Brigadier General Peter A. DeLuca
Commander and Division Engineer, North Atlantic Division
U.S. Army Corps of Engineers
302 General Lee Avenue
Brooklyn, NY 11252

November 20, 2010

Dear General DeLuca:

It is with great interest that we have followed your correspondence with Congressman Maurice Hinchey.

In your letter, dated September 14, 2010, you state, "The federal family of agencies that I represent on the commission are collectively charged with a requirement to support the economic needs of the region and our nation's need to secure energy reserves while protecting the environment." Later in the same paragraph, you imply that the mandate of the Delaware River Basin Commission (DRBC), the Agency itself, is also so charged with this same requirement.

Congressman Hinchey, in his letter to you dated September 30, 2010, asked ten pointed, and specific, questions. While we look forward to reading your eventual response, we want to focus on one aspect that Congressman Hinchey brings up. Momentarily casting aside the questionable relevance of your economic argument in relation to the DRBC mandate, we wish to provide additional information regarding the economic argument you put forth; that such high volume, slick-water, multi-stage, hydraulic fracturing and horizontal gas drilling presents an unquestioned, certain, economic benefit to the Delaware River Basin, the watershed that provides drinking water for nearly 20,000,000 citizens.

Under current industry state of the art conditions, based upon the facts on the ground that have been experienced across Pennsylvania (1) these past several years, a record of environmental damage has been established. Is this record balanced by the rosy economic forecast that you seem to accept? Does this economic forecast possibly warrant such risk to our water and health? Therefore, we question the evaluation that you have made.

First and foremost are what might be called water economics and in particular the risk to the water supply for nearly 20 million people in New York, Pennsylvania, New Jersey and Delaware. New York City, which draws 90% of its water supply from areas where the gas industry plans to drill, has estimated that the cost of a water filtration plant if it had to treat this water would be about $15 Billion for construction and capital costs and over $100 Million per year of operating costs. New York City has not had to incur these costs because it has received a filtration avoidance determination from the federal Environmental Protection Agency because the water is of such high quality that it meets federal drinking water standards without filtration. If this water becomes contaminated with chemicals from gas production, the City would no longer be able to take advantage of the FAD and would be forced to incur the expense for a major filtration plant and treatment system. Further, the plant design and treatment systems would most likely be different and more expensive than current estimates as more complex systems would be needed to remove the mixture of chemicals that are currently known only to the gas drilling companies. The specter of these looming risks were cited by New York City's engineering consultants, Hazen & Sawyer, to support its conclusion at the end of a year-long investigation that gas drilling should not occur in the watersheds that supply drinking water because the risk is just too great.

A respected oil and gas economist, Arthur E. Berman, writing online at **THE OIL DRUM,** on October 28, 2010 (2) states:

> "Shale gas plays in the United States are commercial failures and shareholders in public exploration and production (E&P) companies are the losers. This conclusion falls out of a detailed evaluation of shale-dominated company financial statements and individual well decline curve analyses. Operators have maintained the illusion of success through production and reserve growth subsidized by debt with a corresponding destruction of shareholder equity. Many believe that the high initial rates and cumulative production of shale plays prove their success. What they miss is that production decline rates are so high that, without continuous drilling, overall production would plummet. There is no doubt that the shale gas resource is very large. The concern is that much of it is non-commercial even at price levels that are considerably higher than they are today."

Range Resources, dubbed "King of the Marcellus Shale" in an article written by Christopher Helman, and published in Forbes Magazine on August 9, 2010, is currently in the process of selling its holdings in the Barnett Shale, in order to focus on the wet gas areas of shale plays, areas that produce natural gas liquids, and crude oil. These liquids are the engine that is driving profits, not natural gas, which the United States already has in abundance. It is currently generally accepted knowledge that the upper portion of the Delaware River Basin does not contain these liquids. Also, the gas companies have focused their discussion on the safety of such drilling and production in the Basin on the premise that the product they will be extracting is "dry gas" - in other words gas without liquids or oil. It is that "dry gas" which is unprofitable to extract from shale for the foreseeable future.

On July 17, 2010, Aman Batheja, wrote an extensive article (3), in the Fort Worth Star Telegram, on the sorry economic state of affairs being experienced by the fifteen largest cities in Tarrant County, Texas, heart of the Barnett Shale. The city of Fort Worth, which has actively permitted shale gas drilling within its very city limits, is described as suffering a $77 million budget shortfall, which is 15% of its general fund.

The DRBC has received many comments from several large landowners in Wayne County, stating in effect that shale gas drilling is the only way to keep the population down, and to keep the lands open from development

THE STAR-TELEGRAM article notes that the population of Fort Worth has increased 37 percent since 2000, precisely as a result of such shale gas drilling. This pattern is repeated throughout the Barnett shale region, which has created the need for "more police officers, firefighters, and other municipal services", thus creating higher costs to all taxpayers. Despite this huge increase in population, the article also notes that "Property taxes, generally the biggest source of money for local governments, have fallen because of tumbling property values and increased foreclosures." This is especially true in areas where drinking water has been compromised after drilling (4) On top of this, sales tax revenue, another local source of income for government, has dropped. As a result, "…officials have discussed raising taxes, or eliminating tax exemptions".

How does one explain the discrepancy in the Barnett Shale region, between the industry public relations spin that hails a "boom" for the area, and what is described above?

Returning to Pennsylvania, we ask: Upon what studies, and more importantly, upon what historical economic data, do you base your positive economic forecast due to gas production for our particular region? To our knowledge, the only report, touting this perspective is the one that was falsely attributed to Penn State, and that was paid for and produced by the Marcellus Shale Coalition, a lobbying group, and spokesman for the gas industry and gas extraction in the Marcellus Area. In a letter dated June 9, 2010, written by the Dean of The College of Earth and Mineral Sciences, The Pennsylvania State University, William E. Easterling listed a number of flaws that should be acknowledged in relation to that study. Most notable, however was the following sentence,

> "Second, the authors could and probably should have been more circumspect in connecting their findings to policy implications for Pennsylvania, and may well have crossed the line between policy analysis and policy advocacy."

In her report, published March 27, 2010, and titled "**Unanswered Questions About The Economic Impact of Gas Drilling in the Marcellus Shale: Don't Jump to Conclusions"**, (5) Jannette M. Barth, Ph.D., of JM Barth & Associates, Inc., wrote in her introduction:

> "In light of the undisputed potential for environmental harm from gas drilling in the Marcellus Shale, the principal reason advanced for taking the environmental risks is the positive economic impact that such drilling could have for New York State and its counties. However, there has been so little actual, current, unbiased examination of the economic impact that it is fair to say that positive economic impact is more an assertion than a proven fact. It is possible that the net economic impact may be negative for New York State and its counties.
>
> The studies used to support the claim that drilling will bring economic benefits to New York are either biased, dated, seriously flawed, or simply not applicable to the region that would be affected. Such studies are not a valid foundation on which to base legislative or regulatory actions.
>
> The unsupported assumption of a net economic benefit from gas drilling in the Marcellus Shale is largely based on anecdotal experience and studies from other gas producing states. Decision-makers in New York should be warned that the economies of New York State and the affected counties are different enough from those of other regions with gas drilling that an independent and thorough analysis of the economic impact in New York should be undertaken before decisions with irreversible consequences are taken."

Even in other areas than New York State, the touted benefits of drilling are shown to be a net negative. Looking at what has actually happened in US western states the HeadwatersEconomics.org (6) study of energy focusing counties verified this net negative and the boom and bust of economies focused on drilling. They also show the narrowing of the economic base as energy production becomes a focus and environmental damage limits diversification.

Specifically related to our area, Laura Legere, a writer for the Times Shamrock Organization, wrote an article dated September 17, 2010. The title says virtually all: "**Unions say they are left out of Marcellus Shale jobs".** The first sentence reads: "Union contractors have found "little or no success" getting work with Marcellus Shale natural gas companies despite having the skills and training necessary for the jobs." After several years of intensively increased drilling in Pennsylvania, the widespread consensus is that jobs are overwhelmingly filled by out of state workers from the oil and gas industry, predominantly from Texas, Oklahoma, and Louisiana.

Industry that already exists within Wayne County, has already expressed fear to the Commissioners and Staff of the DRBC. Alfred R. Alessi, President and CEO of Fox Ledge, Inc. (a water bottling plant), wrote a letter dated March 4, 2010 in opposition to the permitting of the Stone Energy, Matoushek Well site in Mt. Pleasant Township. We quote: "…With all the negative news and problems surfacing regarding the drilling for natural gas, I am deeply concerned. We have high quality water, far away from any industrial pollutants. The possibility of contamination or anything else that may alter the flow or cause a change in …water would be devastating to the company, townships tax base, its employees which presently number over 100." Mr. Alessi went on to say that, "The close proximity of any natural gas drilling to Fox Ledge, Inc. I believe has the potential of disaster."(7)

Again, in relation to Wayne County, PA, Damascus Citizens for Sustainability recently published a report titled, "**A Statistical Analysis of Ownership, Leasing and Taxes in Damascus Township"**. The findings of this study utterly contradict assertions made to the Commissioners, by the Executive Director of the Northern Wayne Property Owners Alliance (NWPOA), to the effect that the township is, by a great majority, in favor of gas extraction, and supportive of her group. NWPOA has also always expressed the opinion that such gas extraction will immensely benefit the entire community.

Through a comparison of the tax information for Damascus Township (purchased from the Wayne County Appraisers Office), and The Citizen's Voice Newspaper's gas leasing database for leasing in Lackawanna, Luzerne, Wayne and Wyoming Counties (found at the link: **http://citizensvoice.com/news/drilling**), the Damascus Citizens study discovered, most tellingly, that while 69% of the acreage in Damascus Township had been leased for gas drilling, less than 33% of the land owners who pay property tax, had leased. Far from the majority, those who have leased for gas drilling are a relatively small minority. Worse, this minority, even though owning 69% of the land surface, pay only 39% of the property taxes in the Township. The 67% of the land owners, who have not leased for drilling, and who own only 31% of the acreage, actually pay 61% of the property taxes in this rural, residential Township.

For the entire report, please view at: **www.damascuscitizens.org/Damascus-StatR1.pdf**

While the economic benefits of such large scale industrialization are highly debatable, there is strong evidence, and relevant experience, that the existing economic base may be negatively impacted by such industrial activity. Tourism, the second home industry and market (43% of the acreage within Damascus Township is non primary resident owned, and 38% of home owners/ land owners are non primary residents), to name just two hugely important economic engines, have shown to be especially hurt by the gas extraction industry.

Please carefully consider what we have presented to you, and please tell us the basis of your optimistic economic forecast, for massive, high volume, slick water, multi-stage hydraulic fracturing and horizontal drilling, within the Delaware River Basin.

This letter is being sent to you from Damascus Citizens and the below signatory organizations joining with us who represent thousands of members and supporters who live, work and play - whose economic lives are bound to the Delaware River Basin.

(1) PA Land Trust analysis of PA DEP Marcellus shale violations LINK http://conserveland.org/uploaded_files/0000/0596/report_finalaug10.pdf

(2) Arthur E. Berman, writing online at **THE OIL DRUM,** on October 28, 2010 LINK http://www.energybulletin.net/stories/2010-10-28/shale-gas%E2%80%94abundance-or-mirage-why-marcellus-shale-will-disappoint-expectations

(3) "**Fort Worth's budget gap tops other big cities'".** Aman Batheja LINK http://www.star-telegram.com/2010/07/17/2342478/among-tarrant-county-cities-fort.html

(4) RUGGIERIO devaluation article - their property was devalued from $273,000. to $73,000. after drilling contaminated their drinking water. Many other examples are available. LINK http://www.dentonrc.com/sharedcontent/dws/drc/localnews/stories/DRC_DrillValues_0918.1046e9a00.html

(5) **Unanswered Questions About The Economic Impact of Gas Drilling in the Marcellus Shale: Don't Jump to Conclusions**, Jannette M. Barth, Ph.D., of JM Barth & Associates, Inc. LINK http://www.damascuscitizens.org/Economic_Paper.pdf

(6)HeadwatersEconomics.org study of energy focusing counties LINK http://www.headwaterseconomics.org/energy/HeadwatersEconomics_EnergyFocusing.pdf

(7) Allessi Fox Ledge Water Bottling plant letter -LINK http://www.state.nj.us/drbc/dockets/stone-energy/FoxLedgeSpringWater.pdf

Respectfully,

B. Arrindell, Director
James Barth, Research Coordinator
Damascus Citizens for Sustainability
NY and PA in the DRB

Iris Marie Bloom
Director, Protecting Our Waters
(based in five-county Philadelphia region;
members throughout DRB)

Stan Scobies/Michael Lebron
New Yorkers for Sustainable Energy Solutions (NYSES)
New York State including the Delaware River Basin

Joe Levine,
Chair
NYH2O
New York City

Tracy Carluccio
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Program Director
Catskill Mountainkeeper
six counties of the Catskill Region

CC:
Congressman Maurice Hinchey
Senator Robert Casey
Senator Charles Schumer
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Carol Collier, Executive Director, Delaware River Basin Commission
Paula Schmitt. Secretary, Delaware River Basin Commission
Dr Katherine Bunting-Howarth, Delaware Representative to the Delaware River Basin Commission
John T. Hines, Pennsylvania Representative to the Delaware River Basin Commission
Bob Martin, New Jersey DEP Commissioner, Representative to the Delaware River Basin Commission
Peter Iwanowicz, NYS DEC Acting Commissioner, Representative to the Delaware River Basin Commission

Marvin E. Moriarty, Regional Director, US Fish & Wildlife Service
Judith Enck, Regional Administrator, Region 2, U.S. Environmental Protection Agency
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Dennis Reidenback, Northeast Regional Director, National Park Service