as TGP will be offering the state \$7.84 million to lease the land, but there will be permanent impacts to our public lands from this unneeded project.

The Sierra Club is concerned as the proposed compensation is only for the lease agreement and details on replacement land are not outlined. The latest report from DEP does not clarify if a cap will be placed on the amount the company can spend on these new parcels as was done for the 300 Line Project. For that project, TGP negotiated with the DEP to spend no more than \$7500 an acre on replacement land and could cash out at \$7500 an acre if land is not purchased within 2-3 years of the company's lease agreement. Recent Green Acres purchases in the area of the TGP project have cost well over \$7500 an acre. The Woggish parcel next to the pipeline and Long Pond Ironworks State Park was purchased for \$41,000 per acre in 2009. TGP will not be able to purchase high quality upland forests to mitigate the impacts of this project with a \$7,500 per acre cap in place. We urge the Green Acres program to remove

such a monetary cap from the mitigation commitments and require the company to identify parcels for purchase prior to the diversion of state owned land if the project is approved.

TGP cannot adequately mitigate for the destruction of habitat and loss of these public lands because they cannot be replaced. There is nothing else like these lands in the state and buying other pieces of properties that are forested helps protect those tracts but does not make up for what is happening along the pipeline. We are very concerned that invasive species will be introduced along the pipeline as a result of construction, impacting local wildlife and plants. We are also concerned the project will impact groundwater quality and quantity and increase erosion and the amount of sediment entering our waterways.

There have been major erosion and sedimentation issues impacting waterways along the construction route of TGP's current project that is under construction, the 300 Line Project. Erosion problems are mounting at Lake Lookover in West Milford, which was heavily polluted after erosion control mechanisms failed during hurricane Irene. We are concerned as vast portions of both projects are in steep slope areas where erosion is hardest to control. Best Management Practices established by the Soil Conservation District only cut erosion impacts by 50% on flat land, and this percentage declines as the terrain becomes steeper. Siltation entering our water is the single largest source of parasite cryptosporidium in water supply and now TGP is proposing to go through the Monksville Reservoir on steep slopes. This could result in a serious, widespread public health problem as the parasite causes intestine infections and has resulted in deaths. The Green Acres programs must not allow for the destruction of our public lands through severe erosion as is occurring along the 300 Line project. Some of our worst fears have come true about the impacts to waterways with the 300 Line project and now TGP is asking to go through the most environmentally sensitive and largest water supply reservoir system in New Jersey. The DEP must deny this request.

This project puts a bullseye on New Jersey's open space and TGP must not be allowed to divert and pollute more of our public land. Instead the company should propose alternative routes that avoid our public open spaces. All alternatives that protect the public trust must be examined by the Green Acres program before the company is allowed to divert public lands. Under current state regulations, it's cheaper to put the pipeline on public property rather than private land and TGP is taking advantage of that and trying to push this plan through before there are any changes in Green Acres practices that would make leasing that land more restrictive or expensive.

These lands cannot be replaced or mitigated, for they are unique and irreplaceable. There is nothing like this area in the Highlands with its reservoir and streams anywhere in New Jersey. If this pipeline cuts and destroys these lands there can be no mitigation or replacement because these lands and all they have to offer are irreplaceable. We urge the DEP to deny these diversion requests and tell TGP to go back to the drawing board and outline a route that does not violate the public trust by destroying the resources of our public lands. The DEP must not allow this company to destroy our public land again while offering us little in compensation.

Sincerely,

Jeff Tittel

Director, New Jersey Sierra Club

**CC:** "jeff tittel" <jeff.tittel@sierraclub.org>

**From:** fi la <mppwr@yahoo.com>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/30/2011 2:48:07 PM  
**Subject:** Public Commentary: The Tennessee Gas Pipeline Expansion through Bergen County.

TO:  
 Kevin Koslosky  
 Bureau of Legal Services and Stewardship  
 Green Acres Program  
 Dept. of Environmental Protection  
 Mail Code 501-01  
 P.O. Box 420  
 Trenton, New Jersey 08625-0420  
 (609) 292-6579  
 Kevin.Koslosky@dep.state.nj.us  
 From: Margaret Wood , West Milford, NJ 07480  
 \*(board member of \*LUUF, Wayne, NJ)  
 \*

Regarding: The Tennessee Gas Pipeline Expansion through Bergen County.

I submit the following public comment in opposition to the Tennessee Gas Pipeline Expansion through Bergen County.

Fracturing fluids may be exempted from the Clean air, Clean water, Cercla, and other environmental regulations, at injection sites, due to the Energy Policy Act of 2005 as stated below.

#### ENERGY POLICY ACT OF 2005

#### SEC. 322. HYDRAULIC FRACTURING.

Paragraph (1) of section 1421(d) of the Safe Drinking Water Act (42 U.S.C. 300h(d)) is amended to read as follows:

“(1) UNDERGROUND INJECTION.—The term ‘underground injection’—

“(A) means the subsurface emplacement of fluids by well injection; and

“(B) excludes—

“(i) the underground injection of natural gas for purposes of storage; and

“(ii) the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities.”.

But SEC 322 only allows fracturing “FLUIDS” that are “INJECTED” “UNDERGROUND” “for the purposes of METHANE STORAGE” or “fracturing operations” to be exempt.\* It does not allow vapors or off-gassing to be exempt.\* Vapors are not FLUIDS.\* Vapors rise and do not remain contained underground, and therefore are not exempt as they may seep into the atmosphere where they will no longer be underground.\* Clearly vapors are not exempt. Also gaseous Methane is not exempt.\* Even liquid methane is not exempt\*if it is not residing in an underground injection\*storage facility.\*

This pipeline is not a fracturing operation, nor is it a storage facility\*and therefore it is not a location that is exempt, nor is it one of the operations that are exempt.\* It is an operation, but not a fracturing or storage operation. Only injected fracturing and storage\*operations are exempt.\* Only the underground wells where the fluid is injected are locations that are exempt, because this is the location where the fracturing operation takes place,\*or underground injected liquid storage facilities.\*\*By the time the gas enters this pipeline, the fracturing operation is over.\* The Tennessee pipeline is not part of fracturing operation and therefore is not an exempt location.\* The Tennessee Gas pipeline is not part of an underground liquid storage facility, and it therefore is not an exempt location.

Dr. Anthony Ingraffea, and Dr. Theo Colburn have stated that some of the fracking fluids will emit vapors that will combine with the gas.\* This gaseous, vaporous mixture will be transmitted through the Tennessee Gas Pipeline.\* I have already submitted Dr. Theo Colburn’s report, “Natural Gas Operations from a Public

Health Perspective".\* She said that the molecules in these vapors are subject to regulations when they are in parts per millions.\* So even very small amounts of these vapors in the pipeline need to be regulated.\* Also the methane gas itself is a deadly gaseous element and must be regulated.\* I have already submitted the Hawthorne report, "Methane and Greenhouse-Gas Footprint of Natural Gas from Shale Formations".\* It says that 3% of this vaporous mixture will leak out through the pipeline.\* It will leak\*into our waters and up through our soil, eventually making it's way into our air.\* These vapors must be regulated along the entire length of the pipeline.\* Even the gaseous vapors that bubble up through our lakes and streams must be regulated.

\*

If you do not have the manpower or the funding to inspect and regulate the vapors emitted from this pipeline, then you must not approve it.\* To approve something that you know can be deadly, without properly monitoring it, amounts to a criminal act of negligence or manslaughter.

**From:** Jerome Wagner <jjwagner00@gmail.com>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/30/2011 2:34:22 PM  
**Subject:** Opposition to Approval of the Tennessee Gas Pipeline Project

Mr. Koslosky:

I strenuously oppose this project for several reasons:

1. the destructive impact that will be made in wilderness areas of the State;
2. the social investment that this represents in the carbon economy;
3. the need to forthwith focus wholeheartedly on moving from the carbon economy of the past to an economy based on renewable resources.

I will thank you for considering this opinion in rendering a final decision.

Respectfully, Jerome Wagner



**From:** fi la <mppwr@yahoo.com>  
**To:** <Kevin.Koslosky@dep.state.nj.us>  
**Date:** 9/30/2011 3:25:24 PM  
**Subject:** The Tennessee Gas Pipeline Expansion through Bergen County - another public comment

TO:

Kevin Koslosky  
Bureau of Legal Services and Stewardship  
Green Acres Program  
Dept. of Environmental Protection  
Mail Code 501-01  
P.O. Box 420  
Trenton, New Jersey 08625-0420  
(609) 292-6579  
Kevin.Koslosky@dep.state.nj.us  
From: Margaret Wood , West Milford, NJ 07480

\*

Regarding: The Tennessee Gas Pipeline Expansion through Bergen County.

\*

I submit the following additional public comment in opposition to the Tennessee Gas Pipeline Expansion through Bergen County.

The following statement reflects my suspicions.\* I do not know if my suspicions are founded.\* My suspicions are not statements or fact and should not be construed that way.\* They are just my personal suspicions.\* If they are founded, then the Tennessee Gas Pipeline cannot be approved through Bergen County.\* If my personal suspicions are not founded, then they are meaningless.\* An investigation should be done to see if my suspicions are founded or not.\*

\*

Regarding "The Highlands Water Protection and Planning Act" :

The pipeline was permitted due to this statement:

\*

The specific portion of the proposed project in New Jersey would include increasing the capacity of the existing natural gas pipeline system through construction of approximately 17 miles of new 30-inch underground natural gas pipeline, which Tennessee Gas is proposing constitutes an upgrade under Exemption #11 of the Highlands Water Protection and Planning Act (Highlands Act).

[http://www.highlands.state.nj.us/njhighlands/about/calend/2009\\_meetings/tgp\\_cdr\\_110609.pdf](http://www.highlands.state.nj.us/njhighlands/about/calend/2009_meetings/tgp_cdr_110609.pdf)

\*

I do NOT believe that increasing capacity was supposed to be allowed under exemption 11.

\*

Highlands Act Exemption (#11) states: "The routine maintenance and operations, rehabilitation, preservation, reconstruction, repair, or upgrade of public utility lines, rights of way, or systems, by a public utility, provided that the activity is consistent with the goals and purposes of the Highlands Act,"

Taken from: [http://www.stophelines.com/downloads/PR\\_Nov18\\_Highlands.pdf](http://www.stophelines.com/downloads/PR_Nov18_Highlands.pdf)

\*

This construction definitely is not maintenance.\* Increased capacity does not qualify as an upgrade in the view of the Highlands Water Protection and Planning Act.\* An upgrade would be a reduction in the risk posed by the one gas line that already exists.\* An upgrade would be a removal of that gas line and replacing it with green energy.\* This is TN gas pipeline expansion project is NOT consistent at all with the goals and purposes of the Highlands Water Protection and Planning Act.\* There is plenty of precedent, proving that expansion is not considered to be an upgrade.\* There is plenty of precedent to prove that expansion is contrary to the goals and purposes of the Highlands Water Protection and Planning Act.\*

\*

The very title of this act is: The Highlands Water Protection and Planning Act.\* It very name contains its primary purpose - Water Protection!\* Any change that increases the risk of the water becoming polluted is by its very nature contrary to the "goals and purposes of the Highlands Act."\* These pipes carry an

extremely toxic gas through our waters.\* They pose a great risk to polluting these waters, rendering them toxic and undrinkable.\* Expanding the capacity from one pipeline to two pipelines through our waters more than doubles that risk, because the new pipeline is bigger.\* (It's simple math.\* End of story.)\* I have heard a rumor that many members of the council who approved this pipeline seem to have had a conflict of interest because they were closely tied to the construction industry.\* \*I don't know if this is true.\* I am not stating that this is true.\* I am only stating that it was a rumor I heard.\* But I believe that an investigation should be done to determine if it is true.\* If it is true, then they should not have been eligible for these positions on the board and they should have turned down these positions.\* If it is true, then their decisions should be overturned.

**From:** <wilma@njconservation.org>  
**To:** "Kevin E. Koslosky " <kevin.koslosky@dep.state.nj.us>, "Judeth Yeany, Esq. " <judeth.yeany@dep.state.nj.us>  
**Date:** 9/30/2011 5:05:37 PM  
**Subject:** Tennessee Gas Pipeline Northeast Upgrade Project Comments

Date: September 30, 2011

To: Mr. Richard Boornazian, Administrator, Green Acres Program

Ms. Judeth Piccinini Yeany, Esq., Chief, Bureau of Legal  
Services and Stewardship

c/o Mr. Kevin E. Koslosky

Bureau of Legal Services and Stewardship

NJDEP Green Acres Program Code 501-01

P.O. Box 420

Trenton, NJ 08625-0420

Re: Tennessee Gas Pipeline Northeast Upgrade Project Comments

Dear Mr. Boornazian, Ms. Yeany and Mr. Koslosky:

Please find attached the comments of the New Jersey Conservation Foundation, supported by the New Jersey Highlands Coalition and the Association of New Jersey Environmental Commissions. Please do not hesitate to contact me with any questions. Thank you for the opportunity to comment.

Sincerely,

Wilma E. Frey

Senior Policy Manager

New Jersey Conservation Foundation

Bamboo Brook - 170 Longview Road

Far Hills, NJ 07931

908-234-1225x131 fax 908-234-1189

**CC:** "Eileen Swan " <Eileen.Swan@highlands.state.nj.us>, "Thomas A. Borden " <tom.borden@highlands.state.nj.us>, "Michele Byers " <michele@njconservation.org>, "Alison Mitchell" <alison@njconservation.org>, "Sandy Batty" <sbatty@anjec.org>, "Dave Peifer " <dpeifer@anjec.org>, "Julia Somers" <julia@njhighlandscoalition.org>, "Erica Van Auken " <erica@njhighlandscoalition.org>, "Emile DeVito" <emile@njconservation.org>



## New Jersey Conservation

F O U N D A T I O N

Bamboo Brook, 170 Longview Road

Far Hills, NJ 07931

Ph 908.234.1225 Fax 90.234.1189

[www.njconservation.org](http://www.njconservation.org)

September 30, 2011

**To:** Mr. Richard Boornazian, Administrator, Green Acres Program  
Ms. Judeth Piccinini Yeany, Esq., Chief, Bureau of Legal Services and Stewardship  
c/o Mr. Kevin E. Koslosky  
Bureau of Legal Services and Stewardship  
NJDEP Green Acres Program Code 501-01  
P.O. Box 420  
Trenton, New Jersey 08625-0420

Via email [kevin.koslosky@dep.state.nj.us](mailto:kevin.koslosky@dep.state.nj.us)

**Re: Tennessee Gas Pipeline Northeast Upgrade Project:  
Proposed Conveyance (Lease) of State-owned Lands in High Point State Park, Long  
Pond Ironworks State Park, Ringwood State Park, and Ramapo State Forest**

New Jersey Conservation Foundation, the New Jersey Highlands Coalition and the Association of New Jersey Environmental Commissions appreciate the opportunity to comment on the proposed 25-year conveyance (lease) to Tennessee Gas Pipeline of state-owned preserved lands for its proposed Northeast Upgrade Project, for purposes of constructing, installing and operating 30-inch diameter natural gas transmission "loops" for natural gas delivery.

Green Acres stated at the public hearings that "the question before us is whether we [Green Acres] would agree to the company's request to enter into this lease to use this property." Green Acres also stated that "we are not going to take a lease request to be approved by the Commissioner or State House Commission before the other approvals are in place..."

***Because of numerous factors, which we address below, we request that Green Acres deny the company's request to lease our state's precious publicly-owned park and forest lands for this extensive commercial project.***

Reasons to deny the lease request include:

1. Tennessee Natural Gas has not yet obtained a certificate of public convenience and necessity from the Federal Energy Regulatory Commission (FERC), and may not yet have even submitted a complete application to that agency. Although Tennessee Gas claims that its pipeline is to satisfy an “increasing” need for natural gas, various sources indicate that need remains in question, and that demand for natural gas has in fact decreased over the past few years. Furthermore, the gas from the proposed upgrade appears to be destined for customers outside of New Jersey, including shipment overseas, so New Jerseyans and their public lands will suffer the severely detrimental impacts of hosting the pipeline while receiving little or none of its claimed benefits.

2. Pending state legislation concerning the calculation of value for conveyance of certain State-owned lands, has not yet been enacted. S2467/A3789, approved by the Senate Environment and Energy Committee, was filed subsequent to Statehouse Commission public hearings on an earlier Tennessee Gas Pipeline project, as well as DEP stakeholder meetings on the compensation issue. It is important that this legislation is enacted and implemented by legally enforceable regulations prior to any further DEP approvals of utility right-of-way leases through our irreplaceable public lands.

3. The “New Jersey Interagency State Land Lease Valuation Panel Report,” triggered by an earlier Tennessee Gas Pipeline lease and issued in August 2011, was not provided any formal public review or comment period prior to its use on this current Tennessee Gas project. Nevertheless, it is currently being utilized by Green Acres and NJDEP as its framework for consideration of appropriate compensation to the State for the lease currently sought by Tennessee Gas. While the report includes a number of principles with which we concur, we feel that it does not include the full range of impacts on the State’s preserved lands and overall does not require adequate compensation for their use. We would appreciate a formal public comment period being opened on this document prior to its use and reliance for determining appropriate compensation values.

4. A standard per acre fee is not appropriate to apply to public lands leases, as values may vary substantially from place to place. There is no consideration for a range of values in the proposed fee structure. The proposed standard annual \$0.15 per square foot charge for upland corridor leases does not take into account variability in ecological values e.g. threatened or endangered species habitat; natural resource values, e.g. ground or surface water supply; forest values, historical, archaeological, recreational or scenic values.

5. Computing the lease fee based purely on the size of its footprint and lacking any input as to its conservation values, leads to unintended consequences. The per square foot pricing methodology has led to the proposed “giveback” by Tennessee Gas of 10’ of its existing Right of Way to the State. This is an effort by the corporation to reduce the cost of its lease. The existing ROW is an area largely devoid of conservation values, having been utilized by heavy construction machinery, mowed, perhaps treated with herbicides or other chemicals. Tennessee Gas has taken the square foot cost method to a conclusion which is logical from a profit perspective, but unacceptable to the public. The proposal should be rejected out of hand by DEP. The giveback proposal does, however, provide a concrete example of why pricing a lease

purely on the basis of the size of the area to be leased, without criteria or standards which modify the price based on conservation values, is inadequate to determine the appropriate values of this public land to the public.

6. The proposed per acre fee does not take into account serious impacts of the construction on important natural and cultural resource values that are **outside of and beyond the construction site itself**. Such impacts include increased forest fragmentation that destroys critical interior forest habitat conditions adjacent to the ROW and degrades habitat conditions for hundreds or thousands of feet perpendicular to the ROW. Construction noise adversely affecting wildlife behavior hundreds of feet or more away from the actual construction is not considered. Scenic and historic resources and viewsheds at some distance from the construction site itself can be permanently degraded.

There are long-term impacts of access route and ROW construction that are permanent and irreversible – soil compaction, the spread of invasive, non-native species of plants, pathogens and animals, and the permanent loss of public trust resources of native flora and fauna that can never recover within the permanently altered habitat. All this must be factored into the compensation equation.

Agencies cannot assume that restorative measures will succeed, as the record on restorative practices proves that restorative measures fail due to poor design and planning, poor follow-up, insufficient resources, deer browse, off-road vehicle impacts, drought, and weed invasive species capturing the site, ultimately resulting in a complete loss of the sensitive natural resource components that were originally present.

Offsite impacts currently reported include that heavy precipitation on Tennessee Gas Pipeline's recent construction on the steep slopes of Hamburg Mountain State Wildlife Management Area and Bearfort Mountain in Wawayanda State Park, approved earlier by the State, has caused massive erosion, mudslides, siltation and degradation of public and private properties, including Category One waterways, lakes and ponds. Experience shows that attempts to repair this kind of damage are merely cosmetic. The loss of public trust resources can never be recovered, and the soil loss and disturbance will result in an irreversible compositional shift to weedy, unremarkable species characteristic of degraded ecosystems.

7. Tennessee Gas plans are nowhere near complete at this time, therefore it is impossible to accurately evaluate the impacts. The proposal is a moving target. For example, on Sept. 7 (transcript pg. 30), Green Acres states: "not knowing what the temporary work space numbers might be yet..." Also, pg 41, Tennessee Gas states "when our permanent application goes in..." As of September 7, additional permit applications required by the State, e.g. land use regulation, wetlands, stream crossing, flood hazard, stormwater management, State Historic Preservation Office, etc. - had not been submitted. Trails plans are also not yet available.

8. The definition of "temporary" needs to be revised to address the **serious long-term and permanent impacts of access roads and construction sites** that are used for limited periods of time. These impacts include soil compaction, forest fragmentation, degradation of critical habitat, long term impacts on wildlife, vegetation and populations of threatened and endangered species, spread of invasive species, and scenic and recreational impacts.

Disturbance and compaction to pristine soils resulting from the use of heavy equipment simply cannot be recovered by mechanical methods and planting. Soil horizons and pore spaces within the soil which ultimately dictate habitat type and quality, take thousands of years to

develop, and cannot be re-created. The full assemblage of sensitive native species that occur on the public parkland before construction cannot be recovered by seeding and planting – sources do not even exist for most of the species lost during the alleged “temporary” disturbance, and the species cannot re-colonize because the environmental conditions they require are no longer present. From the standpoint of the full realm of public trust resources initially present, the concept of a “temporary” disturbance, where ALL public trust resources are fully recovered, is scientifically and ecologically indefensible.

9. There must be a thorough evaluation by NJDEP and the North Jersey District Water Supply Commission of the proposed Project’s impact on the Monksville Reservoir and NJDWSC’s Wanaque Reservoir System, prior to any decision to lease. This reservoir system, the State’s largest, which supplies water to nearly two million people in densely populated northeast New Jersey, was already identified as under stress in the 2002 New York-New Jersey Highlands Regional Study Update. It is critical that it not be further degraded by the proposed NEUP Project. Tennessee’s current project crossing the Highlands is already degrading watersheds and Category One surface waters within adjacent watersheds. Impacts on the Wanaque System could potentially be enormous.

10. There must be a thorough evaluation by SHPO and appropriate federal agencies of the Project’s impact on the National Historic Landmarks within the Project area, including Long Pond Ironworks, Ringwood Manor and Skylands Manor, prior to any lease approval by Green Acres.

11. Should a lease be granted, Green Acres should require replacement land for impacts on “temporary work space” not only for blasting (as per pg. 30, Sept 7 transcript), but also for all additional long term impacts both on and off the site (see above). Further, there must be no \$7,500 per acre cap on cost of replacement land, as there was with the first Tennessee Gas agreement. This amounts to little more than the cost per acre of the proposed *annual* lease fee at \$0.15 per square foot (x 43,560 square feet = 1 acre = \$6534 per acre). Since the impacts being mitigated have been determined to be permanent, the total cost should *at a minimum* approximate the proposed lease cost per square foot and per acre over a 25 year lease period: 25 X \$6,534 = \$163,350. Divide by 4 to determine that a cost “cap” for 4:1 replacement lands should be **no less than** \$40,837 per acre. Unfortunately, the four to one replacement land requirement has lost some of its public value, as lands comparable to our existing state parklands are rarely, if ever, available anymore in New Jersey.

12. Finally, and most importantly, the public park and forest lands that Tennessee Gas wishes to traverse are simply not replaceable. Most of the undeveloped land in northern NJ has already been cut into ever smaller parcels, separated by roads and subdivisions. The state, including both the public and private sectors, have spent years of effort and many millions of dollars protecting these parklands, through private donations, taxes, the federal Land and Water Conservation Fund, Green Acres, the Garden State Preservation Trust, and the efforts of state and local governments, private land trusts and private individuals. *These lands are irreplaceable.* Our state parklands should be *off limits* to development.

Every means should be employed to encourage Tennessee Gas and other utilities to find other corridors for their pipelines, for example, along transportation corridors such as I-80 and Route 17 across New York State. Alternatives such as these should be seriously considered, as



well as the “no build” alternative. The price exacted for commercial enterprises to traverse our public parklands should be set high enough that other alternatives are more than competitive.

Thank you for the opportunity to comment.

Sincerely,

Wilma E. Frey  
Senior Policy Manager  
New Jersey Conservation Foundation  
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Alison E. Mitchell  
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Signatories:

New Jersey Highlands Coalition – Julia Somers, Executive Director  
Association of New Jersey Environmental Commissions – Sandy Batty, Executive Director

Cc:

Eileen Swan, Executive Director, New Jersey Highlands Coalition  
Tom Borden, Deputy Director and Counsel, New Jersey Highlands Coalition  
NJDEP Land Use Regulation  
NJDEP Endangered and Nongame Species Program  
NJDEP Natural Heritage Program  
State Historic Preservation Office  
North Jersey District Water Supply Commission

**From:** Renee Allessio <rballlessio@hotmail.com>  
**To:** <kevin.koslosky@dep.state.nj.us>  
**Date:** 9/30/2011 10:16:29 PM  
**Subject:** Tennessee Gas Pipe Line Northeast Project

29 September 2011

Mr. Kevin Koslosky

Bureau of Legal Services and Stewardship

Green Acres Program

Dept. of Environmental Protection

Mail Code 501-01

PO Box 420

Trenton, New Jersey 08625-0420

Dear Mr. Koslosky,

My comments are in response to the proposed Northeast Upgrade Project of the Tennessee Gas Pipe line and as a resident of Passaic County.

The entire Borough of Ringwood and The Township of West Milford are in the Highlands Preservation Area as designated by the New Jersey Highlands Water Protection and Planning Act of 2004. Residents of both these towns depend almost entirely on EPA Region 2 sole source aquifers and utilize either public or private wells for drinking water with a small percentage of the population relying on reservoir water. This area contains two valuable and major reservoirs, the Wanaque Reservoir and the Monksville Reservoir. Millions of residents of New Jersey receive their drinking water from this region. The forests surrounding these reservoirs are there to protect and keep clean both the ground and surface water of the region. The New Jersey Highlands Water Protection and Planning Act became law in 2004 to protect the natural resources

of the Highlands, especially the water.

Many

people worked hard to create a law that would protect the drinking water for future generations. This area is one of the most environmentally sensitive, if not the most sensitive in New Jersey. The existing gas pipe line was built prior to the construction of the Monksville Reservoir and before strict restrictions against disturbing environmentally sensitive lands in this region became law. A new gas pipeline that will clear cut many acres of forests, digging through rock and disrupting land, going through or under streams, lakes, and a major reservoir cannot be considered within the intent of the law. In November 2009, the only Passaic County representative on the Highlands Council, former Freeholder, Director Tahesha Way voted against approving the 300 Line Project exactly because she believed an upgrade could possibly have damaging consequences to the Highlands.

Please

read the Highlands Water Protection and Planning Act excerpts below. The 300 project should never have been passed. Currently, the 300 project has caused considerable damage in Vernon and West Milford. This expansion has included clear cutting additional trees from the forest and removing all vegetation, disturbing areas much larger than the existing pipeline buffer. Many of these areas are also clearly on steep slopes with grades of 20% or more and/or are within less than a 300 ft buffer of Highlands open waters. When the heavy rains flowed onto an open area that had no vegetation to prevent erosion, an area with well over 20% incline and less than 300 ft away from Lake Lookover in the Upper Greenwood Lake section of West Milford, soil and sedimentation flowed into that lake. The brown dirt has migrated into Upper and Lower Mt. Laurel Lakes and also Upper Greenwood Lake as well. I know because I live in Upper Greenwood Lake. This is causing a negative impact on these lakes. They are expecting fish kill and change in the ecological makeup of these lakes. These are important lakes in West Milford. These community lakes are enjoyed as recreational spots for fishing, swimming and boating. The township has kept them healthy with septic and fertilizer laws. Then along comes the Tennessee Pipeline to destroy a beautiful natural area that people and wildlife call home. There is no one who isn't appalled as to what is happening in Upper Greenwood Lake. Please see attached photo. As far as Vernon, there were major mud slides right onto Route 94. I don't trust what these engineers will do next to the rest of the Highlands.

When I first heard about the Northeast project I thought that this was the same as the 300 Line project. There is after all only one gas pipeline that goes through this area. It appears that El Paso is completing this pipeline upgrade in segments with an application for each separate segment. Most people want to know why this entire Gas pipeline project which comes into this region; the 300 Line and the Northeast project wasn't proposed as one. In designing this upgrade The El Paso Company must have known what the long term projections were to complete this project. The review process, including environmental impact, is confusing and nontransparent for the average citizen. Of course El Paso knows all the loopholes. The Gas and Oil Companies have powerful CEO's and lobbyists with lots of money to push these projects through. If I knew in 2008 what the pipeline would do to West Milford I would have been more outspoken.

The people of New Jersey have always voted in support of open space and the Green Acres Program. It is taxpayer money that has kept New Jersey green with parks, farms and historic landmarks. We, the people, should have a say as to what happens to the state lands that the people paid for and maintain. The people don't want the Highlands torn apart for the profit of others. People coming out to the hearings have vocally opposed the pipeline expansion.

Furthermore, gas can leak and there is a safety concern about mixing blasting, an existing gas pipeline and trees. Pipelines are also a great target for people who would wish us harm. How secure are these pipelines? The monetary compensation for the pipeline easements are a pittance in comparison to the profits this company makes. Our Highlands and the water it protects are of much greater value to the people of New Jersey. We can't live without clean water and air.

"b.

The Highlands Preservation Area approval shall also require:

(1)

a prohibition on major Highlands development within 300 feet of

any

Highlands open waters, and a 300-foot buffer adjacent to all

Highlands

open waters; provided, however, that this buffer shall not

extend

into the planning area. For the purposes of this paragraph, major

Highlands

development does not include linear development for

infrastructure,

utilities, and the rights-of-way therefore, provided that there

is

no other feasible alternative, as determined by the department, for the

linear development outside of the buffer. Structures

or land uses in the

buffer

existing on the date of enactment of this act may remain, provided

that

the area of disturbance shall not be increased.....

(7) a prohibition on development, except linear development for

infrastructure,  
utilities, and the rights-of-way therefore, provided that no

other  
feasible alternative, as determined by the department, exists for the

linear  
development, on steep slopes with a grade of 20% or greater; and

(8)  
a prohibition on development that disturbs upland forested areas,

in  
order to prevent soil erosion and sedimentation, protect water quality,

prevent  
stormwater runoff, and protect threatened and endangered animal

and  
plant species sites and designated habitats.”

Also please note: The proposed project will cross or be  
within 0.25 miles of the following sensitive environmental areas.

EPA Region 2 sole source aquifers Highlands Basin  
Aquifer System and the Northwest New Jersey 15 Basin Aquifer

State designated Aquifer protection area-The Highlands  
Preservation Area as designated by the New Jersey Highlands Water Protection  
and Planning Act of 2004

Surface Waters that provide public drinking water  
supplies-The Monksville Reservoir and the Wanaque Reservoir

State surface water protection areas the Highlands  
Preservation Area as designated by the New Jersey Highlands Water Protection  
and Planning Act of 2004

There may be public and/or private drinking water  
wells, streams, creeks and/or springs in or within 300ft of the proposed  
alignment

The Department of Environmental Protection was created to protect the people of New Jersey and our valuable natural resources. We are counting on you to do just that.

Thank you for the opportunity to comment.

Sincerely,

Renee B. Alessio

PO Box 76

Hewitt, NJ 07421

973-853-7596

On a side note: I want to know why instead of weaning us off fossil fuels we would want to increase our capacity for more gas? Why do we continually subsidize big oil and gas and coal companies in our quest for more fuel that is dirty, unsustainable and dangerous to drill and mine. Natural Gas is not as Clean as the industry would like people to believe. The process of drilling for gas is highly polluting for both water and air. Hydro fracking is not regulated under the Clean Water Act, Clean Air Act and Safe Drinking Act.. And when something goes a foul, especially environmentally, the taxpayers always pick up the tab. The reason for the new upgrade is to increase the capacity to transport gas produced through Hydraulic Fracturing in the Marcellus Shale. The end user may not be Americans at all as the gas will be heading for the ports to be transported to other countries (The Economist Aug, 6, 2011) . The government should be doing more to study the effects on ground water in using this process. There needs to be a national moratorium on hydraulic fracturing until more safety studies are done and the bill in Congress called the FRAC Act (Fracturing Responsibility & Awareness Act) repealing exemptions should be passed before we continue hydro fracking and continue upgrading the gas pipeline which is built on the basis of this increased natural gas production . I also want to know why the government isn't doing more to subsidize and encourage more renewable energy; Clean energy from the sun, wind and water instead of drilling and digging for fossil fuels.

**From:** Kathleen Mary Caren <zonehenge@yahoo.com>  
**To:** "kevin.koslosky@dep.state.nj.us" <kevin.koslosky@dep.state.nj.us>  
**Date:** 10/1/2011 12:50:28 AM  
**Subject:** Proposed Northeast Upgrade project of Tennessee Gas Pipeline

16 Quince Tree Lane  
West Milford, NJ 07480

September 30, 2011  
Mr. Kevin Koslosky  
Bureau of Legal Services and Stewardship  
Green Acres Program  
Dept. of Environmental Protection  
Mail Code 501-01  
PO Box 420  
Trenton, New Jersey 08625-0420

Re: Proposed Northeast Upgrade Project of the Tennessee Gas Pipeline

Dear Mr. Koslosky:

First, I would like to thank you for taking the time to read these comments regarding the subject above. Having resided in West Milford (Passaic County) for nearly two decades, I am particularly concerned with the issue.

As you know, two municipalities (Ringwood and West Milford) are located entirely in the Highlands Preservation Area boundary, as outlined in the NJ Highlands Act of 2004. I, along with tens of thousands of local residents, receive drinking water from EPA Region 2 sole source aquifers, through small public or private wells. These municipalities host two major reservoirs, the Wanaque and the Monksville, which provide drinking water to over 4 millions of NJ residents, not to mention the industries that rely on this precious resource.

I was among many who supported the Highlands Act to protect that resource, by attending public hearings and providing testimony of my own experience of living in such a amazing place, with the flora and fauna in my home state, New Jersey, the most densely populated in our union. It's a wonder the place is still so pristine, but understandable as both the County and State have protected so much of these valuable lands.

Firsthand, I have witnessed the destruction caused by the 300 Line Project and for this reason am strongly speaking out against this new expansion. Surely you have seen and heard the horror stories of what this is doing to our sensitive environment. Are we seriously considering granting additional permits to continue this madness? We were told there would be minimal disturbance, we wouldn't even notice the work, that the vegetation would be restored quickly and efficiently. This has obviously not been the case, again, of which I am sure you and your colleagues are well aware.

This area is too precious to allow further destruction. So many questions -- and why the confusion about the naming of these projects? Sadly, in my humble opinion, this was no accident and by design, to "muddy the waters" (pardon the pun). At a hearing I attended in Ringwood, not one person spoke in favor of this. In fact, most of them shall be directly affected and that is a troublesome prospect, I can tell you.

Please, I implore you, take the time to carefully review this proposal and ask yourself how this squares with the Highlands Act, the law of NJ, created specifically to protect the remaining natural resources of our highly developed state. I believe you will find that this makes no sense whatsoever, and I encourage you and your colleagues to "do the right thing" and deny this proposal.

As a state with the most SuperFund sites, we cannot afford the risk. What about the existing property owners and their rights? Do we not matter? Are we to be punished or rewarded for our stewardship of that most precious resource we cannot live without? Why are we continuing to promote fossil fuels by perpetuating this types of projects? Why are we not promoting clean, renewable energy sources such as

solar, wind and hydro-power?

Please take your position at the Department of Environmental Protection to do just that: protect both the residents and precious natural resources of New Jersey. Again, you have an opportunity to "do the right thing." Please, respectfully, do so.

Thank you for taking the time to read this.

Very truly yours,  
Kathleen M. Caren  
(973) 208-0175