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OFFICE OF TOWNSHIP COMMITTEE

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April 14, 2015

Gregory H. Friedman
Inspector General
Office of the Inspector General
1000 Independence Avenue, SW
Washington DC 20585

Re: PennEast Pipeline Company, LLC
FERC Docket No: PF15-1-000

Dear Mr. Friedman:

Delaware Township is a small rural community in central New Jersey that has invested considerable funding in maintaining our rural, agricultural way of life over the last 30 years by heavily investing in agricultural preservation, parklands, and preserved land to protect natural habitat. This municipal preservation effort is now being threatened by the above referenced PennEast Pipeline project, a 36-inch high-pressure gas pipeline that is planned to extend from Northeast Pennsylvania to Hopewell, New Jersey. This project will rip through environmentally sensitive areas of both preserved and unpreserved properties in our community.

The two proposed routes through Delaware Township are slated to cross numerous New Jersey Class C-1 streams in Delaware Township alone (Class C-1 streams as identified by the New Jersey Department of Environmental Protection as being so environmentally sensitive that no development is allowed within the 300-foot stream corridor). These streams in Delaware Township feed directly into watercourses overseen by the New Jersey Water Supply Authority and ultimately provide the drinking water to millions of people in Central New Jersey, with the remainder flowing into the Delaware River, a river designated by the Federal government as a Wild and Scenic River.

Given the environmental sensitivity of the lands in Delaware Township, great concern has arisen when the Federal Energy Regulatory Commission (FERC) announced that they had chosen Tetra Tech as the third party contractor to prepare the Environmental Impact Statement (EIS) for this PennEast project. It has been brought to the Township's attention that Tetra Tech, among other issues, has direct ties to the oil and gas extraction industry and is a member of the Marcellus Shale Coalition (MSC). Both Tetra Tech and Tetra

Technologies, Inc. are associate members of the MSC. UGI Energy Services, the project manager and major investor in the PennEast project is a board member of the MSC. The MSC has also taken a position in support of the PennEast pipeline.

Apparently that clearly identified conflict of interest has not been sufficient for FERC to disqualify Tetra Tech as an environmental consultant for this PennEast project. FERC's position seems to be that merely being a member of the oil and gas extraction trade group is insufficient to create a conflict of interest, yet in the minds of the general public, Tetra Tech's impartiality in conducting the EIS is extremely suspect since they do have a financial or other interest in the outcome of the project.

Please see the two enclosed documents that outline the major problems with Tetra Tech as the environmental consultant on this project:

1. The extremely eloquent letter from Michael L. Pisauro, Jr. Policy Director of the Stony Brook Millstone Watershed Association to you outlining the perceived conflicts of interest in the FERC selection of Tetra Tech as the environmental consultant for this PennEast project.
2. A copy of the scoping comments sent to FERC by Lower Saucon Township, Northampton County, Pennsylvania during the scoping period for this FERC pre-filing. Please pay close attention to pages 3 through 10 that outlines Tetra Tech's close ties to the oil and gas extraction industry and their apparent malfeasance in conduction other EIS studies for the U. S. Forest Service.

To this date, FERC has been unconcerned by this conflict of interest between Tetra Tech, UGI and PennEast through their association through the MSC. This is why Delaware Township is bringing this matter to your attention so that an unbiased environmental consultant can be selected to complete this environmental study. By selecting Tetra Tech, the residents and landowners of Delaware Township cannot help but think that FERC is more of a pipeline enabler rather than an unbiased regulator of the gas industry. The conflict of interest is apparent to Delaware Township.

Delaware Township respectfully requests that your office investigate the selection of Tetra Tech as the contractor that will prepare the EIS for this PennEast Pipeline project.

Very truly yours,

Joseph Vocke

Joseph Vocke, Deputy Mayor

Enclosures: Stony Brook Millstone Watershed Association 3/24/15 Letter
Lower Saucon Township's Scoping Comments

cc: Congressman Leonard Lance

Senator Cory Booker
Senator Robert Menendez
Assemblyman Jack M. Ciattarelli
Assemblywoman Donna Simon
Senator Christopher "Kip" Bateman

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March 24, 2015

Gregory H. Friedman
Inspector General
Office of the Inspector General
1000 Independence Avenue, SW
Washington, DC 20585

RE: PennEast Pipeline Company, LLC.
FERC Docket No: PF15-1

Dear Mr. Friedman:

On behalf of the Stony Brook Millstone Watershed Association, New Jersey Chapter of the Sierra Club and the New Jersey Conservation Foundation, I request that your office open an investigation into the selection of Tetra Tech as the consultant retained to prepare the Environmental Impact Statement for the above referenced docket. We believe that Tetra Tech has a conflict of interest. If there is a not a direct conflict of interest there is at the very least a very strong appearance of one.

The PennEast pipeline is a proposed natural gas pipeline that begins in Dallas, Pennsylvania and runs through 20 plus municipalities in Pennsylvania and New Jersey until it terminates in Hopewell NJ. This is a very controversial project that has galvanized the communities along the route. PennEast requested authority to pre-file on October 7th. FERC approved the pre-file application by letter on October 10, 2014.

In the October 10, 2014 letter, FERC selected Tetra Tech as the third party contractor to prepare the Environmental Impact Statement (EIS). Prior to Tetra Tech's selection it must have filed with FERC a several document

regarding conflicts of interest and critical energy infrastructure information. These documents are required by FERC's Handbook for Using Third Party Contractor's to Prepare Environmental Documents. Those documents include: an Organizational Conflict of Interest (OCI) representation statement and/or OCI Disclosure statement; a completed OCI Questionnaire and OCI Certification. Guideline 4.3.7 These

documents were not available under FERC's eLibrary system; therefore we have filed an FIOA request and are awaiting the documents.

According to the Guidelines a conflict exists when the consultant's objectivity is impaired. Page 4-1. Conflicts occur and must be disclosed when the contractor has past or present relationships with "regulated pipeline and their affiliates, gathering companies, brokers and marketers of natural gas, major producers and their affiliates, and end users." Id. Also, the guidelines define an "organizational conflicts of interest" as a relations or situation that exists wherein the contractor has past present or future interests that directly or indirectly through client, contractual, financial, organizational or other relationship may relate to the work to be performed. Id. at 4-5.

In this case Tetra Tech has a financial conflict as well as an organizational conflict. Tetra Tech's financial conflict arises because Tetra Tech provides services to the natural gas industries. According to Tetra Tech's 2014 Annual Report, Tetra Tech provided engineering and environmental consulting services to the top natural gas companies. Page 2. The annual report also reveals that Tetra Tech, "depend[s] on our customers willingness to make future expenditures." Id. That financial relationship is very strong as the annual report reveals, "[d]emand for our oil and gas services fluctuates and a decline in demand could adversely affect our revenue, profits, and financial condition." Id. at 43. The bottom line is affected strongly because the oil and gas industries "generate higher than average profit margins." Id. It is our position that the financial relationship between Tetra Tech and the natural gas industries shows a direct financial incentive for a biased review of the PennEast project during the compilation of the EIS

There is also an organizational conflict between Tetra Tech and PennEast. Tetra Tech is a member of the Marcellus Shale Coalition (MSC). According to its statement the MSC "works with exploration and production, midstream, and supply chain partners in the Appalachian Basin and across the county to address issues regarding the production of clean, job creating, American Natural gas from the Marcellus and Utica Shale plays." http://marcelluscoalition.org/ last visited March 5, 2015. Tetra Tech and Tetra Technologies, Inc. are associated members. A review of the website shows that UGI Energy Services is a Board Member of the coalition. UGI is the project manager for PennEast. Not only is UGI a project manager but it is one of the companies invested in PennEast and has allegedly signed contracts with PennEast for the natural gas. If this relationship is not sufficient of a conflict, MSC has taken a position on the PennEast pipeline. Shari Williams, the Coalition's community outreach manager, attended the Bethlehem public meeting and testified on behalf of the Coalition in support of the pipeline. There is a clear bias demonstrated by Tetra Tech's involvement in the MSC that, at the very least, cause the general public to be concerned over the impartiality of a consultant. How can the public have faith that the EIS was developed by impartial consultants when that consultant is a participant in a coalition that promotes the extraction, distribution and use of the very resource that they reviewing? According to 40 C.F.R. 1506.5 the contractor must certify that they have "no

financial or other interest in the outcome of the project." According to CEQ's famous 40 questions that "other interest" can include indirect benefits as well. Through their participation they have an "other interest" that would conflict with an impartial review.

As set out above we believe Tetra Tech has a direct conflict as well as an organizational conflict with its role as the preparer of the EIS in this matter. It would be impossible for the pubic to review all of this information and be left with an impression that the scoping process and the ultimate EIS prepared by Tetra Tech was going to be an impartial and high quality product. We respectfully request that your office investigate the involvement of Tetra Tech in the preparation of the EIS.

Respectfully submitted,

Michael L. Pisauro, Jr.
Policy Director

Cc: Hon. Cory Booker
Hon. Robert Menendez
Hon. Bonnie Watson Coleman
Hon. Leonard Lance
Jeff Tittle, Sierra Club, New Jersey Chapter
Alison Mitchell, New Jersey Conservation Foundation

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PennEast Pipeline Company, LLC
PennEast Pipeline Project
Docket No. PF15-1-000

COMMENTS OF LOWER SAUCON TOWNSHIP, NORTHAMPTON COUNTY, PENNSYLVANIA ON ENVIRONMENTAL ISSUES AND THE SCOPE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Via Electronic Filing to:
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PENNEAST PIPELINE COMPANY, LLC
PENNEAST PIPELINE PROJECT
DOCKET NO. PF15-1-000

COMMENTS OF LOWER SAUCON TOWNSHIP, NORTHAMPTON COUNTY, PENNSYLVANIA ON ENVIRONMENTAL ISSUES AND THE SCOPE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Lower Saucon Township, Northampton County, PA, welcomes the opportunity to present its comments on the scope of the draft environmental impact statement.

In general, the scope of the environmental review must fully comply with the requirements of the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321 *et seq.*, its implementing regulations, 40 C.F.R. Pts. 1500–08, and the FERC regulations at 18 C.F.R. part 380. Prior Federal Energy Regulatory Commission ("FERC") Environmental Impact Statements (EIS) evaluating the impacts of interstate natural gas transmission pipelines and associated facilities in the Northeast United States have not fully complied with these requirements. We urge the Commission to re-evaluate its approach to preparing those statements.

I. PURSUANT TO 40 C.F.R. §1501.7, FERC MUST IDENTIFY OTHER ENVIRONMENTAL ASSESSMENTS AND EIS RELATING TO THE IMPACT STATEMENT UNDER CONSIDERATION FOR THE PENNEAST PIPELINE PROJECT.

We request that FERC, as required by Council on Environmental Quality ("CEQ") regulations, indicate to the public all other public environmental assessments and EIS documents that are *related to*, although not within the scope of, the impact statement under consideration in this scoping process.[1] We also request that FERC identify to all participating persons any additional environmental review and consultation requirements, including any such requirements that are triggered by the comments received as part of the scoping process.

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[1] CEQ regulations (at 40 C.F.R. §1501.7) provide:

(a) As part of the scoping process the lead agency shall:

* * *

(5) Indicate any public environmental assessments and other environmental impact statements which are being or will be prepared that are related to but are not part of the scope of the impact statement under consideration.
(6) Identify other environmental review and consultation requirements so the lead and cooperating agencies may prepare other required analyses and studies concurrently with, and integrated with, the environmental impact statement as provided in § 1502.25.

II. WE OBJECT TO THE TIMING OF THE SCOPING PROCESS AS PREMATURE

The NEPA scoping process is "for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action." 40 C.F.R. §1501.7. To be meaningful, the "proposed action" must be identified with sufficient clarity and precision so as to allow persons to determine if they are "interested persons" for purposes of the project and to identify "significant issues."

In the case of a geographically-linear project such as an interstate natural gas pipeline, the proposed route alignment and survey corridor, including those of the preferred route and all alternative routes, must be identified with sufficient clarity and precision so as to allow interested persons to definitively determine if specific properties and resources are within the survey corridor of any such routes. In this case, the proposed route underwent significant changes prior to the end of the scoping period and created substantial public uncertainty.[2] Even worse, PennEast's web-based route mapping tool,[3] which it provided for the public to examine the survey corridor of the "preferred alternative route",[4] provided contradictory and confusing map displays. *See and compare,* Appendix 1, screenshot of PennEast's web-based map taken on February 10, 2105 (using a search term with a street address) with Appendix 2, another screenshot of the same area taken on the same day at a different computer, without a street address search term. Although displayed *on the same day*, the route survey corridors depicted on the respective maps *were significantly different. Compare* also these screenshots with the maps included with draft Resource Reports 1 and 10, filed with FERC on January 27, 2015 (Accession No. 20150127-5249).

Even a person with a keen interest in determining the current preferred alternative route survey corridor was confronted with conflicting and confusing information. Thus, interested persons cannot yet know the actual "project action area" because PennEast's public information was unreliable. Thus, it is also impossible to identify with reasonable certainty whether the pipeline's "area of potential impact" (APE)[5] may impact specific historic properties, a determination required by the National Historic Preservation Act, 16 U.S.C. 470-470w-6.

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[2] The comments filed with FERC to this docket objecting to the changing and misleading route information is sufficient to signal the serious problem in this case.

[3] The mapping tool is located at: http://penneastpipeline.com/proposed-route/. We can reasonably assume that the public will generally use this publicized tool to understand the route and locate their homes along the route, rather than researching the more complex FERC docket materials.

[4] At last access on February 13, 2015, the web-based tool states: "The interactive mapping tool has been updated as of January 12, 2015 to reflect the survey corridor associated with the current preferred alternative route." PennEast's disclaimer is itself misleading, because the route was changed in Resource Report 10 filed with FERC on January 27, 2015.

[5] 36 C.F.R. §800.16 (d). "Area of potential effects means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the

Because landowners, municipalities, or other interested persons cannot yet know with reasonable assurance whether specific properties and sensitive resources are within the survey corridor, it is not possible to adequately identify potential impacts for the scoping process. The scoping process should not have commenced until PennEast had actually identified the "proposed action" to be the subject of environmental review. We request that the scoping period be suspended, with new scoping meetings and a new scoping deadline established after the "proposed action" has actually been identified with reasonable precision and certainty.

III. WE OBJECT TO TETRA-TECH AS THE EIS CONTRACTOR; TETRA-TECH IS PATENTLY BIASED, HAS AN INTEREST IN THE OUTCOME OF THE PROJECT, AND FEDERAL COURTS HAVE FOUND EVIDENCE OF MISCONDUCT AND DOCUMENT DESTRUCTION BY TETRA-TECH IN ITS ENVIRONMENTAL REVIEW SERVICES.

A. Tetra-Tech Has Corporate Interests that Should Disqualify It From Performing Services as FERC's Third-Party Contractor for Environmental Reviews of the PennEast Pipeline Project

40 C.F.R. §1506.5 states:

> (c) *Environmental impact statements.* Except as provided in §§1506.2 and 1506.3 any environmental impact statement prepared pursuant to the requirements of NEPA shall be prepared directly by or by a contractor selected by the lead agency or where appropriate under §1501.6(b), a cooperating agency. It is the intent of these regulations that the contractor be chosen solely by the lead agency, or by the lead agency in cooperation with cooperating agencies, or where appropriate by a cooperating agency *to avoid any conflict of interest. Contractors shall execute a disclosure statement prepared by the lead agency, or where appropriate the cooperating agency, specifying that they have no financial or other interest in the outcome of the project.* (emphasis supplied).

Thus, the type of "interest" in the outcome of a project that must be disclosed, and which may be disqualifying, includes both financial interest and any other interest that would present a conflict. In 1981, the CEQ interpreted the conflict provision "broadly to cover any known benefits other than general enhancement of professional reputation." Forty Questions, 46 Fed. Reg. at 18,031.

Critical EIS services to be performed by a third-party contractor such as Tetra-Tech pursuant to FERC's standard request for proposal requirements include, for example: "Characterization of existing environmental conditions, incorporation of issues

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scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

identified during scoping, assessment of the significance of the potential environmental effects of the proposed project, identification of potential site, route, and facility location alternatives (both locally and regionally), and determination of mitigation necessary to avoid or reduce impacts to acceptable levels."[6] We submit that Tetra-Tech cannot perform these functions in an objective manner, free from conflict and bias.

Tetra-Tech has a financial, business, and corporate interest in promoting natural gas pipeline construction and specifically in the design and construction of natural gas pipeline infrastructure in Pennsylvania's Marcellus Shale region. Its subsidiary, "Tetra Tech Rooney" (Rooney Engineering Inc.) holds itself out as a "pipeline engineering company." See, http://www.rooney-eng.com. Its services include: "pipelines in challenging terrain", "pipeline modeling", and "pipeline integrity/rehabilitation." Tetra-Tech acquired Rooney Engineering specifically for the purpose of expanding its services to pipeline engineering in the shale petroleum market. See, e.g., http://www.businesswire.com/news/home/20120606006706/en/Tetra-Tech-Expands-Services-Shale-Oil-Market#.VOkGyynm1qc

Its business interests in promoting the development, transmission and sale of natural gas produced in the Marcellus Shale are clear. Tetra-Tech's Deputy Director of Appalachian Basin Oil and Gas Services, Mr. Mark Sladic, states:

> Tetra Tech is successfully completing projects for more than 30 midstream and upstream companies in the Appalachian Basin Shale Plays...Tetra Tech participates in most shale basin plays in the continental US, and in the oil sands development in Canada[.]

https://www.linkedin.com/pub/mark-sladic/52/b54/17b

In particular, Tetra-Tech is marketing and providing services for natural gas pipeline infrastructure in the Marcellus Shale region:

> Tetra Tech Rooney (REI), provided design engineering, procurement assistance, and construction administration for numerous gas and water pipelines and pump stations for a confidential client in the Marcellus Shale play in Pennsylvania.
>
> REI continues to assist the client in the design of their facilities in the Marcellus Shale play.

http://www.tetratech.com/en/projects/natural-gas-and-water-pipeline-design

Tetra-Tech further describes one of its projects as follows:

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[6] FERC *Handbook For Using Third-Party Contractors To Prepare Environmental Documents For Natural Gas Facilities and Hydropower Projects,* p. 3-13.

> Tetra Tech Rooney (REI) designed a 26-mile, 24-inch diameter natural gas pipeline in north-central Pennsylvania for a confidential client.
> The pipeline moves 300 million standard cubic feet per day (mmscfd) of dry gas from the client's metering and regulation site to a new compressor station at the Transco Hub. The project crossed three state forests managed by the Pennsylvania Department Conservation and Natural Resources (DCNR).[7]
> The design included four compressor stations, each with a capacity of 75 mmscfd....
> In addition to the mainline design, REI is designing a 16-mile, 20-inch diameter transfer pipeline to move 200 mmscfd from the Wellsboro Loop System near Wellsboro, Pennsylvania, to the client's meter and regulation station on the Dominion Pipeline. This line also crosses Pennsylvania State Forest land.
> The pipeline design includes road and stream crossings, as well as horizontal directional drill designs for major water crossings.[8]

http://www.tetratech.com/en/projects/natural-gas-pipeline-design

Moreover, Tetra-Tech is an associate member of, and technical consultant to, the Marcellus Shale Coalition ("MSC"), [9] an industry group that promotes the development of natural gas supplies in the Marcellus Shale play. The MSC website states:

> The Marcellus Shale Coalition (MSC) *represents the natural gas industry to the government, regulators* and the public regarding the development of energy from the Marcellus Shale formation.

http://marcelluscoalition.org/about/membership/ (emphasis supplied).

Tetra-Tech takes its role as member of, technical consultant to, and cheerleader for the Marcellus Shale industry seriously, generating reports and communicating with regulators and officials lobbying on behalf of the industry. One example of Tetra-Tech's representation of industry interests to government regulators is its attempt, on behalf of the Marcellus Shale Coalition, to influence a Pennsylvania Department of Environmental Protection rulemaking on dissolved solids limits in its water quality standards.[10] This rule

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[7] As part of its services for the PennEast Pipeline EIS, Tetra-Tech will be required to determine if PennEast pipeline crossing of Pennsylvania State Forest, Game, and Park lands creates significant impacts.

[8] As part of its services for the PennEast Pipeline EIS, Tetra-Tech will be required to determine whether such horizontal directional drill (HDD) designs will adequately mitigate the impact of major water crossings of the Delaware and Lehigh Rivers.

[9] See, http://marcelluscoalition.org. The Marcellus Shale Coalition associate members are listed at: http://marcelluscoalition.org/about/associate-members/

[10] Letter of Tetra-Tech NUS to Pa. Environmental Quality Board objecting to Proposed Amendments to 25 Pa. Code Ch. 95; TDS, Chlorides and Sulfates Effluent Standards, http://www.irrc.state.pa.us/docs/2806/COMMENTS_PUBLIC/2806%2002-19-

was intended to address the problem of dissolved solids loadings due to Marcellus Shale natural gas industrial wastewater discharges. Tetra-Tech claimed that this rule, proposed to protect the water quality of Pennsylvania's rivers and streams, "imposes an enormous burden on the Marcellus Shale industry." Tetra-Tech urged that the rule be abandoned. Tetra-Tech also represented the Marcellus Shale Coalition in producing a study to support the development and approval of more wastewater disposal wells for the salt and metals-laden wastewater generated by natural gas production hydraulic fracturing.[11]

Thus, Tetra-Tech, which is supposed to function as an objective, unbiased contractor performing services for a regulatory agency of the United States, is instead a member of an organization whose function is explicitly to *represent the industry to the government and regulators*.

Moreover, Tetra-Tech services support liquefied natural gas export facilities:

> LNG Import and Export Terminals
> Our oil and gas industry services include support for liquefied natural gas import and export terminals, as well as liquefied petroleum gas export facilities, including site selection; permitting and NEPA review services; and other environmental and engineering support for construction and operations at onshore terminals, offshore terminals in U.S. state waters, and offshore deepwater ports.

http://www.tetratech.com/en/midstream

Thus, Tetra-Tech holds a vested corporate interest in the further development of natural gas infrastructure in the Marcellus Shale play in Pennsylvania. It thus has a corporate interest in the outcome of the PennEast Pipeline project, which will transmit that natural gas to markets and for possible export, induce further development of that natural gas infrastructure, and which will indeed *require* an ongoing continuous stream of natural gas drilling and development in the region.

And more specifically, because it routinely represents the Marcellus Shale industry, it also has a vested corporate business interest in avoiding any FERC determination of adverse environmental impacts of such induced development or related pipeline infrastructure. Tetra-Tech has the power to shape the draft and final environmental impact analyses to prevent any such determination. We believe it is impossible for Tetra-Tech to conduct an environmental review of this project without regard to its pro-Marcellus Shale industry bias, its membership in the Marcellus Shale Coalition, its blatant cheerleading on behalf of the affected industry, and its prior design and engineering work. To the contrary, it is virtually certain that Tetra-Tech would influence agency conclusions in favor of the industry and PennEast Pipeline.

10%20TETRA%20TECH%20HUGHES.pdf This letter is replete with industry-cheerleading arguments and promotion on behalf of the Marcellus Shale natural gas industry.

[11] http://powersource.post-gazette.com/powersource/features-powersource/2014/04/08/Injection-well-fracking-wastewater-disposal/stories/201404080030

In fact, a federal court previously found evidence indicating that Tetra-Tech tried to influence agency policy in the course of preparing an EIS. *Colorado Wild, Inc. v. U.S. Forest Serv.*, No. CIVA06CV02089-JLKDLW, 2007 WL 3256662, at *3 (D. Colo. Nov. 1, 2007) (referring to an exhibit "where it appears Tetra Tech, Inc. is attempting to influence USFS policy.") *Colorado Wild, Inc. v. U.S. Forest Serv.*, No. CIVA06CV02089-JLKDLW, 2007 WL 3256662, at *3 (D. Colo. Nov. 1, 2007); see also, *Colorado Wild Inc. v. U.S. Forest Service*, 523 F.Supp.2d 1213, 1225 (Oct. 4, 2007) ("The administrative record reveals there was a heated debate between the Forest Service and Tetra Tech, its EIS contractor, on whether these two actions should be analyzed as connected actions or as cumulative impacts, with the agency ultimately yielding to Tetra Tech's position that the actions need only be addressed as cumulative impacts.")

With the PennEast pipeline route terminating in eastern New Jersey, and with its newest partner, Spectra Energy, owner of the General Partnership of DCP Midstream Partners, LP, the PennEast consortium will have the opportunity to access Cove Point, the terminus on the Atlantic ocean in Maryland, and other potential LNG export coastal facilities in the future, where gas could be exported to markets outside the United States. Tetra-Tech/Rooney Engineering's services in support of liquid natural gas export facilities establish another corporate interest in the outcome of the PennEast pipeline project.[12]

With these corporate interests in expansion of natural gas infrastructure,[13] Tetra-Tech's participation as FERC's contractor in the NEPA process threatens the integrity of

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[12] We see no need to explicate the regulatory and market interest in expansion of LNG infrastructure here. Commissioner Tony Clark has stated: "The large amount of natural gas in the U.S. is also creating an impetus for something that was nearly unimaginable ten or fifteen year ago, LNG export, as opposed to import terminals. This is an area of significant workload increase for the Commission. Presently, the FERC has thirteen proposed LNG export terminals and three LNG import terminals in some phase of the permitting process." *Written Testimony of Commissioner Tony Clark Before the Committee on Energy and Commerce, Subcommittee on Energy and Power, United States House of Representatives Hearing on Evaluating the Role of FERC in a Changing Energy Landscape, December 5, 2013, http://www.ferc.gov/CalendarFiles/20131205094327-Clark-12-05-2013.pdf*

[13] Tetra-Tech's promotion and representation of industry interests, and its previous work in Marcellus Shale gas development and transmission should be investigated in detail. Additional examples from a simple internet search include: "The engineering and consulting firm Tetra Tech produced a study last year for the Robinson-based Marcellus Shale Coalition on the potential for developing more disposal wells in the commonwealth." *See*, http://www.gastechnology.org/ShaleExchange/Documents/09-Skoff-ShaleExchange2014.pdf *see also*, reporting at: http://powersource.post-gazette.com/powersource/features-powersource/2014/04/08/Injection-well-fracking-wastewater-disposal/stories/201404080030. Tetra Tech's Water Management Group Manager of its Appalachian Basin Oil & Gas Services, Mr. Steve Hughes, serves on the Board of Directors of SAFER ("Shale Alliance for Energy Research"), an organization dedicated to further exploitation of Marcellus Shale natural gas:

the NEPA process. FERC should require Tetra-Tech to disclose to FERC all of its work and communications on behalf of the Marcellus Shale Coalition and other entities involved in Marcellus Shale natural gas activities, and it should be disqualified from preparing the EIS for the PennEast pipeline project. To the extent that Tetra-Tech has made disclosures in an OCI Disclosure Statement as required by FERC's *Handbook For Using Third-Party Contractors To Prepare Environmental Documents For Natural Gas Facilities and Hydropower Projects*, we request that these disclosures be immediately made available to the public.

B. A Federal Court Has Found Evidence of Tetra-Tech Bias and Misconduct In the Preparation of an Environmental Impact Statement for the U.S.F.S.

In the case involving Tetra-Tech's preparation of an environmental impact statement for the U.S. Forest Service ("USFS"), a federal judge also found that evidence of Tetra-Tech's bias and improper conduct raised such serious problems that it authorized the extraordinary remedy of preliminary injunction against a USFS decision to grant special use authorization to a real estate developer for certain rights-of-way across National Forest System (NFS) lands:

> **4. Decision based on improper influence and bias**
>
> Plaintiffs also claim the Forest Service's access decision was arbitrary and capricious because the FEIS and ROD are the product of an incomplete administrative record and bias as a result of an improper relationship that developed between Tetra Tech, the Forest Service's EIS contractor and agent, and LMJV, the project proponent. As evidence of this improper relationship, Plaintiffs point to email correspondence indicating that LMJV and Tetra Tech were in routine communication regarding the substance, scope and timing of the FEIS. Such direct communications and influence were prohibited by the Memorandum of Understanding between the Forest Service and LMJV regarding preparation of the EIS by a third-party contractor. Plaintiffs argue that the Forest Service was aware that LMJV was improperly communicating with and influencing Tetra Tech's work on the FEIS, and yet failed to collect and to investigate these communications and include them in the administrative record so it and the public could assess whether the LMJV–Tetra Tech relationship had violated the integrity of the NEPA and decision-making process.
>
> I have examined the email communications referenced by Plaintiffs and agree with the magistrate judge that they raise serious, substantial, difficult and doubtful questions that are ripe for litigation and deserving of deliberative investigation. The ultimate question to be decided is whether any improper influence by LMJV and resulting contractor bias

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"Advancing the Safe and Sustainable Development of Pennsylvania's Shale Energy Resources". http://www.saferpa.org

> "compromised the objectivity and integrity of the NEPA process." *See Ass'ns Working for Aurora's Residential Envt. v. Colorado Dep't of Transp.,* 153 F.3d 1122, 1129 (10th Cir.1998) (internal quotations omitted). The referenced email communications certainly raise this question. While the Forest Service asserts that its supervision and review of Tetra Tech's work was sufficient to cure any harm to the NEPA process caused by the Tetra Tech–LMJV relationship, this assertion is itself a question of fact requiring further development and investigation. *Cf. id.* (finding as factual matter that agency exercised sufficient control to overcome NEPA contractor's conflict of interest based on review of agency's substantial role in EIS preparation and review of contractor work product); *Davis,* 302 F.3d at 1113 (finding agency failed to take sufficient steps to insulate final NEPA documentation from contractor's biased analysis). Accordingly, I find Plaintiffs have met their burden of showing a substantial likelihood of success on this claim sufficient to support continuation of the preliminary injunction.

Colorado Wild Inc. v. U.S. Forest Service, 523 F.Supp.2d 1213, 1229-1230 (2007) (internal footnote omitted).

According to an Associated Press account, in 2008 the U.S. Forest Service resolved these serious matters by agreeing to conduct a new environmental review. "Feds Agree to Redo Ski Village", Star-Tribune Communications, http://trib.com/news/ state-and-regional/feds-agree-to-redo-ski-village-review/article_20fec0bf-10af-51fc-9dea-e6b0c70402a8.html.[14] This indicates that the agency discarded Tetra-Tech's work, despite any Tetra-Tech's denial of wrongdoing.

C. Tetra-Tech Was Found to Have Destroyed Records Relating to Its EIS Work Relevant to the Administrative Record

Even worse, a federal magistrate found that Tetra-Tech destroyed evidence relating to the claims of improper email communications concerning the EIS with the project proponent by erasing the computer hard drive of its employee. In the *Colorado Wild* case, the Court found the agency administrative record filed with the Court to have been "incomplete", due to Tetra-Tech's destruction of documents by erasing a computer hard drive. The Court stated:

[14] According to the AP account, "The agreement signed Tuesday by Colorado Wild, the San Luis Valley Ecosystem Council and the Forest Service settles a lawsuit by the two groups. Their lawsuit argued that the Forest Service didn't adequately analyze the potential impacts of the project[.] The groups also claimed that the developer had undue influence on the process through lobbying of high-level federal officials and pressure on a consultant paid by the developer but directed to independently analyze the impacts of the roads. Environmentalists say e-mails and other documents show Honts and the consultant, Virginia-based Tetra Tech Inc., pressured Forest Service staffers to favor the developer. The developers have denied those claims."

> 1. Because of the clear evidence of the destruction of the computer hard drive belonging to Dr. Mark Blauer of Tetra Tech, Inc., which may have contained files required by the MOU [Memorandum of Agreement] to be preserved for inclusion in the Administrative Record, the Court hereby FINDS that the Administrative Record before the USFS when it issued the FEIS and ROD [Record of Decision] was incomplete[.]

Colorado Wild, Inc. v. U.S. Forest Serv., No. CIVA06CV02089-JLKDLW, 2007 WL 3256662, at *3 (D. Colo. Nov. 1, 2007).[15]

The public cannot, and will not, trust Tetra-Tech to perform an unbiased environmental review based on the best science and data in such an important matter. Tetra-Tech's conduct will affect thousands of lives and will be the basis for a decision that may involve seizure of private property, threats of adverse impacts to endangered species, and permanent damage to natural resources. FERC cannot permit such an entity to perform the environmental review in this case. It should not even allow Tetra-Tech to assemble, analyze, and code the hundreds of scoping comments FERC has received in this matter. It must remove Tetra-Tech as the third-party contractor assisting FERC in preparing the environmental impact documentation, and recommence the scoping process.[16]

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[15] Other press accounts detail other types of misconduct. For example, the Denver Post reported: "Colorado Wild researchers may have found the proverbial 'smoking gun' to back up their charges. According to the Herald, the project foes found e-mails from Tetra Tech executive Mark Blauer to Honts, asking for Washington Redskins football tickets for members of his staff who 'put their heart and soul into your EIS.'" "Scale back oversized plans for pristine area", *The Denver Post*, December 18, 2007, http://www.denverpost.com/opinion/ci_7744699; "As late as last fall, Blauer warned [the project representative] Honts in e-mails of other agencies' concerns about the more narrow approach and the danger of connecting the potential impacts of the road and the resort. It would, he said, require 'a much more rigorous analysis of each resource.'" http://azdailysun.com/news/ national/e-mails-show-ties-between-colo-developer-and-watchdog-contractor/article_6fd91f5e-3cc2-5ebf-b9fa-f684b82cc0c8.html. This is precisely the kind of avoidance-of-analysis that cannot be tolerated in the PennEast Pipeline EIS. Tetra-Tech EC, a wholly owned subsidiary, was also reported to have falsified test results to the United States Navy for a contamination cleanup at the Hunters Point Naval Shipyard. See, "Contractor Submitted False Radiation Data at Hunters Point", NBC Bay Area Investigative Unit, http://www.nbcbayarea.com/investigations/Contractor-Submitted-False-Radiation-Data-at-Hunters-Point-279025911.html. In the internal investigation report that followed, Tetra-Tech admitted it submitted falsified results. See, Tetra Tech EC, *"Investigation Conclusion Anomalous Soil Samples at Hunters Point Naval Shipyard, Revision 1"*, April 2014, https://www.documentcloud.org/documents/1312386-tt-report-2.html

[16] In the unlikely event that FERC fails to remove Tetra-Tech as the contractor performing environmental reviews in this matter despite evidence of bias and prior misconduct, we request FERC to order Tetra-Tech to continuously preserve all communications relating to its performance of services in this matter and to advise FERC if it has already destroyed any communications. Because of the inevitable litigation that will follow any final action by FERC on the application, all relevant documents that could be part of the administrative record must be preserved. Because of Tetra-Tech's prior conduct in destruction of records, it is necessary that

IV. GENERAL DESCRIPTION OF PROJECT

PennEast Pipeline Co. L.L.C. announced its new proposed pipeline project on August 12, 2014. The PennEast Pipeline is designed to be a large-scale 36-inch diameter transmission pipeline that would stretch 108.8 miles from a gathering system in Luzerne County and terminate at Transcontinental Gas Pipe Line Co.'s Trenton-Woodbury Lateral in Mercer County, N.J. The project also includes the "Hellertown Lateral", a 24-inch diameter pipeline that would run 2.1 miles between Milepost 69/Hellertown Lateral Tap and a UGI-Lehigh/TCO Interconnect and Launcher-Receiver facility. The proposed project is planned to transport roughly 1 billion cubic feet of natural gas per day, at 1,480 psi. PennEast has stated that this is enough natural gas to "heat more than 4.7 million homes." The project will also require the siting and construction of at least one high-powered compressor station along the line.

The pipeline would cut its right-of-way for over 108 miles, approximately 87% of which will be within the boundaries of the Delaware River watershed. The company has identified 173 acres of wetlands and 60 waterbodies that may be affected by the project. Among the waterways to be crossed are the Delaware, Lehigh and Susquehanna Rivers. Among the federally listed species already identified that could be impacted by the project are the Bog Turtle, the Indiana Bat, the Dwarf Wedge Mussel and the Northern Long-eared Bat, which has been proposed-for-listing. Also targeted are forests as well as public and private lands, much of that land being sensitive green fields that have not previously been disturbed. The Pennsylvania Game Commission has already commented in a letter filed to the FERC PennEast docket that endangered and threatened species will be negatively impacted by this Project.[17]

The size and scope of the construction activity for the PennEast pipeline and stream crossings associated with this project threaten to adversely impact water resources within the Delaware River Basin. This includes the cumulative impacts of additional water crossings and wetland disturbance, which are in addition to impacts in the same subwatesheds recently impacted by the Transco pipeline.[18] Large-scale transmission pipelines such as PennEast's also result in significant forest fragmentation, invite and propagate the spread of invasive species, and degrade the diversity and dispersion of native flora and fauna. Furthermore, pipeline projects also degrade the functions and values of the wetlands that they plow through, as the construction and operation of the pipeline permanently converts forested wetlands to uplands or emergent wetlands.

FERC safeguard the integrity of the administrative process by issuing a preservation order with regard to all communications with or by Tetra-Tech in this matter.

[17] Letter of Pennsylvania Game Commission, Northeast Regional Office, February 2, 2015 to Secretary Kimberly Rose, accession number 20150209-0072.

[18] In addition to the Transco's previous and proposed pipeline projects, there are several other reported pipeline projects in the same sub watersheds as the PennEast line, such as: Texas Eastern's TEAM 2014 Project and Columbia's East Side Expansion Project.

The PennEast Pipeline will further induce the development of access roads, a compressor station, and other supporting infrastructure, which will further degrade the region's natural environment. These sources, together with construction equipment and other operational facilities, will emit air pollution, including criteria pollutants such as nitrogen oxides ("NOx"), and hazardous air pollutants such as volatile organic compounds ("VOCs"), which also are ozone precursors. The project also will result in the direct emission of climate-change-causing greenhouse gases ("GHGs"): carbon dioxide ("CO2") and nitrous oxide from compressor engines, line heaters, and generators; fugitive methane emissions from compressors and the pipeline; and black carbon emissions from diesel vehicles and equipment.

In addition to the direct impacts to natural resources located in the immediate vicinity of the project, the availability of infrastructure to bring gas to market through a region underlain by the Marcellus Shale formation is likely to induce the development of additional gas wells, including high volume hydraulic fracturing, gathering lines, and all of the related additional infrastructure. Such development brings with it water pollution including wastewater discharges, air and land degradation, and could plague rural communities with constant truck traffic, the loss of scenic vistas, and increased noise and light pollution, among other impacts.

The pipeline will reportedly affect approximately 1,094 tracts of land and approximately 861 landowners. In response to these impacts, many municipalities have adopted resolutions opposing the pipeline including: Mercer County, NJ, Hopewell Township, NJ, Delaware Township, NJ, Frenchtown Borough, NJ, Holland Township, NJ, East Amwell Township, NJ, West Amwell Township, NJ, Kidder Township, NJ, Lambertville, NJ, Alexandria Township, NJ, Milford Borough, NJ, Princeton, NJ, Clinton Township, NJ, Kingwood Township, NJ, Pennington Borough, NJ, Carbon County, PA, Dallas Township, PA, Riegelsville Borough, PA, Moore Township, PA, Plains Township, PA, Towamensing Township, PA, Solebury Township, PA and Lower Saucon Township, PA.

V. THE PIPELINE MAY ADVERSELY IMPACT RESOURCES WITHIN LOWER SAUCON TOWNSHIP OR IN CLOSE PROXIMITY TO THE TOWNSHIP

Lower Saucon Township is a "local agency" and an "interested person"[19] with respect to this project and its potential impacts on natural and cultural resources within the Township. It has sought to conserve and protect those resources and has a long history of doing so.[20] On January 21, 2015, the Township Council adopted a Resolution

[19] See, e.g., 40 C.F.R. §1501.7.

[20] Lower Saucon Township's multi-municipal comprehensive plan states: "Saucon Valley's natural resources, along with its other cultural and historic assets, are significant components of the region's future economic development.... From historic structures and architecture to unique geologic forms, this portion of Saucon Valley, can offer residents and visitors alike with experiences unparalleled to any in this area of the Commonwealth." *Our Resources, Our Valley:*

stating that it "opposes and objects to the design, route, and construction of the... PennEast pipeline and Hellertown Lateral. The construction and operation of the proposed pipeline/lateral threatens to significantly damage streams, wildlife habitat, existing farm operations, and the quality of life in Lower Saucon Township."[21]

PennEast has proposed changes to the pipeline route several times since its initial pre-filing request and first draft Resource Report 1. Because the route is subject to ongoing modification, these comments identify resources that are subject to potential impacts within the general area of the survey corridor. It is possible that some of these resources will not be impacted by the construction and operation of the pipeline. However, because the route is subject to change, prudence dictates that we identify all resources within a large project action area to ensure that potential impacts are included within the scope of the environmental review.

The Hellertown Lateral route may take the pipeline through or near a number of historic National Register-Eligible properties[22] within or adjacent to the township. See Appendix 3, compilation of Maps of National Register Listed and Eligible Districts, Canals and Structures, and PHMC CRGIS records.

One property is identified in the Pennsylvania Historic Museum Commission ("PHMC") Bureau of Historic Preservation[23] database as Key No. 086688, and named as "Site No. 3: Farmhouse, Barn & Outbuildings." A copy of the Pennsylvania Historic Museum Commission ("PHMC") database record for this National Register-Eligible property is included within Appendix 3. The property is closest to Milepost 69, and Hellertown Lateral milepost 0.1.

The main pipeline route also appears to cut through the National Register-Eligible Hopeville Historic District (PHMC Key 96309) near the point where it crosses the Lehigh River. See Appendix 3, PennEast and National Register Listed Historic Canals and Register-Eligible Historic Districts. It also passes within 2,000 feet of the National Register-Eligible Redington Historic District (PHMC Key 96308). See Appendix 3. The main pipeline route appears to pass approximately 250 feet from the National Register-Eligible Baker Farm/Anthony Oberly Farm on Redington Road, (PHMC Key 96307). See Appendix 3. Finally, the main pipeline route appears to pass approximately 500 feet

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Multi-Municipal Comprehensive Planning in Pennsylvania's Saucon Valley (October 2009) http://www.lowersaucontownship.org/pdf/jointcompplan.pdf

[21] That resolution is filed of record with FERC at the PennEast pre-filing docket, accession number 20150122-5163. A copy is included for the convenience of the reader as Appendix 4.

[22] We address FERC's obligations under the National Historic Preservation Act below in Section VII(P), "Consideration of Impacts on Historic Properties Pursuant to the National Historic Preservation Act."

[23] As FERC is aware, PHMC's Bureau of Historic Preservation serves as the Pennsylvania State Historic Preservation Officer ("SHPO"), designated pursuant to 36 C.F.R. Part 60 to identify and nominate eligible properties to the National Register and otherwise administer applications for listing historic properties in the National Register.

from the National Register-Eligible Christman Farm/Pichel Farm property (PHMC Key 143013). See Appendix 3. These properties should be included in any cultural resources overview and survey report. Because PennEast's Appendix J, "Cultural Resource Survey Reports" is not public, but was filed as privileged and confidential, we have not been able to review it.

It is not clear to us yet whether the proposed construction corridor will actually directly impact these historic properties inasmuch as the pipeline route appears to be a moving target. But the potential impacts require a precise review and the properties must be avoided in any final route, unless avoidance is *impossible.*[24]

The proposed route may also take the Hellertown Lateral through an area of wetland in the Township to the south of that historic Site No. 3.[25] See Appendix 3, PennEast Features Map. This wetland is not on the National Wetland Inventory Mapping. Ironically, this wetland was a mitigation project, the result of the destruction of another local wetland caused by the construction of Route 33. We request that this wetland be evaluated for potential pipeline impacts caused by flow interruption or other alterations to the hydrology or vegetation.

The main pipeline route is within the general vicinity of wetlands designated as a Pennsylvania Audubon statewide Important Bird Area near Green Pond in neighboring Bethlehem Township, near Milepost 65. The area is commonly referred to as Green Pond Marsh.[26]

Three issues relating to this wetland area deserve mention. First, although the wetland is recognized by Pennsylvania DEP, it does not appear on the National Wetland Inventory mapping. PennEast's Resource Report 10 does not appear to include this wetland. Second, according to an expert report prepared by a certified wetlands delineator and wetland scientist, Dr. James A. Schmid, the full extent of that wetland area has not been properly delineated. Appendix 5, Letter Report of Schmid & Company Consulting Ecologists to K. White, Environmental Group Manager, PADEP Northeast Regional Office, In re: PADEP Regulatory Jurisdiction at Green Pond/Traditions of America Site Bethlehem Township, Northampton County (October 22, 2014).[27] Thus, the proximity of the pipeline survey corridor to the actual wetlands is uncertain and should be determined with a wetlands delineation that complies with U.S. Army Corps of Engineers Wetlands Delineation Manual (1987). Third, the Pennsylvania Audubon Society has designated the area as a Pennsylvania Important Bird Area ("IBA"), including its status as a stopover for

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[24] "The FERC prefers that projects avoid historic properties, *wherever possible.*" *Guidelines For Reporting On Cultural Resources Investigations For Pipeline Projects.* (emphasis supplied)

[25] The closest Hellertown Lateral mileposts appear to be MP 0.2 – MP 0.4.

[26] The land parcel identifier is Northampton County's parcel ID M7 12 4 0205.

[27] The report and Dr. Schmid's credentials are also available at: http://savegreenpond.yolasite.com/resources/Green%20Pond%20Marsh%20Report%20Oct%2022%2C%202014.pdf

bird migration.[28] Thus, pipeline construction activities may impact the habitat functions of this wetland from a distance greater than ordinarily evaluated.

According to the IBA designation, the Green Pond Marsh is a premiere site for wetland birds in eastern Pennsylvania. Large numbers of shorebirds and waterfowl use the site for stopover on migration. More than 160 species of birds have been recorded here. Seven species are currently listed as threatened or endangered in PA. The site has also attracted over 20 species of migratory waterfowl. The criteria for its qualification as a Pennsylvania IBA include its status as providing a rare and unique habitat for threatened or endangered birds,[29] and as a place of concentration of waterfowl - more than 2,000 at one time - and a migration stopover for concentrations of shorebirds.[30]

The Audubon's Site Information form for this site (enclosed as Attachment A to the Schmid letter), describes some of the key characteristics of the Green Pond Marsh IBA:

> Green Pond Marsh is best qualified as a shorebird and waterfowl stopover site in spring and fall migration. It is also used during winter months for resting and feeding by waterfowl and waders. The wetland habitat of shallow pools with adjacent open field habitat is a rare and unique habitat. Many wetlands designated as IBAs in Pennsylvania are forested wetlands or shrub thicket habitats, but few are wetlands in open fields as seen at this site. These "pothole" open-field, shallow pools are rare particularly in eastern Pennsylvania. They may occur more in the northwest corner of the state but in the southeast region, Green Pond Marsh may be one of the few remaining sites characterized by such habitat.
>
> The Green Pond Marsh is a premiere site for wetland birds in eastern Pennsylvania with large numbers of shorebirds and waterfowl using the shallow pools for stopover on migration. Records of concentrations date back to 1970s but may have occurred over a longer period. Compared to other pond or lake areas in the region it appears to offer a unique habitat and attracts larger concentrations than seen in many areas of eastern Pennsylvania. The shorebird and waterfowl numbers can rival current IBAs such as Middle Creek WMA in concentration for areas in eastern counties.
>
> Highest numbers of birds are seen in spring and autumn migration. In spring after heavy rains, Green Pond Marsh holds water in shallow pools for long periods. It often stays wet for extended periods of time providing a muddy shoreline where shorebirds and waterfowl can feed. Many of

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[28] A copy of the Audubon documentation is available at: http://savegreenpond.yolasite.com/resources/Audubon%20Pennsylvania%20IBA%20Site%20Information%20for%20Green%20Pond%20Marsh.pdf

[29] Criteria D3-PA: Species in rare/unique habitat.

[30] Criteria D4ii-PA: waterfowl (2000+ at one time); Criteria D4v-PA: shorebirds (100+).

> these birds remain for days and sometimes a week or more feeding on organisms in the soft mud. It is especially important to the shorebirds since it provides an area where they can refuel and build up body fat they need to complete their long journey to their Arctic and sub-Arctic nesting grounds.
>
> Over the years, the wet fields at Green Pond have attracted over 160 species of birds and at least 20 different species of shorebirds, including such rarities as American Avocet, Wilson's Phalarope, and Red-necked Phalarope (see Appendices).

Wetland birds in general have lost considerable habitat in recent decades. As a result, these remaining sites that provide important stopover habitat are even more important. Pipeline construction during the spring and fall migration period may disrupt the migration patterns and use of this unique habitat. These impacts must be avoided.

We also request that FERC fully comply with its agreements with U.S. Fish & Wildlife Service on NEPA reviews regarding indirect and cumulative effects on migratory birds and their habitats.[31] We also request that a detailed analysis be conducted of potential impacts to this IBA habitat – along with all other endangered or threatened species habitat in the project action area.[32]

With respect to cultural resources, the pipeline crossing of the Lehigh River between Milepost 68 and Milepost 69 appears to have been relocated away from the area of the Oberly Island and Fahs II pre-historic archaeological sites.[33] Other archaeological

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[31] In its 2011 Memorandum of Understanding with the U.S. Fish and Wildlife Service, FERC agreed to include in its NEPA reviews an evaluation of the " Direct, indirect, and cumulative effects, of the proposed action on migratory birds, including detrimental alteration of important habitats such as breeding, migrating, roosting, or over-wintering habitats using best available demographic, population, or habitat association data." Where the potential for impacts on species of concern is likely, [FERC agreed to] require applicants to conduct pre-application surveys to facilitate the evaluation of effects to migratory birds and their habitats. *Memorandum of Understanding Between the Federal Energy Regulatory Commission and the U.S. Department of the Interior United States Fish and Wildlife Service Regarding Implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds".* We request that the entire route corridor be surveyed in detail in full compliance with this Memorandum of Understanding.

[32] On or about February 9, 2015, the Pennsylvania Game Commission filed a comment stating that the project will in fact negatively impact endangered and threatened species. Accession No. 20150209-0072.

[33] Sites 36NM140 and 36NM116. See, *Archeological Data Recoveries At The Fahs II And Oberly Island Sites: Structure, Function, And Context In The Lower Lehigh Valley Northampton County, Pennsylvania, S.R. 0033, Section 001, PHMC Reference: ER 88-0224-095,* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&ved=0CEQQFjAF&url=http%3A%2F%2Fwww.portal.state.pa.us%2Fportal%2Fserver.pt%2Fdocument%2F1477055%2Foberly_island_vol_i_technical_report_pdf&ei=a5_eVOSyO8KMNp-rguAF&usg=AFQjCNEGNyKeHMnJxYLdTPx_h9sl_btfLg&bvm=bv.85970519,d.eXY

studies have taken place on both sides of the river closer to the re-located pipeline route, about 1.5 kilometers upstream from Oberly Island.[34]

Appendix J of draft Resource Report 10 that describes cultural resource surveys has been withheld from the public. Thus, we cannot know what sites are included within that report. Other sites of potential archaeological interest in the area of any pipeline crossing of the Lehigh River should be investigated. Background investigation should establish estimates of the probability of sites occurring within the study area and the probable distribution of these sites based either on existing survey data and considerations of the known regional settlement patterns, or where insufficient survey data is available, the development of predictive models acceptable to the Pennsylvania Bureau of Historic Preservation. Full compliance with the Pennsylvania *Guidelines For Archaeological Investigations In Pennsylvania,* Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission (Rev. Nov. 2008), should be comprehensively documented.

The Critical Issues Analysis for the Preferred Alternative Route[35] states that 97 karst features are located within 200 feet of the pipeline. The primary source data for karst features in Northampton County is the DCNR Open File Report 87-02. Appendix 6. But that data is old and additional karst features have developed or been identified since that Open File report. The draft EIS must document the use of current best available data to identify karst features within Northampton County. The pipeline route intersects karst features in numerous locations. See, Appendix 6, Maps of Karst Features located near proposed PennEast pipeline route (USGS Hellertown and Nazareth Quadrangles).

FERC should also analyze the pipeline route for impacts to natural areas designated in the "Natural Heritage Inventory Of Lehigh And Northampton Counties, Pennsylvania - Update 2013".[36] *See,* Excerpt From Natural Heritage Inventory, Appendix 7. That inventory was prepared by the Pennsylvania Natural Heritage Program in June of 2013 for the Lehigh Valley Planning Commission. PennEast's mapping indicates that the Hellertown Lateral may impact the supporting landscape of the Bull Run Natural Area, while the current proposed route would take the pipeline west of the Lehigh Slope Natural Area. These areas are designated as natural areas of statewide significance. Excerpts from the National Heritage Inventory for the Bull Run Natural Area and the Lehigh Slope Natural Area are attached, respectively, as Appendix 8 and Appendix 9.

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[34] See, *Phase I-III Cultural Resources Investigation of Site 36 NM 184, Bethlehem Township, Northampton County, Pennsylvania.* 1995, Gray & Pape. Submitted to Columbia Gas Transmission Corporation.

[35] Table 10-7 of draft Resource Report 10.

[36] The entire Natural Heritage Inventory document, with detailed descriptions of all of the listed resources, is available at:
http://www.naturalheritage.state.pa.us/CNAI_PDFs/Lehigh%20and%20Northampton%20CNHI_update_2013.pdf

The Bull Run Natural Heritage Area is a "forested area includ[ing] nearly 200 acres of interior forest.[37] The area between the forest edge and 100 meters into the forest is ... highly influenced by edge effects: increased levels of light, noise, temperature, wind and dryness. These effects create much different habitat conditions than those found in interior forest. Interior forest conditions are essential habitat for interior forest dwelling birds. This area has been previously impacted by construction that has fragmented even larger forested areas."[38] Any intrusion of the PennEast Pipeline into this area is a cumulative effect that threatens to further degrade this important forest environment.[39]

The Natural Heritage Inventory document recommended a number of Conservation Actions for the Bull Run Natural Area. Examples include:

- Maintaining the current hydrologic regime, as critical to the community and rare species at this site.

- Controlling invasive species to prevent native species from being crowded out. Invasive species have begun to colonize parts of the forest interior due to prior fragmentation.

- Allowing the forested habitats to achieve and maintain old growth conditions. ***Avoid fragmenting the existing forested areas with additional buildings or infrastructure.***

The intrusion of a pipeline into this area would frustrate and damage those conservation actions.

VI. THE DRAFT ENVIRONMENTAL IMPACT STATEMENT MUST INCLUDE A DETAILED ANALYSIS OF THE PROJECT PURPOSE AND NEED, SUPPORTED BY SUBSTANTIAL EVIDENCE.

The scale of the project and the volume of natural gas – 1 BCF/day – that PennEast proposes to transport though this pipeline belies PennEast's public claim that its purpose is to serve residential customers within Eastern Pennsylvania and New Jersey. The PennEast public website explicitly ties the 1 billion cubic feet per day to "4.7 million homes heated." See PennEast infographic at www.penneastpipeline.com (copy attached as Appendix 10). The notion that its 1 billion cubic feet of natural gas per day will serve, as PennEast's infographic claims, "4.7 million homes heated" as "local customers" is patently misleading. To place PennEast's claim in context, the number of households in the entire state of New Jersey is only 3,186,418 (2009-2013). See, http://quickfacts.census.gov/qfd/states/34000.html

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[37] "Interior forest" is forest at least 100 meters in from the edge of any opening such as a field, road, railroad or utility rights-of-way.

[38] These include the construction of Interstate 78,which fragmented the eastern portion of the forested hill. And a utility right of way divided the contiguous forested habitat into two smaller pieces of interior forest.

[39] We address in more detail the adverse impacts of forest fragmentation below, in section VII(N).

The project appears to be offer redundant services in the region, as it will run nearly parallel to an already existing large scale transmission line that is owned and operated by Transcontinental Gas Pipe Line Co. Transco's pipeline itself is currently in the process of capacity upgrades, the Leidy Southeast Expansion Project.

Another new pipeline proposal, "Diamond East", is also anticipated to cut a somewhat parallel path, creating another redundant line to PennEast. We are advised that Diamond East is an expansion project of Transco's existing Pennsylvania pipeline designed to move 1 Bcf/d from its Leidy line in Lycoming County to near Trenton in Mercer County, New Jersey.

Indeed, the Project's Resource Report No. 1 practically admits that there is no need for this pipeline capacity to convey gas to cover *actual new demand*. Rather, it focuses on *pro forma* claims of the economic advantages of "enhanced competition", "additional supply flexibility, diversity and reliability", "liquid points for trading", and the "ability to capture pricing differentials between the various interconnected market pipelines." [40]

PennEast Pipeline has stated that it has contracts with shippers for the gas it intends to transport, and suggests that those contracts are sufficient proof of the need for the pipeline.[41] If so, then the FERC should require the disclosure of those contracts as part of the environmental review. *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999) ("If an applicant has entered into contracts or precedent agreements for the capacity, it will be expected to file the agreements in support of the project.") (P. 25).

These contracts appear to be with entities that are controlled by PennEast Pipeline, LLC members themselves. One of the shippers is UGI Energy Services, LLC, which is a 22% interest holder in PennEast Pipeline Company LLC, and its project

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[40] PennEast Resource Report No. 1 (also described as "Preliminary Draft 1-2 FERC Section 7c Application November 2014"), p. 1-2: "An additional supply of natural gas to the region will provide a benefit to consumers, utilities and electric generators by providing enhanced competition among suppliers and pipeline transportation providers. The Project will satisfy the needs of shippers seeking (i) additional supply flexibility, diversity and reliability; (ii) liquid points for trading in locally produced gas, including Marcellus Shale gas; (iii) direct access to premium markets in the northeast and mid-Atlantic regions; (iv) the ability to capture pricing differentials between the various interconnected market pipelines; and (v) firm access to long-lived dry gas reserves."

[41] PennEast's Resource Report 10 claims that: "PennEast is not aware of any non-PennEast system alternatives that would satisfy the purpose and need of the Project. The purpose and need of the Project includes the need to satisfy the service that has been subscribed by the Project shippers under long-term firm contracts, which include multiple, unique receipt and delivery point combinations located along the PennEast system. PennEast is not aware of any other pipeline alternative that could satisfy the unique receipt and delivery point combinations subscribed under its agreements with the Project shippers." Resource Report 10, Preliminary Draft, FERC Section 7c Application, p.31. Given the fact that the shippers are controlled by members of Penn-East, these "unique combinations" were within the control of PennEast.

manager. Another shipper, PSEG Power LLC, is a 22% interest holder in PennEast. Yet another shipper, South Jersey Gas Company, is a subsidiary of South Jersey Industries, a holding company, and 22% interest holder. Another shipper, Pivotal Utility Holdings, d/b/a Elizabethtown Gas, is a subsidiary of ALG Resources, a 22% interest holder. Another shipper, New Jersey Natural Gas, is a subsidiary of New Jersey Resources, a 22% interest holder in PennEast. Finally, Texas Eastern Transmission is a subsidiary of Spectra Energy, which provides the direct access to the eastern Marcellus Shale region of northeast Pennsylvania.[42]

The commitments of these entities under the terms of PennEast's open season announcement are based on requests for a maximum daily quantity ("MDQ"). PennEast Pipeline Company, LLC Announces Binding Open Season For Transportation Service, August 11, 2014, http://penneastpipeline.com/openseason/OpenSeason_Announcement.pdf As is customary, the contracts are likely to be based on maximum contract demand and maximum daily quantity.

In weighing the various alternatives and project impacts, FERC must not uncritically accept PennEast's claims regarding the project's purpose and need that, in essence, foreclose FERC from accepting any alterative except the routes and capacity proposed by PennEast. PennEast's *ipse dixit* statement of need in its Resource Report 10 is a classic example of a statement of "need" that is calculated to foreclose *ab initio* any consideration of alternatives that is different from its exact proposed project.

The needs analysis for this proposed pipeline must be vigorous and exhaustive. It will require a robust analysis of the underlying data because unique conditions are driving the market to drill for natural gas. These conditions include, for example, poor regulatory oversight of the drilling; exaggerated Wall Street hype; an oversupply of gas; the recent numerous approvals for infrastructure to move it; and an increasing interest in its export. FERC must determine whether there is an actual demand, in the United States, for the amount of gas being produced and proposed to be transported. Recent reports and articles suggest that there is not. *See, e.g.,* Daniel Gilbert and Tom Fowler, "Natural Gas Glut Pushes Exports", *Wall Street Journal* (October 4, 2012), available at http://online.wsj.com/ article/SB10000872396390444223104578036403362012318.html.

Therefore, FERC should gather all the information necessary to perform a complete and accurate needs analysis. This may include information such as the following:

[42] Spectra Energy claims that "this [PennEast] project will provide Spectra Energy with a strategic opportunity to leverage existing assets by directly connecting northeast Pennsylvania Marcellus shale production to the Texas Eastern Transmission and Algonquin Gas Transmission systems, and will allow Spectra Energy to further strengthen its relationship with some of its biggest customers." http://www.spectraenergy.com/Operations/New-Projects-and-Our-Process/New-Projects-in-US/PennEast-Pipeline-Project/

1. current data on the recoverable reserves in Pennsylvania that could feasibly be transported through this pipeline;

2. Estimated Ultimate Recovery (EUR) of shale plays by the USGS within the project area;

3. holdings by the relevant suppliers within the project area;

4. reserves and EURs of holdings by the relevant suppliers within the project area based upon USGS data and methodology;

5. percentage of wells drilled and capped by the relevant suppliers within the project area;

6. yearly data on producing wells owned by the relevant suppliers within the project area;

7. contracts between the relevant suppliers and the PennEast Pipeline Company;

8. contracts between the relevant suppliers and the purchasers of the transported gas;

9. total current retail demand of natural gas in the relevant markets;

10. projected retail demand of natural gas in the relevant markets from 2015 to 2020, from 2020 to 2025, and from 2025 to 2030;

11. projected supply of natural gas for the relevant markets from 2015 to 2020, from 2020 to 2025, and from 2025 to 2030;

12. number of billion cubic feet per day (Bcf/d) of new transmission capacity approved to serve the northeast markets over the past 5 years;

13. number of billion cubic feet per day (Bcf/d) of new transmission capacity approved to serve the northeast markets over the past 5 years, currently in operation;

14. number of billion cubic feet per day (Bcf/d) of new transmission capacity approved to serve the northeast markets over the past 5 years, but not yet in operation;

15. number of billion cubic feet per day (Bcf/d) of new transmission capacity planned to serve the northeast markets that are currently in prefiling stages;

16. number of billion cubic feet per day (Bcf/d) of new transmission capacity planned to serve the northeast markets that are in the application stage; and

17. reports on total United States gas reserves, EURs, transmission capacity, yearly production, storage, market demand over the past five years, and projections over the next five, ten, fifteen, and twenty years.

The analysis of the project's purpose and need must evaluate the possibility that the pipeline will be used to transmit natural gas for export, rather than the domestic use claimed by PennEast.

Section 3 of the Natural Gas Act provides in pertinent part:

> [N]o person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it do so. The Commission shall issue such order upon application unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest.

15 U.S.C. § 717b(a).

In 2006, FERC acquired "exclusive authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal." 15 U.S.C. §717b(e)(1); *see,* Department of Energy Delegation Order No. 00-004.00A (May 16, 2006).

The Dominion Cove Point LNG export facility[43] would provide a primary route for shipping Marcellus shale gas to global markets. In Dominion Cove Point LNG, LP's ("DCP") own words:

> DCP is especially well positioned to export gas production from the Marcellus Shale, one of the largest shale plays with among the lowest development costs[.] The pipeline industry in the Marcellus area has recently experienced a surge in pipeline expansions as the gas producers look for ways to get their gas to markets. With export authorization, DCP would be able to provide an additional outlet for these growing domestic gas supplies.[44]

DCP also owns a pipeline system that underlies these shale plays and provides "direct access" to the terminal, thus linking Cove Point to the larger regional gas fields, connecting their production to the world market. *Id.* Indeed, DCP already has contracted with Japanese and Indian companies to accept LNG from its terminal.[45]

FERC cannot ignore the high probability that the PennEast pipeline will be utilized as a conduit for natural gas export from the United States.[46] The current situation

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[43] Dominion Cove Point LNG, LP, Docket No. CP13-113-000

[44] DCP, Application for Export to the Department of Energy 9 (Oct. 3, 2011).

[45] Application at 2; see also Reuters, Dominion Signs Deals to Export U.S. Natural Gas from Cove Point (Apr. 1, 2013), available at: http://www.reuters.com/article/2013/04/01/us-lng-dominion-export-idUSBRE9300CH20130401.

[46] A legal question exists whether a taking of private property for purposes of an interstate natural gas pipeline that will be used to transmit natural gas for foreign export is consistent with the Fifth Amendment Takings Clause and *Kelo v. City of New London*, 545 U.S. 469 (2005). A taking must be for the purpose of a "public use." The limitations on government power imposed by the Takings Clause raise the question of whether FERC can certify a project as in the "public necessity and convenience", thus authorizing the exercise of eminent domain power, where it entails the taking of land for "domestic use" of natural gas, while another federal agency considers its export, or where FERC fails to make a full and independent inquiry into the potential for such export for the private financial benefit of natural gas companies. In

creates a "reasonably foreseeable" result – gas transmitted through the proposed pipeline is likely to be exported during the life of the project. Therefore the implications and impacts of such exports must be studied in detail. 18 C.F.R. §380.12(a)(8).[47]

VII. THE DRAFT ENVIRONMENTAL IMPACT STATEMENT MUST INCLUDE A DETAILED ANALYSIS, SUPPORTED BY SUBSTANTIAL EVIDENCE, OF ALL "CONNECTED ACTIONS", ALL "CUMULATIVE ACTIONS", ALL "SIMILAR ACTIONS", ALL ALTERNATIVES INCLUDING THE "NO ACTION" ALTERNATIVE AND MITIGATION MEAURES, AND THE PROJECT IMPACTS, INCLUDING DIRECT, INDIRECT, AND CUMULATIVE IMPACTS.

Transcontinental Gas Pipe Line Company, Docket No. CP12-30-000, Order Issuing Certificate And Granting Abandonment (November 2, 2012), the Commission stated:[footnote con't., p.23]

> Commenters also suggest that the gas transported by the proposed project is ultimately going to be exported. There is no indication in the record that any of the customers that have subscribed to the capacity created by the proposed facilities contemplate using that capacity to export natural gas. In any event, no gas may be exported without prior NGA... section 3 authorization from the Department of Energy (DOE). That DOE proceeding would be the appropriate forum to address the concerns of the commenters.

Transcontinental Gas Pipe Line Company, LLC, 141 FERC P 61091 (2012), n.16. We respectfully disagree that the DOE proceeding would be the appropriate forum to address concerns that the power of eminent domain would be used to justify the appropriation of private property for purposes of transmission of natural gas for export. Such a DOE proceeding would be too late because property would already have been acquired. Moreover, issues relating to the public convenience and necessity for the pipeline, and its potential use by PennEast Pipeline LLC and its controlled entities for transmission of gas for export rather than for domestic "public use" must be addressed in *this* proceeding, and cannot be deferred or delegated to DOE. The potential for export must be independently analyzed not only for the "public convenience and necessity" finding, but also because it raises NEPA issues of "connected action" and "indirect impacts." *See also*, Executive Order 13406 of June 23, 2006, "*Protecting the Property Rights of the American People,*" Section 1: "It is the policy of the United States to protect the rights of Americans to their private property, including by limiting the taking of private property by the Federal Government to situations in which the taking *is for public use*, with just compensation, and for *the purpose of benefiting the general public and not merely for the purpose of advancing the economic interest of private parties to be given ownership or use of the property taken.*" 71 Fed. Register 36973 (emphasis supplied).

[47] The Energy Information Administration (EIA) has concluded that increased natural gas exports lead to increased natural gas prices in the domestic market. Larger export levels lead to larger domestic price increases, while rapid increases in export levels lead to large initial price increases that moderate somewhat in a few years. Slower increases in export levels lead to more gradual price increases but eventually produce higher average prices during the decade between 2025 and 2035. U.S. Energy Information Administration, *Effect of Increased Natural Gas Exports on Domestic Energy Markets,* as requested by the Office of Fossil Energy (January 19, 2012), available at http://www.eia.gov/analysis/requests/fe/. In addition, EIA found that "increased LNG exports result in higher total primary energy use and energy-related CO2 emissions in the United States." *Id.* Since FERC is required to consider the price of gas and environmental impact in its assessment of public convenience and necessity, the exporting of gas would be contrary to the domestic public interest.

The Commission must conduct a comprehensive review of all potentially significant adverse environmental effects of the project, in accordance with the requirements of NEPA, including the project's potential to degrade water resources, impair ecosystem services, diminish air quality, fragment forest, harm wildlife and botanical species of concern, permanently alter landscapes, disrupt community character, and threaten community safety.

We respectfully submit that prior FERC environmental reviews for interstate natural gas transmission pipelines have failed to adhere to NEPA. It has based its analysis on incomplete information, including an inadequate assessment of water resources, forest ecosystems, and air quality and climate change impacts. It has refused to take a hard look at the indirect and cumulative impacts of the projects. It has failed to properly consider purpose and need and reasonable alternatives.

Prior mitigation plans have been inadequate or submitted too late for meaningful public review and comment. Prior EIS have failed to properly evaluate the social cost of carbon emissions by failing to utilize available interagency tools in order to evaluate climate change impacts due to pipeline projects. Prior EIS have failed to include an adequate analysis of the project's indirect and cumulative effects and impermissibly based their conclusion that the project's significant environmental impacts could be adequately mitigated on substantially incomplete information. The EIS reviews have also underestimated potential air quality and climate change impacts and neglected the long-term impacts of forest fragmentation. Moreover, they have impermissibly dismissed the "no action" alternative, or based its "no action" alternatives analysis on a flawed interpretation of NEPA's causation requirements.

Moreover, FERC has approved such interstate natural gas transmission pipeline projects despite the failure of the applicants to obtain key permits prior to certificate issuance, including a Section 401 Water Quality Certification from the state agencies with jurisdiction.[48] It should not repeat these errors in this case.

The Commission has previously erred in concluding that the environmental consequences of induced gas production were not indirect effects of the project that the Commission must consider in its environmental review. Additional natural gas production in the Marcellus Shale region is a reasonably foreseeable consequence of these demand-creating projects. Thus, the Commission must consider the environmental consequences of this development.

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[48] FERC purports to justify this practice on the basis that awaiting issuance of a state Section 401 water quality certification prior to issuance of its Certificate would unduly delay pipeline projects. *See, e.g., Northwest Pipeline GP*, Order Denying Clarification and Rehearing, 145 FERC ¶61,013 (2013). As we explain in more detail below in Section VII(J), such a justification does not survive a plain reading of the unambiguous language of Section 401 of the Clean Water Act.

The Commission has previously erred in concluding that project cumulative impacts are not "significant". FERC must take the requisite "hard look" at the Project's impacts against the backdrop of past and present activities.

The Commission has previously erred in concluding that project significant environmental impacts will be avoided or adequately minimized. The Commission has reached such conclusions despite a lack of information or on the basis of unsupported assumptions, and where significant information remains to be submitted for review.

The Commission has failed to properly evaluate project air quality impacts. FERC has conflated the fact that some project emissions would not trigger "major" source requirements under the Clean Air Act with a determination that the projects would have no significant effect on air quality.

The Commission has failed to fully evaluate project climate impacts. FERC has failed to fully analyze and disclose greenhouse gas emissions caused by projects it approves and has underestimated the full impacts of those emissions.

The Commission has improperly ignored the long-term impacts of pipeline project fragmentation of interior forest habitats. FERC's analyses underestimate the permanent impacts that fragmenting interior forest may have on species, and its mitigation measures are insufficient to sufficiently address these significant impacts.

The Commission is under a duty to consider not only this specific pipeline route, but also all "connected actions", "cumulative actions", and "similar actions":

> To determine the scope of environmental impact statements, agencies shall consider 3 types of actions, 3 types of alternatives, and 3 types of impacts. They include:
>
> > (a) Actions (other than unconnected single actions) which may be:
> > (1) Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:
> >
> > * * *
> >
> > (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.
> >
> > (2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.
> > (3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography....
>
> (b) Alternatives, which include:
> (1) No action alternative.

(2) Other reasonable courses of actions.
(3) Mitigation measures (not in the proposed action).

(c) Impacts, which may be: (1) Direct; (2) indirect; (3) cumulative.

40 C.F.R. §1508.25.

CEQ regulations expressly prohibit a federal agency from avoiding preparation of an EIS by "breaking [an action] down into small component parts." 40 C.F.R. §1508.27(b)(7) (1996). Closely related or "connected" actions must be discussed in the same impact statement. *See* 40 C.F.R. §1508.25(a)(1) (1996); *see also Town of Huntington v. Marsh,* 859 F.2d 1134, 1142 (2d Cir.1988), *cert. denied,* 494 U.S. 1004, 110 S.Ct. 1296, 108 L.Ed.2d 473 (1990); *Taxpayers Watchdog, Inc. v. Stanley,* 819 F.2d 294, 298 (D.C. Cir.1987); *City of Rochester v. United States Postal Serv.,* 541 F.2d 967, 972 (2d Cir.1976).

An EIS must also describe the direct and indirect effects, and cumulative impacts of, a proposed action. 40 C.F.R §§1502.16, 1508.7, 1508.8; *Northern Plains Resource Council v. Surface Transportation Board,* 668 F.3d 1067, 1072-73 (9th Cir. 2011). These terms are distinct from one another: Direct effects are "caused by the action and occur at the same time and place." 40 C.F.R. § 1508.8(a). Indirect effects are also "caused by the action" but:

> are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effect on air and water and other natural systems, including ecosystems.

40 C.F.R. §1508.8(b).

A. The Commission must ensure a review of the environmental consequences of induced natural gas production and transportation infrastructure as "indirect effects" or "cumulative effects" of the Project.

Under NEPA's and CEQ's duties imposed by 40 C.F.R. §1508.8(b) to analyze the "indirect" effects of a project within the required scope of a NEPA review including "growth inducing effects and other effects related to induced changes in the pattern of land use...and related effects on air and water and other natural systems, including ecosystems", agencies routinely are required to consider the environmental consequences induced by approval of an infrastructure project. *See, e.g., Northern Plains Resource Council, Inc., supra,* 668 F.3d at 1081–82 (9th Cir. 2011) (finding that NEPA review must consider induced coal production at mines, which was a reasonably foreseeable effect of a project to connect two rail lines that would carry coal, especially where the company proposing the railway line anticipated induced coal production in justifying its proposal); *Mid States Coal. for Progress v. Surface Transp. Bd.,* 345 F.3d 520, 549–50

(8th Cir. 2003) (environmental effects of increased coal consumption due to construction of a new rail line to reach coal mines were reasonably foreseeable and required evaluation under NEPA).

There is no demonstrated support for a conclusion that the entities that will subscribe to its capacity have sufficient current production to fill their portion of the pipeline project's capacity for even a year without drilling any new wells. It is not likely that the Commission will impose time limits on the operation of the proposed pipeline. Even assuming that the PennEast pipeline would operate only until the end of the initial terms of PennEast's precedent agreements with its affiliates or other transportation service agreements, it is unlikely that existing wells will be able to supply sufficient natural gas over that time period.

FERC must conduct an analysis to determine to what extent producers and customers utilizing the PennEast pipeline will have to develop additional production capacity for the natural gas to be transported in the pipeline over its life. NEPA requires that the Commission take a hard look at the effects of this induced development and include an analysis of the environmental impacts in the EIS. That such development is undertaken pursuant to state regulatory authorization does not eliminate FERC's responsibility under NEPA to account for the environmental effects of drilling and fracturing at each and every newly developed or serviced well induced by projects under its jurisdiction. *See Calvert Cliffs v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109,1125 (D.C. Cir. 1971) ("[O]bedience to water quality certification . . . is not mutually exclusive with the NEPA procedures. It does not preclude performance of the NEPA duties . . . [but] essentially establish a *minimum condition* for the granting of a license.") (emphasis in original).

Anticipated future natural gas drilling in the area relevant to the project, above and beyond current production levels, is sufficiently connected to the project to require consideration. FERC cannot limit evaluation of indirect effects of the proposed project to only those for which the exact location, scale, and timing of future facilities is known. FERC cannot permissibly accept a bald assertion that there is extant adequate natural gas production in Pennsylvania to fully supply the pipeline project over its entire life without additional production. The Commission cannot permissibly conclude that additional production is not causally related to the pipeline project because natural gas development would continue "with or without the proposed projects." Such rationales misconstrue NEPA's mandate to analyze the effects of the induced industrial growth — including impacts from new gas development and from the installation and operation of new gas distribution systems — that are reasonably foreseeable.

This project, and others like it, fit into the larger picture of exploding shale gas development in the Marcellus Shale region. Numerous separate large-scale transmission pipeline projects either currently traverse the Delaware River Basin or are planned to cross it. [49]

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[49] While we have not yet independently reviewed all the dockets or announcements, such projects reportedly include: [footnote con't., p. 28]

Records maintained by the Pennsylvania Department of Environmental Protection show that drilling of wells in the Marcellus Shale increased by nearly 400 percent in a single year between 2008 and 2009, from 195 wells to 768 wells. See Bureau of Oil & Gas Mgmt., Pa. Department of Environmental Protection, Wells Drilled in 2008 (Dec. 31, 2008).[50] A more recent report generated from PADEP's Office of Oil and Gas Management of well drilling and operation permits (attached as Appendix 11) shows the continued explosion of well drilling in the Marcellus Shale region from 2008 to 2014. http://www.portal.state.pa.us/portal/server.pt/community/oil_and_gas_reports/20297

The increased development is not limited to the drilling of wells. 5.6 billion cubic feet per day of pipeline capacity was constructed in the Northeast just in 2008 and 2009, and an additional 1.2 billion cubic feet per day was constructed in the region as of January 2011.[51] "Much of the new pipeline capacity in the area is targeted at improving the access of shale gas to markets." *Id.* This rapid expansion of pipeline capacity proceeds apace. According to FERC, "nearly 4.3 Bcf/d of new pipeline capacity is scheduled to come online by the start of the [2014-15] winter. Most of this capacity is producer-sponsored to move natural gas out of the Marcellus and Utica Shales[.]"[52]

Thus, the PennEast 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 shale gas development. The foreseeable related activities include the impacts of gas exploration and production and the construction and operation of well pads, access roads, gathering lines, compressor stations, and other infrastructure.

· TGP 300 Line Upgrade Project (CP09-444); Columbia 1278k Replacement (CP10-492)
· ESNG Eastern Shore Expansion (C11-333); ESNG New Castle Project (CP11-303)
· DTE Bluestone Pipeline; TGP Northeast Upgrade Project (CP11-161)
· ESNG Greenspring Project (CP12-461); Transco Northeast Supply Link (CP12-30)
· Transco Philadelphia Lateral (CP11-508); Transco Mainline "A" Replacement (CP12-497)
· Constitution Pipeline (PF12-9); Texas Eastern Appalachia to Market Expansion 2014 (TEAM 2014) Project; Transcontinental Atlantic Sunrise (PF-14-8)
· Transco Leidy Southeast Expansion CP13-551-000; Sonoco Mariner East Project (Not in Prefiling yet); Commonwealth Pipeline (Not in Prefiling yet, project reportedly "suspended")
· Transco Northeast Connector (CP13-132-000); NiSource East Side Expansion Project (CP-14-17)

[50] 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 Envtl. Prot., Wells Drilled in 2009 (Jan. 25, 2010).
[51] FERC Winter 2010-11 Energy Market Assessment (Oct. 21, 2010), https://www.ferc.gov/market-oversight/reports-analyses/mkt-views/2010/10-21-10.pdf
[52] FERC Winter 2014-15 Energy Market Assessment (Oct. 16, 2014), http://www.ferc.gov/market-oversight/reports-analyses/mkt-views/2014/10-16-14-A-3.pdf

The Commission staff must not merely acknowledge "general development of the Marcellus Shale" upstream activities, but instead address existing wells and gathering systems and their impacts.

While the scope of a *cumulative* impact analysis is not bound by a causation requirement, a clear and linear causal link exists between interstate natural gas transmission line construction and upstream natural gas development. Ultimately, the development of upstream activities in the Marcellus region may only proceed if the Commission continues to expand access to markets through the interstate pipeline system. All potential interstate transmission lines must first be approved by the Commission before construction may begin.

Thus, the Commission acts as a gatekeeper, able to promote, prevent, or otherwise affect such activities. "[W]hen an agency serves effectively as a 'gatekeeper' for private action, that agency can no longer be said to have "no ability to prevent a certain effect [under the *Public Citizen* rule]." *Humane Soc. of U.S. v. Johanns*, 520 F. Supp. 2d 8, 25 (D.D.C. 2007). The construction of an interstate natural gas transmission line to enable natural gas drillers to get their product to market is causally related to the development of shale gas resources in the project area because of the Commission's role as gatekeeper. Indeed, it is difficult to imagine a better example of a federal agency's serving as "gatekeeper." Unlike producers of common goods with many options for transport to markets in interstate commerce via road, train, and/or air freight, natural gas producers are wholly reliant on FERC-approved interstate natural gas transmission lines. But for the construction of an interstate pipeline – whose approval is entirely controlled by the Commission – natural gas producers would simply be unable to access markets across state lines.

FERC has previously asserted that an analysis of "the full range of Marcellus Shale development" is "highly difficult and speculative" because it "is both widespread and uncertain in nature and timing." *See, e.g.*, "Order Issuing Certificate and Approving Abandonment." Columbia Gas Transmission, LLC, 149 FERC ¶ 61,255 (Dec. 18, 2014), Order at 119. An impact is reasonably foreseeable, however, if it is "sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision." *Sierra Club v. Marsh*, 976 F.2d 763 (1st Cir. 1992). Furthermore, FERC is *required* to engage in "reasonable forecasting" because "speculation...is implicit in NEPA." *Northern Plains Resource Council v. Surface Transportation Board, supra*, 668 F.3d at 1079 (9th Cir. 2011).

> *[P]rojects need not be finalized before they are reasonably foreseeable.* "NEPA requires that an EIS engage in reasonable forecasting. *Because speculation is ... implicit in NEPA,* [] we must reject any attempt by agencies to shirt their responsibilities under NEPA by labeling any and all discussion of future environmental effects are crystal ball inquiry." As the [EPA] also has noted, "reasonably foreseeable future actions need to be considered even if they are not specific proposals."

Id., 668 F.3d at 1078-79 (citations omitted) (emphasis added).

"[W]hen the *nature* of the effect is reasonably foreseeable but its *extent* is not, [an] agency may not simply ignore the effect." *Mid States Coalition for Progress v. Surface Transportation Board,* 345 F.3d 520, 549 (8th Cir. 2003) (emphasis in original). See also, *Habitat Education Center v. U.S. Forest Service*, 609 F.3d 897, 902 (7th Cir. 2010).

In a 2012 presentation provided through the Penn State Cooperative Extension, *Marcellus Gas Well & Pipeline Projections,*[53] The Nature Conservancy ("TNC") estimated that 60,000 shale gas wells could eventually be drilled in Pennsylvania. *Marcellus Gas Well & Pipeline Projections*, p. 13. TNC reviewed how these projected wells would be distributed on the landscape under various well pad development scenarios. *Id.* It also analyzed where Marcellus Shale drilling was likely to occur (*Id.* at 15-17) and how many miles of new pipelines and the direct and indirect effects of those pipelines on forests by 2030 (*Id.* at 21). For example, TNC estimates that by 2030 there could be 10,000 – 25,000 miles of new gathering pipelines causing an estimated 60,000 to 150,000 acres of direct forest clearing and 300,000 to 900,000 acres of forest edge effects. *Id.,* at 21.

According to TNC, pipeline mileage in Pennsylvania will at least double, if not quadruple, by 2030. *Id.*, at 22. The footprint from pipeline alone is projected to be larger than the "cumulative area impacted by all other Marcellus gas infrastructure combined." *Id.* Thus, when shale gas wells, roads, and other associated infrastructure (besides pipelines) are included, these figures will be much higher.

In a recent report by the investment research firm Morningstar, "drilling inventory figures from some of the most prominent, lowest-cost, and fastest growing Marcellus players, including Cabot Oil & Gas, Range Resources, Chesapeake Energy, EQT Corporation, and Antero Resources," have "identified between 10 and 30 years of drilling locations across the Marcellus, which should fuel several more years of production growth at relatively low cost." Morningstar, Energy Observer, *Shale Shock: How the Marcellus Shale Transformed the Domestic Natural Gas Landscape and What It Means for Supply in the Years Ahead*, p. 17 (Feb. 2014). The information about reasonably foreseeable future drilling, including "drilling locations across the Marcellus," is readily available to FERC. This information would inform both FERC and the public regarding whether FERC is achieving its goal in its Certificate Policy Statement of avoiding "unnecessary disruption of the environment."

Therefore, a clear causal connection exists between the pipeline project and gas drilling in the Marcellus shale formation. Such gas drilling is reasonably foreseeable.

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[53] http://extension.psu.edu/natural-resources/forests/private/training-and-workshops/2012-goddard-forum-oil-and-gas-impacts-on-forest-ecosystems/marcellus-gas-well-and-pipeline-projections

Therefore, FERC would violate 40 C.F.R. §1508.8(b) by failing to consider gas drilling as an indirect effect of the Project.

Reasonable forecasting of induced Marcellus Shale gas production would provide meaningful information to inform FERC's decision about whether the project is in the public interest. Even if FERC does not know the extent of such production, it is certainly aware of its nature and may not simply ignore the effect. *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520, 549 (8th Cir. 2003).

Thus, Marcellus Shale development activities, particularly those in and around the pipeline's service area, are reasonably foreseeable consequences of the project, and their effects must therefore be considered in the Commission's indirect and cumulative impacts analysis. The cumulative impact analysis must encompass consideration of actions that cause an effect within "all, or part, of the time span" of the proposed project's effects. Marcellus shale gas development will have effects within "all, or part, of the time span" of the PennEast project's effects, and that development should therefore be included in the cumulative impacts analysis.

Nor can the Commission evade its responsibilities to engage in a meaningful cumulative impacts analysis in the EIS by arguing that it is impossible to determine where induced shale gas development will occur.

> For a project-specific analysis, it is often sufficient to analyze effects within the immediate area of the proposed action. When analyzing the contribution of this proposed action to cumulative effects, however, the geographic boundaries of the analysis almost always should be expanded. These expanded boundaries can be thought of as differences in hierarchy or scale. Project-specific analyses are usually conducted on the scale of counties, forest management units, or installation boundaries, whereas cumulative effects analysis should be conducted on the scale of human communities, landscapes, watersheds, or airsheds.

CEQ, *Considering Cumulative Effects under the National Environmental Policy Act*, p. 12 (1997) (emphasis added).

CEQ thus says agencies should be considering cumulative impacts at a much broader scale than the specific project geographic scope. CEQ guidance recommends looking well beyond the project area for various resources in a cumulative effects analysis. CEQ says that it may be necessary to look at cumulative effects at the "ecosystem" level for vegetative resources and resident wildlife, the "total range of affected population units" for migratory wildlife, an entire "state" or "region" for land use, and the "global atmosphere" for air quality. 1997 CEQ Guidance, p. 15.

Another case supporting the need for FERC to consider the reasonably foreseeable impacts of Marcellus Shale gas extraction at a broader scale is *Natural Resources Defense Council v. Hodel*, 865 F.2d 288 (D.C. Cir. 1988). In *Hodel*, the D.C.

Circuit remanded the case because the Department of Interior failed to adequately consider the "inter-regional" cumulative impacts of its 5-year oil and gas leasing program in the outer continental shelf on migratory species. *Id.* at 299. The court noted that it would "eviscerate NEPA" to approve of the DOI's environmental analysis. *Id.* Like the DOI in *Hodel*, FERC is ignoring the "interregional" impacts of Marcellus Shale gas extraction.

These impacts are extensive and significant. According to recent research published in Environmental Science & Technology:

> Potential effects on terrestrial and aquatic ecosystems can result from many activities associated with the extraction process and the rate of development, such as road and pipeline construction, well pad development, well drilling and fracturing, water removal from surface and ground waters, establishment of compressor stations, and by unintended accidents such as spills or well casing failures....The cumulative effect of these potential stressors will depend in large part on the rate of development in a region. Depending on extent of development, oil and gas extraction has the potential to have a large effect on associated wildlife, habitat and aquatic life.

Brittingham, M.C., et al., "Ecological Risks of Shale Oil and Gas Development to Wildlife, Aquatic Resources and their Habitats", *Environmental Science & Technology*, pp. 11035-11037 (Sept. 4, 2014) (citations omitted) (Attached as Appendix 12).

This research further explains the true impacts of shale gas drilling and pipelines:

> • Shale oil and gas development changes the landscape. Land is cleared for pad development and associated infrastructure, including pipelines, new and expanded roads, impoundments, and compressor stations, and much of this exploration and development is occurring in relatively undeveloped landscapes. Seismic testing, roads, and pipelines bisect habitats and create linear corridors that fragment the landscape. *Id.* at 11037 (citations omitted).
>
> • Habitat fragmentation is one of the most pervasive threats to native ecosystems and occurs when large contiguous blocks of habitat are broken up into smaller patches by other land uses or bisected by roads, transmission lines, pipelines or other types of corridors. Habitat fragmentation is a direct result of shale development with roads and pipelines having a larger impact than the pads (Table 1). For example, in Bradford and Washington counties Pennsylvania, forests became more fragmented primarily as a result of the new roads and pipelines associated with shale development, and development resulted in more and smaller forest patches with loss of core forest (forest > 100 m from an edge) at twice the rate of overall forest loss. Pipelines and roads not only resulted

in loss of habitat but also created new edges. Similar results have been shown in other studies. *Id.* (citations omitted).

• Fragmentation from linear corridors such as pipelines, seismic lines, and roads can alter movement patterns, species interactions and ultimately abundance depending on whether the corridor is perceived as a barrier or territory boundary or used as an avenue for travel and invasion into habitats previously inaccessible. *Id.* (citations omitted).

• [T]he New York State Department of Environmental Conservation estimates that development of one horizontal well requires over 3300 one-way truck trips. This is a concern because roads of all types have a negative effect on wildlife through direct mortality, changes in animal behavior, and increased human access to areas, and these negative effects are usually correlated with the level of vehicular activity. Even after a well is drilled and completed, new roads and pipelines provide access for more people, which results in increased disturbance. *Id.,* at 11038 (citations omitted).

• In Wyoming, Sawyer et al. found that mule deer migratory behavior was influenced by disturbance associated with coal bed gas development and observed an increase in movement rates, increased detouring from established routes, and overall decreased use of habitat along migration routes with increasing density of well pads and roads. *Id.* (citations omitted).

• Exploration and development of the shale resource is associated with both short-term and long-term increases in noise. In the short term, site clearing and well drilling, [high volume hydraulic fracturing], and construction of roads, pipelines and other infrastructure are a limited time disturbance similar to disturbance and sound associated with clearing land and home construction (Table 1). Depending on number of wells drilled, construction and drilling can take anywhere from a few months to multiple years. Compressor stations, which are located along pipelines and are used to compress gas to facilitate movement through the pipelines, are a long-term source of noise and continuous disturbance (Table 1). Because chronic noise has been shown to have numerous costs to wildlife, compressors have potential to have long-term effects on habitat quality. *Id.* (citation omitted).

• For many species of wildlife, sound is important for communication, and noise from compressors can affect this process through acoustical masking and reduced transmission distances. Studies on effects of noise from compressors on songbirds have found a range of effects including individual avoidance and reduced abundance, reduced pairing success,

changes in reproductive behavior and success, altered predator-prey interactions, and altered avian communities[.]

• Because of the large overlap between the Appalachian shale play and core forest habitat in the East, many forest species are vulnerable to development. Area-sensitive forest songbirds are primarily insect-eating Neotropical migrants, are an important component of forest ecosystems, and, as a group, many have declined in numbers in response to forest fragmentation. These birds are area-sensitive because breeding success and abundance are highest in large blocks of contiguous forest, and numerous research studies have documented negative effects of fragmentation on abundance and productivity....The impact that shale development has on this group of species will depend on the scale and extent of development. By some estimates, less than 10% of potential shale gas development has occurred in the Appalachian basin. If this is the case, there is the potential for a 10-fold increase in the amount of shale gas development, which would likely have negative impacts on area-sensitive forest songbirds and other forest specialists. *Id.,* at 11040 (citations omitted)

• Development of shale resources, which clears land for well pads and roads, is occurring across a large portion of the native range of brook trout, especially in Pennsylvania (Figure 3). If remaining high-quality stream reaches become unsuitable to brook trout, there may be further fragmentation of the larger meta-population. *Id.*

• Freshwater mussels are an additional taxonomic group of interest because of already high numbers of listed species and relative sensitivity to toxicants. The endangered Indiana Bat, (Myotis sodalis), is another example of a species where a large portion of its native range is within areas of shale development (Figure 3). Gillen and Kiviat 2012 reviewed 15 species that were rare and whose ranges overlapped with the Marcellus and Utica shale by at least 35%. The list included the West Virginia spring salamander (Gyrinophilus subterraneus), a species that is on the IUCN Red List as endangered and whose range overlaps 100% with the shale layers. It requires high quality water and is sensitive to fragmentation suggesting that this species is at great risk to oil and gas development. The list also included eight Plethodontid salamanders, a group that tends to be vulnerable because of the overlap between their range and shale layers, their dependence on moist environments and sensitivity to disturbance. *Id.,* at 11040-11041.

The Brittingham research demonstrates the substantial impact that shale gas drilling and pipelines are having and will continue to have on wildlife throughout the Marcellus and Utica shale formations, especially if FERC continues facilitating such

impacts by authorizing infrastructure projects such as the one proposed here. FERC has an obligation under NEPA to take a hard look at these impacts on a much broader scale.

Publicly available maps of permitted gas wells in Pennsylvania show the locations of wells already drilled in the Pennsylvania counties to be crossed by the Project as well as the locations of newly-permitted well sites. The Commission quite simply cannot argue that the location, scale, and timing of wells impacting the Project area are "unknown" when numerous wells are already permitted and relevant data on them is widely available on-line.

A Pennsylvania-specific analysis of the environmental impacts of the Marcellus Shale gas development activities was prepared by The Nature Conservancy: *Pennsylvania Energy Impacts Assessment, Report 1: Marcellus Shale Natural Gas and Wind.* [54]

TNC mapped projected wells across the state, considering how the wells and their associated infrastructure, including roads and pipelines, interacted with the landscape. TNC concluded:

· About 60,000 new Marcellus wells are projected by 2030 in Pennsylvania with a range of 6,000 to 15,000 well pads, depending on the number of wells per pad;

· Wells are likely to be developed in at least 30 counties, with the greatest number concentrated in 15 southwestern, north central, and northeastern counties;

· Nearly two thirds of well pads are projected to be in forest areas, with forest clearing projected to range between 34,000 and 83,000 acres depending on the number of number of well pads that are developed. An additional range of 80,000 to 200,000 acres of forest interior habitat impacts are projected due to new forest edges created by well pads and associated infrastructure (roads, water impoundments);

· On a statewide basis, the projected forest clearing from well pad development would affect as much as one percent of the state's forests, but forest clearing and fragmentation could be much more pronounced in areas with intensive Marcellus development;

· Approximately one third of Pennsylvania's largest forest patches (>5,000 acres) are projected to have a range of between 1 and 17 well pads in the medium scenario;

[54] The report is available at: http://www.nature.org/media/pa/tnc_energy_analysis.pdf. Substantial additional information on the environmental impacts of natural gas development activities in a shale formation is available from the New York Department of Environmental Conservation's Revised Draft Supplemental General Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program, (Sept. 2011) ("NY RDSGEIS"). The NY RDGEIS is available at: http://www.dec.ny.gov/energy/75370.html

· Impacts on forest interior breeding bird habitats vary with the range and population densities of the species. The widely-distributed scarlet tanager would see relatively modest impacts to its statewide population while black-throated blue warblers, with a Pennsylvania range that largely overlaps with Marcellus development area, could see more significant population impacts;

· Watersheds with healthy eastern brook trout populations substantially overlap with projected Marcellus development sites. The state's watersheds ranked as "intact" by the Eastern Brook Trout Joint Venture are concentrated in north central Pennsylvania, where most of these small watersheds are projected to have between two and three dozen well pads;

· Nearly a third of the species tracked by the Pennsylvania Natural Heritage Program are found in areas projected to have a high probability of Marcellus well development, with 132 considered to be globally rare or critically endangered or imperiled in Pennsylvania. Several of these species have all or most of their known populations in Pennsylvania in high probability Marcellus gas development areas;

· Marcellus gas development is projected to be extensive across Pennsylvania's 4.5 million acres of public lands, including State Parks, State Forests, and State Game Lands. Just over 10 percent of these lands are legally protected from surface development.

FERC must examine the cumulative impact of the multiple utility and other linear projects that are being proposed or constructed in the area. These projects do not occur in a vacuum. As one by one they steadily impair the natural and scenic resources of the region, the combined impacts become more severe over time.

B. The Commission need not know the exact location, scale, and timing of future Marcellus Shale development to examine the proposed Project's indirect effects.

Even if it cannot know the exact consequences at each and every wellhead, FERC is obligated under NEPA to undertake an evaluation of reasonably foreseeable natural gas development induced by the availability of the proposed pipeline's transportation capacity.

To meet NEPA's goal of ensuring that decisionmaking goes forward in full view of the environmental consequences, agencies are required to engage in "[r]easonable forecasting and speculation." *City of Davis v. Coleman*, 521 F.2d 661, 676 (9th Cir. 1975). Thus, FERC has an obligation to forecast the consequences of additional natural gas production and transportation infrastructure that is reasonably foreseeable in light of the approval of the project. "The government's inability to fully ascertain the precise extent of the effects of [the activity] is not . . . a justification for failing to estimate what those effects might be before irrevocably committing to the activity." *Ctr. for Biological*

Diversity v. Bureau of Land Mgmt., 937 F. Supp. 2d 1140, 1158 (N.D. Cal. 2013) (quoting *Conner v. Burford*, 848 F.2d 1441, 1450 (9th Cir. 1988)).

The availability of new infrastructure to transport the gas to market creates an inducement for future gas development along the pipeline route that FERC cannot ignore. *See, e.g.*, *City of Davis*, *supra*, 521 F.2d at 676 (EIS for a highway project needs to analyze the impact of induced development despite uncertainty about pace and direction of development). Thus, the Commission cannot lawfully eschew a specific analysis of Marcellus Shale upstream facilities merely because the exact location, scale, and timing of future facilities are not precisely known.

The high demand for gas drilling in the Marcellus Shale region and the requirements by EPA and likely other agencies for completions of new well development will increase incentives to construct wells within close proximity of existing pipeline systems. In addition, significant cost savings are associated with siting well pads as close as possible to transmission pipeline receipt points. Moreover, tools exist to facilitate an analysis of induced natural gas development, even in the absence of specific location and timing. For example, information for both New Jersey and Pennsylvania regarding future gas development can be used to project future development patterns. *See, e.g.*, The Nature Conservancy, *Natural Gas Pipelines: Excerpt from Report 2 of Pennsylvania Energy Impacts Assessment* (Dec. 16, 2010), *available at* http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/pennsylvania/ng-pipelines.pdf

C. The Commission cannot exclude consideration of indirect effects based on the presence of other natural gas pipelines in the area.

The existence of other pipelines does not alter the fact that the 1 Bcf/day of additional capacity created by the pipeline project has the potential to induce additional natural gas production and infrastructure development, especially over the undefined, but likely decades-long, life of the PennEast pipeline.

Output from unconventional natural gas wells sharply declines after the first few years of production. While the advent of Marcellus Shale natural gas production provided an important new source of gas, this supply is characterized by high decline rates, which means that wells must be continuously drilled to maintain supply. In 2001, the U.S. natural gas decline rate was about 23% and the annual replacement requirement was 12 Bcf/d when total consumption was 54 Bcf/d. Today, the decline rate is estimated to be 32% and increased consumption of gas means that approximately 22 Bcf/d must be replaced each year.

The average first year decline rates across Pennsylvania appear to range from approximately 60% to 80%. Penn State Extension, Appalachian Basin Decline Curve and Royalty Estimation, July 27, 2014, available at http://extension.psu.edu/natural-resources/natural-gas/news/2014/07/appalachian-basin-decline-curve-and-royalty-estimation-part-1. See also, Jennifer Hiller, *Red Queen Effect Can Make Production Slow Down in a Hurry*, FuelFix, Oct. 30, 2013, available at http://fuelfix.com/

blog/2013/10/30/red-queen-effect-can-make-production-slow-down-in-a-hurry/. This so-called "Red Queen" effect[55] decline in production at unconventional wells will force companies to drill additional wells to continue to achieve the same levels of natural gas production. *Id.* One source predicts that "more than 6,000 U.S. wells would be needed each year to offset declines, at an annual cost of $35 billion." *Id.*

"The initial decline, or decrease in production, over the first year of operation of a shale well is an important variable in estimating the potential for future production." *Id.* With average first year decline rates between 60% to 80%, more drilling and hydraulic fracturing will occur as the industry attempts to keep production up, thereby causing even more environmental impacts from activities that are links in a chain with the pipeline.

Because the PennEast pipeline can be expected to be operational over a period of decades, it is arbitrary and capricious to assume that additional natural gas production facilities will not be associated with the project.

D. The Commission must properly apply the causation test in determining the scope of the EIS with respect to indirect effects.

FERC is not free to ignore indirect upstream effects of the project under NEPA simply because there are other causes of natural gas development. Natural gas production that is a reasonably foreseeable consequence of the project must be evaluated as part of the EIS. For example, FERC cannot refuse to consider the environmental consequences of the likely increases in natural gas production in the area that the PennEast project will encourage and facilitate simply because it may assume that natural gas development would continue without the pipeline.

Such an approach would misinterpret NEPA's requirement that FERC consider "reasonably foreseeable" indirect effects of the proposed action. The project is completely dependent on having natural gas to transport and thus natural gas production is an essential predicate to the pipeline project moving forward. Nothing in NEPA, its regulations, or applicable case law limits the requirement to evaluate the indirect effects of the development following from a project to those situations where the project is responsible for causing all, as opposed to some, of the development in the area.

It is reasonably foreseeable that over the life of the PennEast pipeline, additional natural gas development will be required to fill the capacity of the pipeline project and additional gathering lines will be constructed to link new wells to the pipeline project. This is precisely the type of indirect effect that the Commission must analyze under NEPA. *See, e.g.*, *Border Power Plant Working Group v. Dept. of Energy*, 260 F. Supp. 2d 997, 1013 (S.D. Cal. 2003) (noting that, in authorizing an electric transmission line, an agency was required to consider the environmental consequences of generating the additional electricity to be carried on those lines); *City of Davis*, 521 F.2d at 674–77

[55] This effect is named after a character in Lewis Carroll's *Through the Looking-Glass*. The Red Queen lectures Alice: "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!"

(stating that environmental review for highway project needed to analyze impact of induced development despite uncertainty about pace and direction of development).

The Ninth Circuit has said that an agency must consider something as an indirect effect if the agency action and the effect are "two links of a single chain." *Sylvester v. U.S. Army Corps of Engineers*, 884 F.2d 394, 400 (9th Cir. 1980). Here, Marcellus Shale gas extraction activities and the PennEast project are "two links of a single chain." This is supported by multiple industry and government sources, not to mention common sense. In 2011, the National Petroleum Council ("NPC"), a federally chartered advisory committee reporting to the Secretary of Energy, published a report noting that:

> The 2007 NPC Hard Truths study described infrastructure as a key link in the chain, connecting supply to markets, and found that knowledge of existing infrastructure and planning for new infrastructure could fall short of meeting market needs. Sufficient natural gas midstream infrastructure, including gathering systems, processing plants, transmission pipelines, storage fields, and LNG terminals, is crucial for efficient delivery and functioning markets....New infrastructure will be required to move natural gas from regions where production is expected to grow to areas where demand is expected to increase.

NPC, *Prudent Development: Realizing the Potential of North America's Abundant Natural Gas and Oil Resources*, pp. 51-52, 2011 (emphasis added)

Concisely put, without "sufficient natural gas midstream infrastructure, including....transmission pipelines," gas extracted "from regions where production is expected to grow," such as the Marcellus and Utica shale formations, will not have a way to reach "areas where demand is expected to increase." Thus, the NPC clearly considers upstream shale gas extraction and transmission pipelines as "two links of a single chain" that transports natural gas to downstream market areas.

FERC itself considers shale gas extraction and infrastructure (including transmission pipelines) as "two links of a single chain." For example, FERC's Strategic Plan for FY2014-2018 states that the "development of interstate natural gas infrastructure – pipelines, storage, and LNG facilities – is a critical link in ensuring that natural gas supply can reach market areas." FERC, Strategic Plan FY2014-2018, p. 17 (Mar. 2014) (emphasis added) It would be disingenuous for FERC to claim that there is an "insufficient causal link" between the proposed project and gas drilling activities in the Marcellus formation when its own Strategic Plan says that gas pipelines are a "critical link" that connect natural gas supply areas with market areas.

A FERC refusal to consider the effects of the upstream gas drilling in the Marcellus shale formation is similar to arguments made by the Surface Transportation Board that were rejected by the Eighth Circuit in *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520 (8th Cir. 2003). In that case, the Surface Transportation Board argued that because many utilities were likely to switch to the kind

of low-sulfur variety of coal that a planned railroad would make available, "this shift will occur regardless of whether [the railroad company's] new line is constructed." *Mid States Coalition for Progress, supra*, at 549. The Eighth Circuit rejected this argument outright:

> ...[T]he proposition that the demand for coal will be unaffected by an increase in availability and a decrease in price, which is the stated goal of the project, is illogical at best. The increased availability of inexpensive coal will at the very least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas. Even if this project will not affect the short-term demand for coal....it will most assuredly affect the nation's long-term demand for coal[.]

Mid States, 345 F.3d at 549. A refusal to consider the effects of upstream gas development impacts is similarly illogical because once the project is operational and the target market areas of the northeast and mid-Atlantic are connected to gas production in the Marcellus shale formations, it makes drilling in Pennsylvania much more *likely*.

The scope of the EIS therefore must account for the fact that the pipeline will induce natural gas production in the Marcellus Shale and cause reasonably foreseeable changes to pipeline infrastructure to transport gas to the pipeline.

The fact that gas drilling activities are not regulated by FERC is irrelevant since FERC must consider these cumulative impacts "regardless of what agency (Federal or non-Federal) or person undertakes such other actions." 40 C.F.R. §1508.7.

E. The Commission's EIS must include a full and comprehensive analysis of the Project's cumulative actions and impacts.

"Cumulative impacts" are not causally related to the action. Instead, they are:

> the impact on the environment which results 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.

40 C.F.R. §1508.7

The scope of the action to be considered in the draft EIS must include:

> (2) Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.

> (3) Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.

40 C.F.R. §1508.25

"Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. §1508.7. A finding of "[s]ignificance cannot be avoided by terming an action temporary." 40 C.F.R. §1508.27(b)(7). "[A] meaningful cumulative impact analysis must identify (1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions--past, present, and proposed, and reasonably foreseeable--that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate." *Grand Canyon Trust v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002). NEPA requires such an analysis because "[e]ven a slight increase in adverse conditions . . . may sometimes threaten harm that is significant . . . may represent the straw that breaks the back of the environmental camel." *Id.*, at 343.

NEPA's cumulative impact analysis requirement is not satisfied where the "analysis" merely announces that there may be risks or impacts, but fails to provide the kind of information about those risks or impacts that would be "useful to a decisionmaker in deciding whether, or how, to alter the program to lessen cumulative environmental impacts." *NRDC v. Hodel*, 865 F.2d 288, 299 (D.C. Cir. 1988) ("perfunctory references" do not constitute "analysis"). A cumulative impact section that merely "recites the history of [project] development" in the area and then offers the "conclusory statement" that "the cumulative direct impacts have been minimal" does not satisfy NEPA requirements. *FOE v. United States Army Corps of Eng'rs*, 109 F. Supp. 2d 30, 42 (D.D.C. 2000) (citing *Hodel*, 865 F.2d at 298). More generally, an agency must provide a reasoned explanation to support its assertions and conclusions; otherwise, its decision is arbitrary and capricious. *Alpharma, Inc. v. Leavitt*, 460 F.3d 1, 6 (D.C. Cir. 2006) (the scope of review requires an agency to "examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'"... The "agency must cogently explain why it has exercised its discretion in a given manner," ... and that explanation must be "sufficient to enable us to conclude that the agency's action was the product of reasoned decisionmaking[.]"(internal citations omitted)).

The EIS must include a comprehensive analysis of the incremental impacts of the project when considered in addition to other past, present, and reasonably foreseeable future actions. *See* 40 C.F.R. §1508.7; *see also Oregon Natural Res. Council Fund v.*

Brong, 492 F.3d 1120, 1132–33 (9th Cir. 2007) ("One of the specific requirements under NEPA is that an agency must consider the effects of the proposed action in the context of all relevant circumstances, such that where 'several actions have a cumulative . . . environmental effect, this consequence must be considered . . .'") (quoting *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1378 (9th Cir. 1998)). Assessing the impacts of a proposed action within the context of existing and foreseeable effects in the same area yields "a realistic evaluation of the total impacts" and ensures that an EIS does not impermissibly "isolate a proposed project, viewing it in a vacuum." *Grand Canyon Trust v. Fed. Aviation Admin.*, *supra*, 290 F.3d at 342 (D.C. Cir. 2002).

The EIS must catalog adequately the relevant past projects in the area; past projects must be described with sufficient specificity to permit adequate review of their cumulative impact. 40 C.F.R. §1502.22(a). *Lands Council v. Vaught,* 198 F.Supp.2d 1211 (E.D.Wash. 2002). The purpose of the cumulative impact analysis required by NEPA is to provide readers with a *complete understanding* of the environmental effects a proposed action will cause; separating the cumulative effects discussion into discrete environmental impact statements eliminates the context necessary for readers to comprehend fully the project's overall environmental effects. NEPA, §2 et seq., 42 U.S.C.A. § 4321 et seq.; 40 C.F.R. §§ 1502.22, 1508.7, 1508.25(c); *North Carolina Alliance for Transp. Reform, Inc. v. U.S. Dept. of Transp.*, 151 F.Supp.2d 661 (2001).

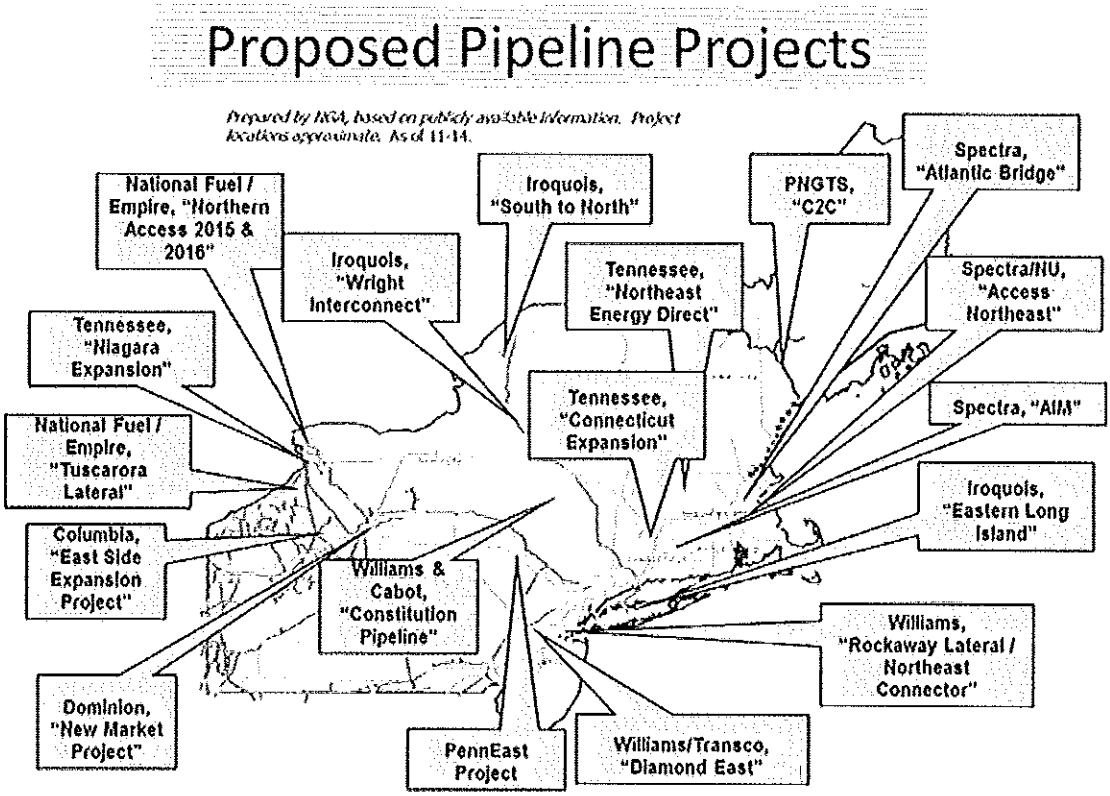
The statute requires analysis of "the cumulative harm that results from [the proposed action's] contribution to *existing adverse conditions or uses* in the area . . . . [E]ven a slight increase in adverse conditions that form an existing environmental milieu may sometimes threaten harm that is significant. One more factory . . . may represent the straw that breaks the back of the environmental camel." *Grand Canyon Trust*, *supra*, 290 F.3d at 343 (quoting *Hanly v. Kleindienst*, 471 F.2d 823, 831 (2d Cir. 1972)) (emphasis added). Without an accurate account of either the baseline impacts of other actions or the incremental impact of the project, the Commission cannot assess the overall impact that can be expected if the individual impacts are allowed to accumulate—the very essence of the cumulative impact analysis. *See Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 994–996 (9th Cir. 2004) ("Sometimes the total impact from a set of actions may be greater than the sum of the parts."). The Marcellus Shale region has experienced substantial development of natural gas production and transportation infrastructure that has caused significant negative cumulative effects on air and water quality, created GHG emissions, and severely fragmented forests.

NEPA requires that FERC engage in a detailed and useful *analysis* of cumulative effects, not just a recitation of impacts. *See Brong*, *supra*, 492 F.3d at 1133, n. 19 ("[An agency] cannot fulfill its responsibility to conduct a cumulative effects *analysis* by merely reciting what effects have occurred, no matter how many pages it fills by doing so . . . . [T]he time, type, place, and scale of past activities must be included.").

The prior-approved, current, and planned additional natural gas pipelines in the region through which the PennEast Pipeline route will pass and the market areas it will serve must be considered and their cumulative impacts assessed. *See, e.g.*, *Delaware*

Riverkeeper Network v. F.E.R.C., 753 F.3d 1304, 410 U.S.App.D.C. 137 (2014) (four separate natural gas pipeline upgrade projects were connected, closely related, and interdependent, and thus FERC impermissibly segmented NEPA review of the third project when it failed to consider the cumulative impacts of all four upgrade projects, where the four projects upgraded a linear and physically interdependent pipeline, each project did not have substantial independent utility separate from the other projects, and all four projects were in some stage of development at the same time.). Because FERC itself reviews and approves interstate natural gas pipelines, it possesses detailed information on the need, purpose, routes, suppliers, capacity, connections, and other aspects of these pipelines. In addition, it obviously has access to information held by the U.S. Energy Information Administration ("EIS"). It therefore has an obligation to review its own and EIA's current data on announced, pre-filed, filed, approved, under-construction, and completed natural gas pipeline projects to determine the relationship between these pipeline projects.[56]

The Figure below offers a sense of the additional pipeline projects proposed in the Northeast United States (as of 11/14). FERC must analyze the extent to which these projects may be related, interconnected and/or exert cumulative impacts.



[56] *See, e.g.*, Appendix 13, EIA Spreadsheet of Pipeline Projects in the Northeast United States. In addition, FERC's assessment of the <u>*need*</u> for the PennEast pipeline must take these projects into account.

F. FERC Should Prepare a Programmatic EIS If It Determines That Other Regional Natural Gas Pipelines Need Not Be Considered in the PennEast EIS.

If FERC determines – improperly, in our view - that no other natural gas pipeline projects in temporal and geographic proximity need be analyzed in the PennEast EIS, then FERC can consider the cumulative impacts of all such pipelines by preparing an area-wide or programmatic EIS. NEPA expressly contemplates a programmatic EIS where an agency is facing multiple independent permitting decisions that have overlapping, shared, or cumulative impacts. See *Native Ecosystems Council v. Dombeck*, 304 F.3d 886 (9th Cir. 2002) (A single NEPA review document is required for distinct projects when the projects are connected, cumulative or similar actions).

CEQ guidance (in Q&A format) on this issue states:

Question: When is an area-wide or overview EIS appropriate?

Answer: The preparation of an area-wide or overview EIS may be particularly useful when similar actions, viewed with other reasonably foreseeable or proposed agency actions, share common timing or geography. For example, when a variety of energy projects may be located in a single watershed, or when a series of new energy technologies may be developed through federal funding, the overview or area-wide EIS would serve as a valuable and necessary analysis of the affected environment and the potential cumulative impacts of the reasonably foreseeable actions under that program or within that geographical area.[57]

FERC has claimed that a programmatic EIS for natural gas infrastructure in the Marcellus and Utica shale formations is "unfounded." *See*, Order Issuing Certificate and Approving Abandonment." *Columbia Gas Transmission, LLC,* 149 FERC ¶ 61,255 (Dec. 18, 2014), at p. 123. A programmatic EIS is sometimes required "for broad Federal actions." 40 C.F.R. §1502.4(b). "Programmatic NEPA reviews address the general environmental issues relating to broad decisions, such as those establishing policies, plans, programs, or suite of projects, and can effectively frame the scope of subsequent site- and project-specific Federal actions." CEQ, *Effective Use of Programmatic NEPA Reviews*, p. 10 (2014). "A well-crafted programmatic NEPA review provides the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be taken or identifying broad mitigation and conservation measures that can be applied to subsequently tiered reviews." *Id.* Such an analysis is critical for the public to understand

[57] CEQ's *Effective Use of Programmatic NEPA Reviews is available at:* http://www.whitehouse.gov/sites/default/files/docs/effective_use_of_programmatic_nepa_reviews_final_dec2014_searchable.pdf; see also, *Earth Island Institute v. U.S. Forest Service*, 351 F.3d 1291 (9th Cir. 2003) (confirming that "similar actions"—i.e., actions which have similarities, such as common timing or geography, that warrant comprehensive review—must be considered in a single EIS if it is the "best way" to consider their impacts).

the actual scope of environmental impacts from natural gas pipeline and other infrastructure projects in the Marcellus shale region.

Additionally:

> Programmatic NEPA reviews may also support policy- and planning-level decisions when there are limitations in available information and uncertainty regarding the timing, location, and environmental impacts of subsequent implementing action(s). For example, in the absence of certainty regarding the environmental consequences of future proposed actions, agencies may be able to make broad program decisions and establish parameters for subsequent analyses based on a programmatic review that adequately examines the reasonably foreseeable consequences of a proposed program, policy, plan, or suite of projects.

CEQ, *Effective Use of Programmatic NEPA Reviews*, p. 11. Just because precise details of future gas infrastructure projects may not be yet known with certainty does not mean that FERC would not be able to "establish parameters for subsequent analyses." In fact, this may assist FERC (and the public) in understanding the broader reasonably foreseeable consequences of jurisdictional projects and non-jurisdictional gas drilling in the Marcellus shale play.

In fact, the 2014 CEQ Guidance recommends preparing a programmatic EIS when "several energy development programs proposed in the same region of the country [have] similar proposed methods of implementation and similar best practice and mitigation measures that can be analyzed in the same document." *Id.,* at 21. Additionally, CEQ says that "broad Federal actions may be implemented over large geographic areas and/or a long time frame" and "must include connected and cumulative actions, and the responsible official should consider whether it is helpful to include a series or suite of similar actions." *Id.*, at 22.

The benefit of a programmatic EIS is obvious:

> When the public has a chance to see the big picture early it can provide fresh perspectives and new ideas before determinations are made that will shape the programmatic review and how those determinations affect future tiered proposals and NEPA reviews. Early outreach also provides an opportunity to develop trust and good working relationships that may extend throughout the programmatic and subsequent NEPA reviews and continue during the implementation of the proposed action.

Id., at p. 25 (citations omitted).

Furthermore:

> Programmatic NEPA reviews provide an opportunity for agencies to incorporate comprehensive mitigation planning, best management practices, and standard operating procedures, as well as monitoring strategies into the Federal policymaking process at a broad or strategic level. These analyses can promote sustainability and allow Federal agencies to advance the nation's environmental policy as articulated in Section 101 of NEPA.
>
> By identifying potential adverse impacts early during the broad programmatic planning, programmatic NEPA reviews provide an opportunity to modify aspects of the proposal and subsequent tiered proposals to avoid or otherwise mitigate those impacts. A thoughtful and broad-based approach to planning for future development can include best management practices, standard operating procedures, adaptive management practices, and comprehensive mitigation measures that address impacts on a broad programmatic scale (e.g., program-, region-, or nation-wide).

Id., pp. 34-35.

It is clear that the expansion of pipeline capacity to carry natural gas production from the Northeast's Marcellus Shale region in Pennsylvania is a broad Federal action being implemented over a large geographic area,[58] and that natural gas infrastructure projects have similar proposed methods of implementation and similar best practice and mitigation measures. Therefore, FERC must prepare a programmatic EIS, if it will not consider these infrastructure expansions in the context of the PennEast pipeline project.

Appellate courts have also defined a two-pronged inquiry to establish whether a programmatic EIS is appropriate: (a) Could the programmatic EIS be sufficiently forward looking to contribute to the decisionmakers' basic planning of the overall program? and, (b) Does the decisionmaker purport to 'segment' the overall program, thereby unreasonably constricting the scope of primordial environmental evaluation?" *Churchill County v. Norton*, 276 F.3d 1060, 1076 (9th Cir. 2001) (citing *Nat'l Wildlife Fed'n v.*

[58] In 2013, EIA stated that although natural gas pipeline capacity investment had slowed in 2012, "[l]imited capacity additions were concentrated in the northeast United States, mainly focused on removing bottlenecks for fast-growing Marcellus shale gas production. More than half of new pipeline projects that entered commercial service in 2012 were in the Northeast." EIA, Today in Energy, *Over half of U.S. natural gas pipeline projects in 2012 were in the Northeast*, Mar. 25, 2013, (emphasis added) available at http://www.eia.gov/todayinenergy/detail.cfm?id=10511 . In December 2014, EIA stated: "Spurred by growing natural gas production in Pennsylvania, West Virginia, and Ohio, the natural gas pipeline industry is planning to modify its system to allow bidirectional flow to move up to 8.3 billion cubic feet per day (Bcf/d) out of the Northeast....In addition to these bidirectional projects in the Northeast, the industry plans to expand existing systems and build new systems to transport natural gas produced in the Northeast to consuming markets outside the region." EIA, Today in Energy, *32% of natural gas pipeline capacity into the Northeast could be bidirectional by 2017*, Dec. 2, 2014, available at http://www.eia.gov/todayinenergy/detail.cfm?id=19011 .

Appalachian Reg'l Comm'n, 677 F.2d 883, 889 (D.C. Cir. 1981)). *See also, Foundation on Economic Trends v. Heckler*, 756 F.2d 143, 159 (D.C. Cir. 1985). With respect to the second prong, an agency cannot escape the existence of a comprehensive program with cumulative environmental effects by "disingenuously describing it as only an amalgamation of unrelated smaller projects." *Churchill County*, 276 F.3d at 1076 (citing *Nat'l Wildlife Fed'n*, 677 F.2d at 890). Appellate courts have also held that where there are large-scale plans for regional development, NEPA requires *both* a programmatic *and* a site-specific EIS. *City of Tenakee Springs v. Clough*, 915 F. 2d 1308, 1312 (9th Cir.1990). When the projects in a particular geographical region are foreseeable and similar, NEPA calls for an examination of their impact in a single EIS. *Id.*

FERC has historically provided two explanations for why it considers the need for a programmatic EIS "unfounded." First, FERC views the project in isolation claiming that "it is not a broad program or plan for regional gas exploitation." *Columbia Gas Transmission, LLC, supra*, 149 FERC ¶ 61,255, at P 123. This is a statement with blinders on, and ignores the vast number of recent, proposed, and reasonably foreseeable infrastructure expansions. Second, FERC claims that it does not have an official policy to increase the nation's reliance on natural gas. *Id.* But actions taken by FERC in recent years belie this statement.

FERC is engaged in regional development and planning with the gas industry. FERC claims that it does not have an "official policy" to "increase the nation's reliance on natural gas" and that it merely "considers individual proposed infrastructure projects on their own merits, pursuant to its statutory obligation under NGA section 7(c)." *Columbia Gas Transmission, LLC, supra,* P 123. This is disingenuous, at best. As stated above, FERC participated in the development of the National Petroleum Council's Prudent Development report, which stresses the need to increase natural gas infrastructure. Moreover, FERC's Strategic Plan identifies the approval of natural gas infrastructure, including pipelines, as a specific goal over the next several years.[59]

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[59] Chairman LaFleur's recent remarks at the National Press Club on January 27, 2015 addressed the implications of the Administration's "Clean Power Plan." They clearly reflect the goal of FERC's Strategic Plan to expand natural gas infrastructure:

> Starting with infrastructure. I think additions to both the gas and electric infrastructure will be needed to carry out the Clean Power Plan. And in the case of gas pipelines and gas compressor stations, FERC is the one who does the environmental review, permits them and decides the rates.... Now, I believe based on everyone I've talked to, that meeting the goals of the Clean Power Plan will also lead to the construction of a lot of new gas generation because most of the people I've talked to said that can be the most cost effective way to meet some of the goals].]... But utilizing that gas to meet climate goals require the expansion and construction of gas infrastructure, both pipelines and compressor stations, to get it to where it needs to be to keep the lights on. https://www.ferc.gov/media/videos/lafleur/2015/012715-lafleur.pdf

The "Clean Power Plan" has been criticized by the Union of Concerned Scientists ("UCS"), among others, for its failure to consider the much deeper emission reductions that would be possible by increasing renewable energy use and for its overreliance on natural gas for electric

Additionally, FERC initiated several docket proceedings related to the coordination of the natural gas and electricity markets. See Coordination Between Natural Gas and Electricity Markets (Docket No. AD12-12-000); Coordination of the Scheduling Processes of Natural Gas Pipelines and Public Utilities (Docket No. RM14-2-000); Order Initiating Investigation into ISO and RTO Scheduling Practices, 146 FERC ¶ 61,202 (Docket Nos. EL14- 22 et seq.); and Posting of Offers to Purchase Capacity, 146 FERC ¶ 61,203 (Docket No. RP14-442). FERC explained that "since natural gas is expected to be relied on much more heavily in electricity generation, the interdependence of these industries merits careful attention." Coordination Between Natural Gas and Electricity Markets (Docket No. AD12-12-000, Accession No. 20120215-3066).

In ordering further conferences and reports, FERC highlighted the "growing concern regarding natural gas-electric interdependencies and in particular whether the natural gas and electric industries are prepared to work together seamlessly in an environment of increasing reliance on the use of natural gas as a fuel for electric generation." *Coordination Between Natural Gas and Electricity Markets*, 141 FERC ¶ 61,125 at P 1 (Nov. 15, 2012). One of the issues that "spurred significant discussion and concern" was "whether electric market incentives are adequate to ensure gas-fired generator performance or otherwise signal the need for pipeline infrastructure to meet growing needs." *Id.*, at P 3, n. 2. Since FERC's order in Docket No. AD12-12, FERC staff has produced several quarterly reports providing updates on "national and regional Gas-Electric Coordination Activities." *See, e.g., Gas-Electric Coordination, Quarterly Report to the Commission*, Sept. 18, 2014.[60] According to this report:

> The Eastern Interconnection Planning Collaborative (EIPC) is now working on the Target2 study, which will evaluate the adequacy of the natural gas infrastructure in 2018 and 2023 to meet the expected core load and non-core gas-fired generation requirements on a Winter Peak Day and a Summer Peak Day. Work is focused on finalizing the second set of natural gas and electricity market assumptions on core and non-core demand levels such as infrastructure expansions, load growth, LDC expansion, and oil-to-gas conversion for Target 2 model inputs....
>
> ....The ICF-led study on Long-term Electric and Natural Gas Infrastructure Requirements in the Eastern Interconnection, prepared for NARUC and the Eastern Interconnection States Planning Council (EISPC), examines the potential build-out of natural gas infrastructure required to supply power and gas customers to 2030 under three demand and policy scenarios for the power sector in the Eastern Interconnect region. The preliminary study results presented in September find that the

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generation. See, UCS, *Strengthening the EPA's Clean Power Plan (2014), available at: http://www.ucsusa.org/sites/default/files/attach/2014/10/Strengthening-the-EPA-Clean-Power-Plan.pdf*

[60] http://www.ferc.gov/legal/staff-reports/2014/09-18-14-gas-electric-cord-quarterly.pdf

> overwhelming factor driving natural gas infrastructure development is the demand for electricity. *Id.,* at pp. 5-6 (emphasis added).

FERC staff then highlights "relevant natural gas filings" (pp. 15-17) and "relevant electric filings" (pp. 18-19). The backbone of FERC's "Coordination Between Natural Gas and Electricity Markets" is ensuring there is sufficient infrastructure in place to meet future demand for electricity. FERC is fully engaged in long-term regional development and planning with the natural gas industry.

Industry comments in Docket No. RM14-2-000 illuminate FERC's involvement in regional gas infrastructure development and planning. For example, according to the Independent Oil & Gas Association of West Virginia:

> As the Marcellus and Utica Shale formations in West Virginia, Pennsylvania, and Ohio have been developed over the past five years, many of the interstate pipeline expansion projects have been backed by producers who have entered into long-term firm transportation agreements to ensure that their natural gas reaches the marketplace demanding new or geographically more attractive supplies. IOGA encourages power generators or others that may not hold firm capacity to link up with natural gas producers and marketers with supply and capacity to structure capacity release and supply deals that will provide them with the energy services and reliable supply required by the electric transmission grid....In IOGA's view, suppliers and traditional firm purchasers have and will continue to step forward and support new pipeline capacity projects to move gas to market and ensure reliability[.]

Comments of IOGA of West Virginia at 7 (Docket No. RM14-2-000, Accession No. 20141128-5093).

According to the Natural Gas Supply Association: ("NGSA"):

> As FERC and industry participants address transitional issues of increased reliance on natural gas by the power sector, the natural gas industry's achievement in serving the power sector's substantial growth in natural gas demand cannot be overlooked. Because the United States is blessed with an abundant supply of clean-burning natural gas, and new technologies to develop shale gas, growth in natural gas production has been enormous. Over the past decade alone, production has increased by approximately 43 percent; growing from nearly 50 Bcf/d in 2005 to 71 Bcf/d projected for 2015. In fact, production has increased by 28 percent in just the past five years, allowing gas sellers to accommodate the 25 percent growth in power generation demand in the same timeframe. However, to take full advantage of these abundant new supplies, additional gas infrastructure must be in place to transport and store natural gas from the wellhead to the point of consumption.

Comments of NGSA at 3-4 (Docket No. RM14-2-000, Accession No. 20141128-5031) (emphasis added).

FERC is engaged in long-term regional gas infrastructure planning and development related to both the Marcellus and Utica shale formations. The network of recently constructed, planned and proposed projects cries out for a forward-looking comprehensive EIS that thoroughly evaluates all environmental impacts together in a single document. By asserting that it only reviews individual proposals, FERC obfuscates its active participation in this planning and development. FERC also avoids meaningfully analyzing the direct, indirect and cumulative effects on this region as a whole, including the impacts of Marcellus and Utica shale gas development. FERC is also substantially limiting the development and consideration of alternatives to natural gas as a supply for electric generation. Therefore, FERC should prepare a programmatic EIS that addresses recent, present, and reasonably foreseeable gas infrastructure projects related to the Marcellus and Utica shale formations and the coordination between the natural gas and electricity markets.

G. The EIS Cannot Rely On Assumptions Of Regulatory And Permitting Compliance, But Must Instead Rely On Historical Data Of Violations And Non-Compliance.

The EIS may not permissibly rely on presumed compliance with permitting requirements to justify a conclusion that no cumulative or indirect impacts will result from the project. To the contrary, the Commission must take a hard look at the realities and history of *non-compliance* in order to perform adequate cumulative and indirect impacts analyses. For example, because the pipeline will induce additional well drilling and other development of natural gas infrastructure in Pennsylvania, the Commission must consider the history of regulatory violations and permit non-compliance by natural gas development activities in the Marcellus Shale play including improper hydraulic fracturing wastewater disposal, impairment of water supplies, and other environmental regulatory violations. A recent (January 2015) report by the Environment America Research & Policy Center concluded:

> In Pennsylvania, fracking companies violate rules and regulations meant to protect the environment and human health on virtually a daily basis. Between January 1, 2011, and August 31, 2014, the top 20 offending fracking companies committed an average of 1.5 violations per day. Fracking operators in Pennsylvania have committed thousands of violations of oil and gas regulations since 2011. These violations are not "paperwork" violations, but lapses that pose serious risks to workers, the environment and public health[.]"

Fracking Failures: Oil and Gas Industry Environmental Violations in Pennsylvania and What They Mean for the U.S., Environment America Research & Policy Center (January 2015), available at: http://environmentamerica.org/sites/environment/files/reports/EA_PA_fracking_scrn.pdf

The data in the report were downloaded from the Pennsylvania Department of Environmental Protection, Office of Oil and Gas Management, at http://www.portal.state.pa.us/portal/server.pt/community/oil_and_gas_reports/20297 Violation, well activity and production reporting data were downloaded on 18 September 2014. Violations are those reported in the state's own "Oil and Gas Compliance Report" database. These violations, documented by official Pennsylvania state agency documents, include such violations as:

- Endangering drinking water through improper well construction. Well problems, including leaks, contaminated drinking water supplies in as many as 243 cases across Pennsylvania between December 2007 and August 2014 – 81 of them between 2011 and 2014. In one such case Carrizo (Marcellus) LLC was cited for failing to properly restore a water supply its fracking activities had contaminated.
- Dumping industrial waste into local waterways. One operator, EQT Production, was cited twice in 2012 by the Pennsylvania Department of Environmental Protection (DEP) for violations at a well in Duncan Township, Tioga County that polluted a local stream.
- Otherwise disposing of waste improperly. In one 2012 incident at an Exco Resources well in Bell Township, Clearfield County, the company was cited for contaminating underground drinking water supplies as a result of leaks from a well drilled for the specific purpose of injecting toxic waste underground.

A single such violation of a regulation can create a significant adverse environmental impact.

Thus, any "no significant impact" conclusions, or a failure to consider the environmental impact of regulatory violations based on an assumption of regulatory compliance, are contradicted by the actual historical record.

FERC must consider "whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment." 40 C.F.R. §1508.27(b)(10). [61] The Pennsylvania Constitution provides that "the people have a right

[61] In addition, numerous properties through which the pipeline will cut are subject to: (1) land use and zoning restrictions that prohibit the proposed action; and (2) conservation and open space restrictions and easements authorized by state and local law and to which County and municipal governments are *parties*. The construction and operation of a natural gas pipeline will almost universally violate the covenants of these open space requirements and conservation easements. Notwithstanding any argument that these restrictions may be preempted by the Natural Gas Act, CEQ regulations *require* that the environmental consequences analysis of the EIS must consider and discuss "possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned. (See §1506.2(d).)" 40 CFR § 1502.16 - Environmental consequences. Thus, whether such restrictions are preempted is irrelevant. The EIS must

to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment." Pennsylvania Constitution, Art. I, Sec. 27. Pennsylvania's public natural resources are the common property of all of the people, including generations yet to come. *Id.* Thus, FERC must consider whether authorization of the project threatens a violation of Article I, Section 27 of the Pennsylvania Constitution.

According to the Pennsylvania Supreme Court:

> By any responsible account, the exploitation of the Marcellus Shale Formation will produce a detrimental effect on the environment, on the people, their children, and future generations, and potentially on the public purse, perhaps rivaling the environmental effects of coal extraction.

Robinson Township v. Commonwealth of Pennsylvania, 83 A.3d 901, 976 (Pa. 2013) (plurality opinion).

FERC cannot evade its responsibility to conduct an *analysis* of the cumulative impacts and offer bald conclusory statements that the project would have no significant adverse impact on the environment. This would defeat the very purpose of a cumulative impacts analysis. Under NEPA, the Commission is required to consider the incremental impact of the project's effects *when added* to the impacts caused by those Marcellus Shale development activities. *See Brong*, 492 F.3d at 1132–33. Even if the Commission would conclude that the amount of habitat lost because of the pipeline project's construction does not constitute a significant adverse impact, the additive impact of this habitat loss along with the destruction of habitat caused by past, present, or reasonably foreseeable gas development activities and other development activities in the region clearly constitutes an adverse impact. This is precisely the analysis that NEPA requires agencies to undertake and that FERC has previously refused to perform.

The FEIS cannot simply baldly conclude that proposed construction practices and conditions on the permits issued for various aspects of the project will avoid, minimize, or sufficiently mitigate any potential impacts. As discussed above, applicants' rote promises to comply with regulations and permitting conditions does not eliminate FERC's responsibility to conduct an analysis under NEPA. *See Calvert Cliffs*, 449 F.2d at 1124. Moreover, such a bald conclusion would be contrary to actual historical fact and would be arbitrary and capricious. In fact, such violations are so commonplace that the environmental conditions in FERC's standard natural gas pipeline certificate orders require *post-hoc* FERC notification of violations when they are reported to state and other regulatory agencies. Indeed, other FERC-authorized pipeline projects for which state permits were granted have resulted in adverse impacts to water resources, as evidenced by the numerous notices of violation issued. *See, e.g.*, Tennessee Gas Pipeline Co., LLC, Monthly Status Report, Northeast Upgrade Project 3, FERC Docket No. CP11-161-000

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identify the properties within the pipeline corridor that are subject to such land use restrictions, and conservation and open space easements authorized by state and local law, identify the conflicts, and evaluate how these conflicts may be mitigated.

(filed Apr. 2, 2014) (listing problems with BMPs and instances of non-compliance with permit conditions); Beth Brelje, DEP, *Tennessee Gas continue talks about fines*, Pocono Record, Nov. 27, 2012, *available at* http://www.poconorecord.com/apps/pbcs.dll/article?AID=/20121127/NEWS/211270320/-1/rss01 (reporting hundreds of violations). For example, various "industry leaders" such as Cabot, the supplier of the majority of the gas proposed for transport along the FERC-authorized Constitution pipeline and an affiliate of one of the co-owners of that pipeline, has a lengthy record of permit violations in Pennsylvania. Since the beginning of 2010, Cabot has been cited with 394 violations at unconventional well sites (accounting for over 10 percent of total violations in the state). See, *Oil & Gas Reports*, Pa. Dep't of Envtl. Prot., *available at:* http://www.portal.state.pa.us/portal/server.pt/community/ oil_and_gas_reports/20297.[62]

PennEast's Draft Resource Report 10 states (p. 1-2) that "[t]he Project will extend from various receipt point interconnections in the eastern Marcellus region, including interconnections with Transcontinental Gas Pipe Line Company, LLC (Transco) and gathering systems operated by Williams Partners L.P." Williams Partners and its subsidiaries such as Williams Fields Services Company, have a history of violations at its facilities, including those associated with a fire at the Williams Central Compressor Station [63] and resulting in $388,694 in fines for 2013 alone.[64]

Rather than blithely accepting the promises of regulatory compliance and imposing a *post-hoc* notification requirement for violations, the Commission must take into account *in the EIS itself* the high probability that permit conditions will be violated, best management practices will not always be implemented effectively, and the environment will be adversely impacted as a result.

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[62] Total violations were calculated by clicking "Oil and Gas Compliance Report," selecting the inspection period between 1/1/2010 and 3/1/2014, setting "OPERATOR" to "CABOT OIL & GAS CORP (43513)," and setting "UNCONVENTIONAL ONLY (PF INPSECTIONS)" to "Yes."

[63] Joseph Kohut, *Fire, possible explosion at Susquehanna gas compressor station thought to be accidental,* THE TIMES TRIBUNE, May 16, 2013, *available at* http://thetimes-tribune.com/news/fire-possible-explosion-at-susquehanna-gas-compressor-station-thought-to-be-accidental-1.1489789 .

[64] Laura Legere, *DEP fined oil and gas companies $2.5 million last year*, StateImpact Pennsylvania, Feb. 27, 2014, http://stateimpact.npr.org/pennsylvania/2014/02/27/dep-fined-oil-and-gas-companies-2-5-million-last-year/. *See also Williams Compressor Station, Windsor NY is (again) on Fire*, NY Friends of Clean Air and Water, Jan. 6, 2013, *available at* http://nyfriendsofcleanairandwater.blogspot.com/2014/01/williams-compressor-station-windsor-ny.html (listing incident at Williams facilities).; see also, *Williams Probe Expanded on 'Unusual' Gas Accidents Trio,* Bloomberg Business, May 15, 2014, http://www.bloomberg.com/news/articles/2014-05-15/williams-probe-expanded-on-unusual-gas-accidents-trio ("A probe into safety practices at pipeline operator Williams Cos. is being expanded after a natural gas plant fire led to the evacuation of a town in Wyoming last month, the company's third accident in a year.")

H. The Commission must ensure that all measures intended to "minimize" or mitigate the Project's significant environmental impacts are fully documented, clearly described, and monitored pursuant to monitoring regimes that are available for public review and comment.

> To be sure, one important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences. The requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of the Act and, more expressly, from CEQ's implementing regulations. Implicit in NEPA's demand that an agency prepare a detailed statement on "any adverse environmental effects which cannot be avoided should the proposal be implemented," 42 U.S.C. § 4332(C)(ii), is an understanding that the EIS will discuss the extent to which adverse effects can be avoided. See D. Mandelker, *NEPA Law and Litigation* § 10:38 (1984). More generally, omission of a reasonably complete discussion of possible mitigation measures would undermine the "action-forcing" function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects. An adverse effect that can be fully remedied by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can only be modestly ameliorated through the commitment of vast public and private resources. Recognizing the importance of such a discussion in guaranteeing that the agency has taken a "hard look" at the environmental consequences of proposed federal action, CEQ regulations require that the agency discuss possible mitigation measures in defining the scope of the EIS, 40 CFR § 1508.25(b) (1987), in discussing alternatives to the proposed action, § 1502.14(f), and consequences of that action, § 1502.16(h), and in explaining its ultimate decision, § 1505.2(c).

Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351-52, 109 S. Ct. 1835, 1846-47, 104 L. Ed. 2d 351 (1989)

NEPA and CEQ regulations require detailed analysis of both on-site and off-site mitigation measures. *See, e.g.,* 40 CFR §1502.16(b) (1987); *Robertson, supra,* 490 U.S. at 358, 109 S. Ct. at 1850, 104 L. Ed. 2d 351. In order for mitigation measures to support a finding that the project impacts will be reduced to less than significant levels, the mitigation plan and measures must be "clearly described" and must be "enforceable." CEQ, *Memorandum For Heads of Federal Agencies, Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact ("CEQ Mitigation Memorandum").*[65] The Commission cannot satisfy these criteria by prematurely preparing a DEIS prior to the receipt of all necessary information and prior to the issuance of all applications for, and required state and federal determinations, relevant to those mitigation measures. *See, e.g., N. Plains Res. Council,*

[65] The guidance is available at: https://ceq.doe.gov/current_developments/docs/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf

supra, 668 F.3d at 1083 (stating that "plans to conduct surveys and studies as part of its post-approval mitigation measures" do not constitute a "sufficiently 'hard look'" under NEPA).

It is also improper to simply announce that various environmental impacts will be mitigated out of existence or that mitigation will reduce impacts to less than a significant level, without proper detailed analysis and support and without monitoring mechanisms to assure that the mitigation measures will be fully and completely implemented. *See, CEQ Mitigation Memorandum,* at 7 & n.18 (2011) ("Mitigation commitments needed to lower the level of impacts so that they are not significant should be clearly described ... in any other relevant decision documents related to the proposed action.").

Mitigation techniques to which PennEast should commit and which should be fully documented and monitored include those set forth in the report by landscape architect and forest expert Leslie Sauer, *Achieving Higher Quality Restoration Along Pipeline Rights-of-Way: An Overview of Pipeline Construction Impacts with Recommendations for Reducing Environmental Damage.*[66]

I. The Draft EIS must contain full and complete information on impacts to waterbodies and mitigation of those impacts.

PennEast's pre-filing documents identify, depending on the route, more than 33 wetlands and 60 waterbodies that may be affected by the project. Scoping comments filed by Delaware Riverkeeper state that its "review of the project maps and USGS topographic maps indicate that at least 65 waterbodies will be crossed, and in some cases, streams will be traversed multiple times within relatively short distances. Based on the National Wetland Inventory, at least 50 distinct wetlands will also be impacted." Delaware Riverkeeper Network, Comments Regarding PennEast Pipeline Project, Scoping Period, February 13, 2015, Accession No. 20150218-5212.

PennEast's Resource Report 10 (p. 1-23) states:

> Streams and Rivers
> PennEast is evaluating numerous methods for pipeline construction, particularly as it relates to traversing the numerous waterbodies (summarized in Resource Report 10). This evaluation includes consultations with the U.S. Fish and Wildlife Service (USFWS), Pennsylvania Department of Environmental Protection (PADEP), New Jersey Department of Environmental Protection (NJDEP), and the U.S. Army Corps of Engineers (USACE), among others. PennEast proposes to cross waterbodies with flow at the time of construction using a combination of horizontal directional drilling (HDD), bores, and dry-crossing methods, as described below. At this time no open cut crossings are proposed.

[66] The document is available at: http://www.delawareriverkeeper.org/resources/Reports/SauerL_Achieving_Higher_Quality_Restoration_Along_Pipeline_Rights_of_Way.pdf

Resource Report 10 (p. 1-25) also states: "The use of HDD crossings are currently planned for the following locations:

Table 1.5-1
Horizontal Directional Drilling

US Hwy 81 / St. Hwy 315 MP10.1
Wild Creek (Beltzville Lake) MP 43.0
Pohopoco Stream (Beltzville Lake) MP 43.5
Lehigh River MP 68.2
US Hwy 78 MP 69.0
Delaware River MP 74.8

Additional HDDs will be considered as we evaluate mitigation measures related to wetlands and other environmentally sensitive areas of concern.

Taking the requisite "hard look" at whether project impacts to waterbodies will be significant, or can be adequately mitigated, requires PennEast to provide substantial additional information about the crossing methods it will use, as well as other construction details. Different dry crossing methods can have different impacts. Without a site-specific identification of which dry crossing method will be used at each waterbody crossing, there will be no basis to determine what the pipeline project's impacts will be or whether they will be mitigated sufficiently. In addition, there should be an alternatives-analysis of utilizing HDD crossings of other waterbodies.

Additional information that should be available for comment at the time of the DEIS should also include:

· geotechnical feasibility studies for all trenchless crossing locations;
· identification of all water wells and springs within 150 feet of the proposed pipeline and contractor yards;
· surveys for all proposed contractor yards concerning water wells, waterbodies, and wetlands;
· site-specific blasting plans that include protocols for in-water blasting and the protection of aquatic resources and habitats;
· specific information regarding water withdrawals for hydrostatic testing, including timing restrictions.

"After all, once a project begins, the 'pre-project environment' becomes a thing of the past. Evaluating the project's effect on pre-project resources is simply impossible." *LaFlamme v. FERC*, 852 F.2d 389, 400 (9th Cir. 1988). Moreover:

> [T]he very purpose of NEPA's requirement that an EIS be prepared for all actions that may significantly affect the environment is to obviate the need for speculation by insuring that available data is gathered and analyzed prior to the implementation of the proposed action. (internal citations omitted).

Id.

The Commission is not permitted to approve the project and then conduct its study of the project's environmental effects. *National Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 734 (9th Cir. 2001). The information listed above is the kind of "information and understanding that is required before a decision that may have a significant impact on the environment is made," *Id.* at 733. This is particularly so when the Commission's ultimate finding under NEPA may be based on the assumption that significant environmental impacts will be mitigated. Indeed, while mitigation measures often are necessary, they are not sufficient alone to meet the FERC's NEPA obligations to determine the projected extent of the environmental harm to enumerated resources before a project is approved. See *Northern Plains Res. Council*, 668 F.3d at 1084. "Mitigation measures may help alleviate impact *after* construction, but do not help to evaluate and understand the impact before construction." *Id.* (emphasis in original). Reliance on mitigation measures cannot presuppose approval or assume that—regardless of what effects the project may have—there are mitigation measures that might counteract those effects without first understanding the extent of the problem. *See id.*, at 1084-85.

There must be a detailed analysis of stormwater management and the potential impacts of runoff on waterbodies near the project, both during the construction and post-construction period. The pipeline construction will result in permanent alterations to soil structure and, possibly, topography. The expected increase in sediment mobilization that can be expected to result from the pipeline construction activities must be evaluated in detail. While some of these impacts may be temporary, others will be permanent. A number of the waterbodies are special protection waters of the Commonwealth and have been designated as High Quality (HQ), or Exceptional Value (EV) under applicable Pennsylvania regulations at 25 Pa. Code Chapter 93. Impacts to these waters in particular must be avoided or minimized to the greatest possible extent; the water quality of EV waters shall be maintained and protected, without any exception. 25 Pa. Code § 93.4a. Specific mitigation plans should be prepared for these waters and made available for review prior to issuance of the DEIS.

A specific Preparedness, Prevention and Contingency (PPC) Plan for project activities within Pennsylvania should be provided and made available for public comment and review. This plan should be made available prior to, or as an appendix to, the DEIS, so that the public can comment on the adequacy of impact mitigation measures.

Beyond the specifics of crossings, the potential for increased sedimentation, and similar physical impacts, applicable to all of the waterbodies that would be affected by this project, we note that the original route of the pipeline would cross the Lower Delaware River, a National Wild and Scenic and Recreational River. The current "preferred alternative" would cross the Delaware River outside of its wild and scenic designated segments. Nonetheless, whatever the final proposed route may be, the project must not degrade or impair the "outstandingly remarkable scenic, recreational,

geological, wildlife, historic and cultural values" of the River, as recognized by its designation as a Wild and Scenic River. See, Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271-1287 (2006). Therefore, the extent of land disturbance and other impacts caused by the project must be specifically analyzed with respect to their impacts on these Wild and Scenic River values.

J. The *draft* EIS should take into account the conditions of the required Pennsylvania and New Jersey Section 401 Water Quality Certifications, if any are issued. Final EIS documents should await the issuance of any such 401 Water Quality Certifications because they may contain conditions that affect environmental impacts of the project.

Under Section 401 of the Clean Water Act, "no [federal] license or permit shall be granted until the certification required by this section has been obtained or has been waived." 33 U.S.C. §1341(a)(1). The Supreme Court has stated that, consistent with the State's primary enforcement responsibility under the CWA, Section 401 "requires States to provide a water quality certification *before* a federal license or permit can be issued...." *Jefferson County PUD. v. Wash. Dept. of Ecology*, 511 U.S. 700, 707 (1994) (emphasis added). In recognition of this clear and binding precedent, the D.C. Circuit also has held that "without [Section 401] certification, FERC lacks authority to issue a license." *City of Tacoma v. FERC*, 460 F.3d 53, 68 (D.C. Cir. 2006).

A FERC Certificate of Public Convenience and Necessity for the PennEast Pipeline project would constitute a "license or permit" within the definition provided by EPA regulations, because it would be granted to permit an "activity which may result in any discharge into the navigable waters of the United States," namely, construction and operation of the pipeline project. *See,* 40 CFR §121.1(a).

We note that FERC has, in the past, issued Orders issuing Certificates of Public Convenience that condition the Applicants' ability to commence construction on the future receipt of the Section 401 certification.[67] This does not cure FERC's violation of the CWA. The clear language of the CWA prohibits the granting of *any* license or permit. 33 U.S.C. §1341(a)(1). The statute makes no exceptions for licenses or permits that are conditioned on the subsequent grant of the 401 Certification.[68]

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[67] *See, e.g., Northwest Pipeline GP*, Docket No. CP12-471 Order Denying Clarification and Rehearing, 145 FERC ¶61,013 (2013)

[68] The Commission's issuance of "conditional licenses" is contrary to the design and intent of the CWA, which allocates to the States the role of primary regulator under the statute. Section 401 allows states to condition Water Quality Certifications on measures designed to ensure compliance with effluent limitations and other state regulations. *Id.* at §1341(d). The state's conditions, in turn, are required to "become a condition on any Federal license or permit subject to the provisions of this section." *Id.* Thus, the Section 401 Certification must come before any license, and because of the State's power to impose conditions on the activity, should come before any DEIS is issued for public comment. Such conditional orders are arbitrary and capricious, because no balancing of the public interest can be made regarding the construction of the proposed pipeline project *before* the Commission has quantified and considered the full extent

Moreover, States may include limitations or conditions in their certifications as necessary to ensure compliance with water quality standards and other provisions of the CWA and appropriate requirements of state or tribal law. 33 U.S.C. §1341(d); CWA §401(d); *S. D. Warren Co. v. Maine Board of Environmental Protection et al,* 547 U.S. 370, 126 S.Ct. 1843 (2006). *Jefferson County PUD v. Washington Dept. of Ecology,* 511 U.S. 700, 711 (1994).

Conditions to protect water quality need not focus solely on the potential discharge. Once a potential discharge triggers the requirement for §401, the certifying agency may develop "*additional conditions and limitations on the activity as a whole.*" *Jefferson County PUD v. Washington Dept. of Ecology,* 511 U.S. 700, 712 (1994).

Section 401 applies to any federal permit or license for an activity that may discharge into a water of the U.S. The Ninth Circuit Court of Appeals has ruled that the discharge must be from a point source, and agencies in other jurisdictions have generally adopted the requirement. *Oregon Natural Desert Association v. Michael P. Dombeck,* 151 F.3d 945, 5 (9th Cir. 1998); *ONDA v. U.S. Forest Service,* 550 F.3d 778 (9th Cir. 2008). Of course, the definition of "point source" is very broad. The CWA defines "point source" as "any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel...rolling stock ... or vessel...from which pollutants are or may be discharged." 33 USC 1362(14); CWA §502(14). "Point sources" also include bulldozers and similar construction equipment. *Avoyelles Sportsmen's League v. Marsh,* 715 F.2d 897, 922 (5th Cir. 1983).

Once these thresholds are met, the scope of analysis and potential conditions can be quite broad. We emphasize that once §401 is triggered, the certifying state or tribe may consider and impose conditions on the *project activity in general,* and not merely on the discharge, if necessary to assure compliance with the CWA and with any other appropriate requirement of state law. *Jefferson County PUD v. Washington Dept. of*

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of the benefits and adverse impacts. It appears that FERC has also previously violated the CWA by purporting to limit the state's power and require that "[a]ny state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate." *See, e.g., Constitution Pipeline Company,* LLC, Docket No. CP13-499, December 2, 2014 Order, ¶ 147. The Natural Gas Act does not confer upon FERC the power to curtail state rights under the CWA. *See* 15 U.S.C. § 717b(d)(3); *see also Dominion Transmission, Inc. v. Summers,* 723 F.3d 238, 243 (D.C. Cir. 2013) (finding in a case involving the construction of a facility under 15 U.S.C. §717f(c) that Congress expressly saved the states' powers under the Clean Air Act from preemption). Such Orders exceed the Commission's statutory authority and impermissibly curtail States' ability to grant, condition, or withhold a Certification under Section 401 of the CWA, including imposing conditions in the Certification requiring more stringent measures than are contained in FERC's orders, to prevent natural gas pipeline projects from posing an unacceptable risk to water quality. *See City of Tacoma,* 460 F.3d at 67 ("The Clean Water Act gives a primary role to states to block... local water projects ... FERC's role [under CWA Section 401] is limited to awaiting, and then deferring to, the final decision of the state.") (internal quotations omitted).

Ecology, 511 U.S. at 711-712 (1994); *S. D. Warren Co. v. Maine Board of Environmental Protection et al, supra.* For example, water quality implications of fertilizer and/or herbicide use to maintain pipeline rights of way might be considered as part of a §401 certification analysis of a CWA §404 permit for the project.

Conditions placed in §401 water quality certifications must become conditions of the resulting federal permit or license. CWA 401(d), 33 U.S.C. §1341(d). The federal agency may not select among conditions when deciding which to include and which to reject. *American Rivers v. Federal Energy Regulatory Commission,* 129 F.3d 99, 110-111 (2d Cir, 1997).

If the federal agency chooses not to accept all conditions placed on the certification, then the permit or license may not be issued. 33 U.S.C. §1341(a)(1); CWA §401(a)(1); *American Rivers Inc. v. Federal Energy Regulatory Commission*, 129 F.3d 99, 110-111 (2nd Cir. 1997); *Del Ackels v. United States Environmental Protection Agency*, 7 F.3d 862, 868 (9th Cir 1993); *Puerto Rico Sun Oil Company v. United States Environmental Protection Agency*, 8 F.3d 73, 74-75 (1st Cir. 1993); *Roosevelt Campobello International Park Commission v. United States Environmental Protection Agency*, 684 F.2d 1041, 1056 (1st Cir. 1982); *US v. Marathon Development Corporation*, 867 F.2d 96, 99 (1st Cir. 1989).

The extent and type of conditions that the certifying state agencies impose will directly influence, if not determine, the extent and type of impacts on the aquatic environment that the project will cause. It would therefore be premature for FERC to finalize even a draft EIS for public comment without first assessing the conditions to be imposed by the certifying states of Pennsylvania and New Jersey in their 401 water quality certifications.

K. Any inter-agency disagreements, conferences under 50 C.F.R. §402.10 on impacts to species, and mitigation plans should be identified, disclosed, and addressed in the DEIS.

For the public to meaningfully comment on the DEIS, and for the DEIS to have adequate scope and detail, any inter-agency disagreements, conferences under 50 C.F.R. §402.10 on impacts to species, and all mitigation plans should be identified, disclosed, and addressed in the DEIS. We are aware of circumstances in which, at the eleventh hour – or indeed, past that time – (one day prior to its issuance of an order granting a certificate of public convenience and necessity to an interstate natural gas pipeline), FERC determined the pipeline project was likely to adversely affect a federally proposed species and requested a conference opinion under 50 C.F.R. §402.10 for this species.[69]

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[69] 402.10 Conference on proposed species or proposed critical habitat.

(a) Each Federal agency shall confer with the Service on any action which is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. The conference is designed to assist the Federal agency

This determination was contrary to an earlier determination that adverse impacts to this species were *not* likely. The ability of the public to comment on impacts to listed or proposed species or habitat should not be impaired through dilatory decision-making regarding those impacts.

L. The EIS must fully evaluate the project's impacts to air quality.

The EIS must include an analysis of all construction and operation-related air quality impacts, including indirect impacts from induced development. The EIS may not simply truncate an analysis because any individual source might not trigger "major" source requirements under the Clean Air Act's Prevention of Significant Deterioration, Non-attainment New Source Review ("NNSR"), and Title V programs. That specific emission sources may not be considered "major" for the purposes of these separate regulatory regimes under the Clean Air Act is not, in itself, sufficient to give rise to a determination that the emissions will not have a significant impact for the purposes of NEPA. *See, e.g.*, Gregg Macey, et. al., *Air concentrations of volatile organic compounds near oil and gas production: a community-based exploratory study*, 13 Envtl. Health 82 (2014). Similarly, the fact that the compressor facility would be subject to certain monitoring and performance testing measures under the Clean Air Act also is not a sufficient basis to conclude that the emissions would not have significant impacts. *See Calvert Cliffs*, 449 F.2d at 1124. The actual human health and environmental impact of the emissions must be evaluated in detail.

<u>The EIS must adequately evaluate the air quality impacts from project construction, and may not discount those impacts merely because they are "temporary".</u>

In other pipeline cases, the estimated emissions from construction have substantially exceed the tons-per-year threshold for major sources for multiple pollutants emitted, including NOx, VOCs, CO, and particulate matter. The EIS cannot permissibly

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and any applicant in identifying and resolving potential conflicts at an early stage in the planning process.

(b) The Federal agency shall initiate the conference with the Director. The Service may request a conference if, after a review of available information, it determines that a conference is required for a particular action. [footnote continued on next page]

* * *

(d) If requested by the Federal agency and deemed appropriate by the Service, the conference may be conducted in accordance with the procedures for formal consultation in §402.14...[.]

(e) The conclusions reached during a conference and any recommendations shall be documented by the Service and provided to the Federal agency and to any applicant. The style and magnitude of this document will vary with the complexity of the conference. If formal consultation also is required for a particular action, then the Service will provide the results of the conference with the biological opinion.

discount the impact of those emissions simply because pipeline construction activity moves through an area and does not represent a permanent stationary source. Air pollutant emissions can exert short-term health effects, and these effects should be considered. In fact, the higher air concentrations of these pollutants implied by releases that exceed a ton-per-year major source threshold over a much shorter time frame suggests that health impacts would be worse than if released over the period of a full year. The EIS cannot dismiss the emissions of large quantities of pollutants known to be harmful to human health with no analysis of the potential health effects to workers and members of the community who live near the construction sites. These populations will experience relatively concentrated doses over time periods significantly shorter than a year of potentially harmful amounts of pollutants known to cause serious health effects. This is particularly so given the Clean Air Act non-attainment status of Northampton County with respect to the National Ambient Air Quality Standards for various air pollutants, including the 2008 ozone and 2012 PM2.5 annual standards.

The analysis of impacts from construction activities must include detailed and technically-defensible modeling of emissions from all activities related to the project. [70]

The EIS must fully evaluate the release of methane emissions over the entire lifespan of the project and the air quality impacts of those emissions.

By increasing the transportation capacity of natural gas pipeline networks and thus purportedly eliminating a "bottleneck" from the gas production system, this project would necessarily expand the capacity of extraction companies to drill wells and extract natural gas in the Marcellus Shale region of Pennsylvania. Methane often leaks and is vented as a result of the gas production, transportation, and distribution process, and leakage may occur any point between the well pad and final delivery. *See, e.g.*, Scot M. Miller et al., *Anthropogenic Emissions of Methane in the United States*, 110 Proceedings of the National Academy of Science. 20018 (2013), available at http://www.pnas.org/content/110/50/20018.full?sid=21462d5c-d709-4afe-8fd1-8f58cafc6218

The EIS should evaluate the impacts of methane emissions from the entire fuel cycle of the natural gas that the pipeline project will transport, including production and transmission.

[70] For an example of such detailed analysis for a pipeline see, for example, the air quality impact analysis for onshore construction activities in Los Angeles County for the Cabrillo Port LNG Deepwater Port Project: *Appendix G5 Air Quality - Air Quality Analysis of Construction Emissions - Criteria Air Pollutants, G5-1 Localized Significance Threshold (LST) Analysis of Criteria Air Pollutants - Onshore Construction Activities in Los Angeles County, G5-2 Air Quality Analysis for Criteria Pollutants - Offshore and Onshore Construction*, http://www.slc.ca.gov/division_pages/DEPM/Reports/ BHP_Port/FinalEIR/Volume%20III/Appendix%20G5/Appendix%20G5.pdf The PennEast analysis should also include, however, off-site fugitive emissions.

M. The Commission must evaluate the pipeline project's climate impacts, including its induced-development consequences.

The CEQ's *Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews* (Dec. 2014)[71] states:

> Agencies should consider the following when addressing climate change:
> (1) the potential effects of a proposed action on climate change as indicated by its GHG emissions; and
> (2) the implications of climate change for the environmental effects of a proposed action.
>
> Agencies continue to have substantial discretion in how they tailor their NEPA processes to accommodate the concerns raised in this guidance, consistent with the CEQ Regulations and their respective implementing regulations and policies, so long as they provide the public and decisionmakers with explanations of the bases for their determinations.

CEQ has warned federal agencies that simply dismissing these impacts in environmental reviews because of the small incremental impact from a particular project is not acceptable:

> CEQ recognizes that many agency NEPA analyses to date have concluded that GHG emissions from an individual agency action will have small, if any, potential climate change effects. Government action occurs incrementally, program-by-program and step-by-step, and climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, including decisions made by the government. Therefore, the statement that emissions from a government action or approval represent only a small fraction of global emissions is more a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether to consider climate impacts under NEPA. Moreover, these comparisons are not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations. This approach does not reveal anything beyond the nature of the climate change challenge itself: the fact that diverse individual sources of emissions each make relatively small additions to global atmospheric GHG concentrations that collectively have huge impact.

Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews, p.9 [footnotes omitted].

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[71] The CEQ guidance is available at: http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance

> When assessing direct and indirect climate change effects, agencies should take account of the proposed action – including "connected" actions – subject to reasonable limits based on feasibility and practicality. In addition, emissions from activities that have a reasonably close causal relationship to the Federal action, such as those that may occur as a predicate for the agency action (often referred to as upstream emissions) and as a consequence of the agency action (often referred to as downstream emissions) should be accounted for in the NEPA analysis.

Id., p. 11 (internal footnote omitted).

The EIS must evaluate the full extent of the GHGs, including "upstream emissions", that will result from the project and analyze the climate impacts of those emissions. FERC should tabulate the total amount of GHGs, and take into account their varying warming potential and climate-change-forcing effects and using meaningful equivalencies. *See, e.g.,* http://www.epa.gov/cleanenergy/energy-resources/calculator.html and http://www.epa.gov/climatechange/ghgemissions/gases.html. This analysis should include all emissions (vented and fugitive) from the proposed compressor station, pipeline and other infrastructure, all construction emissions, and all emissions from indirectly-related activities. This should also include CO_2 emissions from the combustion of 1 Bcf/day of natural gas. However, the analysis cannot be limited to merely these direct GHG emissions. It must also account for the release of stored GHGs that will result from disturbing interior forest, permanently eliminating acres of interior forest, and disturbing wetlands. Elimination of carbon sinks such as forests is a well-established factor in exacerbating the global concentrations of GHGs. This must be accounted for.[72]

These impacts – as with all other adverse environmental impacts - should be monetarily quantified so as to provide an apples-to-apples offset against the purported economic benefit of the project. For example, the "social cost of carbon" assigns a dollar cost to the emission of one metric ton of CO2 in order to more clearly understand the effects of continuing to increase the concentration of GHGs in the atmosphere. *See, e.g.,* USEPA, The Social Cost of Carbon, http://www.epa.gov/climatechange/EPAactivities/economics/scc.html; IPCC, *Social, Economic and Ethical Concepts and Methods, Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* 249 (2014), *available at* http://mitigation2014.org/report/publication/.

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[72] IPCC, Agriculture, Forestry and Other Land Use (AFOLU), Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change 825 (2014), available at http://mitigation2014.org/report/publication/; see also CEQ, *Draft Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change* n.1 ("Also for purposes of this guidance, 'emissions' includes releases of stored GHGs as a result of destruction of natural GHG sinks such as forests and coastal wetlands, as well as future sequestration capability.")

In *High Country Conservation Advocates et al. v. U.S. Forest Serv. et al.*, the District Court ordered the Bureau of Land Management to evaluate the impacts of a project's GHG emissions using the social cost of carbon. 2014 WL 2922751, at * 11 (D. Colo. June 27, 2014). The court held that "a 'hard look' has to include a 'hard look' at whether [the use of the social cost of carbon], however imprecise it might be, would contribute to a more informed assessment of the impacts than if it were simply ignored." It is not reasonable "to ignore a tool in which an interagency group of experts invested time and expertise." *Id.* 22

The use of a social cost of carbon measure must consider the long (and indefinite) lifespan of the project. It would be entirely arbitrary to quantify the cost of only one year of GHG emissions for a project that is designed with a lifespan that is measured in decades, particularly when the cost of carbon emissions rises dramatically over time.[73] The environmental review should explicitly calculate the project's social cost of carbon over 10, 20, 30, 40 and 50 years of operation to account for the likely period of emissions and project lifespan. The analysis over this time scale must also include consideration of higher leak rates as the infrastructure ages. In addition, the loss of the carbon sink of deforested land into perpetuity should also be calculated using a similar "social cost of carbon."

Nor may the EIS trivialize the impacts of GHG emissions associated with the project by comparing the emissions with such background as the entire U.S. Greenhouse Gas Inventory. The CEQ guidance explicitly instructs agencies to reject this line of reasoning: "the statement that emissions from a government action or approval represent only a small fraction of global emissions is more a statement about the nature of the climate change challenge, and *is not an appropriate basis for deciding whether to consider climate impacts under NEPA*."

FERC must also take a hard look at the consequences of climate change to which the project's GHG emissions and destruction of carbon sinks contribute. Mere quantification of GHG emissions or monetized social cost of carbon fails to reflect any understanding of the context in which climate change concerns arise. The EIS should include a detailed and robust explication of the long-term impacts of climate change as a result of fossil fuel development and use, including the induced-development of natural gas extraction in the Marcellus Shale region from which the pipeline gas will be produced.

N. The Commission must fully analyze the long-term and permanent impacts of pipeline project fragmentation of interior forest habitats.

In other pipeline cases; the Commission does not dispute that the pipeline would have a "long-term to permanent" impact by "reducing the size of unfragmented forest tracts and [creating] open habitats." *See, e.g.*, Constitution Pipeline FEIS at 4-88. In the

[73] *See U.S.* EPA, *The Social Cost of Carbon, supra*, (calculating a $10 increase in the social cost of carbon between 2015 and 2040, using the most conservative discount rate of 5%).

Constitution Pipeline case, the project's right of way was projected to cause 55 of 129 interior blocks, to cease to be interior forest, resulting in a loss of 43% of remaining prime critical breeding habitat blocks for forest-interior birds in the area of the pipeline project. The FEIS acknowledged this loss but concluded that "Constitution minimized the potential for these long-term effects by collocating the proposed workspace with other existing rights-of-way in certain areas for *approximately 9 percent of the proposed alignment*, and by reducing the construction right-of-way to 100 feet in interior forest areas, where able." *Id.* (emphasis added).

Such "mitigation measures" not only are inadequate to address the long-term effects of the fragmentation of interior forest habitats, but also demonstrate the Commission's failure to evaluate the full breadth of long-term impacts that will result from the destruction of forest habitat. FERC EIS documents fail to take a hard look at this reality, including the cumulative impacts to forests and species that have resulted from significant recent development of natural gas infrastructure. Rather, FERC dismisses the effects of pipeline project's forest fragmentation by stating that while "[f]orest habitat (and interior forest habitat in particular) can takes[sic] decades to become established...creation of additional edge habitat could benefit certain foraging mammal species, such as white-tailed deer and raccoons." Constitution FEIS, at 4-89. Unlike the migratory species of birds likely to be affected by the loss of interior forest habitat, there is no support for the notion that white-tailed deer or raccoons have experienced any population decline where a further loss of habitat could pose a jeopardy to the species. [74]

FERC should not underestimate the negative impacts of the pipeline project on birds, by focusing on only "special species" that have been afforded an additional level of protection by state or federal agencies. The environmental review must consider the entire range of species and bird populations that may be affected by the project

The mitigation measures considered in the EIS must be adequate to address the significant impacts from the eliminating vast amounts of rare interior forest. The measures cannot be limited to those aimed at minimizing *construction* impacts and which do nothing to address the pipeline project's long-term fragmentation of the forest habitat. For example, reducing a right of way by 10 feet will have no effect on the adjacent interior forest, which still will become degraded breeding habitat. In addition, a "mitigation" measure such as the creation of a monetary fund cannot compensate for the clearing of contiguous mature forest. It will take lifetimes to recreate these woodlands that are critical to bird species currently at risk, and no evidence exists that the species can survive the loss of habitat for that long period.

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[74] In fact, substantial evidence shows that overbrowsing of forest understory by high populations of deer reduce abundance and species richness of many of the same birds impacted by fragmentation—actually worsening the effects of forest fragmentation on bird species. *See, e.g.,* D.S. deCalesta, Effects of white-tailed deer on songbirds within managed forests in Pennsylvania, Journal of Wildlife Mgmt. 58, 711–18 (1994) (finding that species' richness of intermediate canopy-nesting songbirds declined 27% and abundance declined 37% between the lowest and highest deer density plots studied).

O. Risks to public safety should be comprehensively considered in the environmental reviews.

PennEast's pipeline proposal raises significant public health and safety issues. The project would put a significant number of people at risk of catastrophic accidents resulting from a natural gas accident. The pipeline will cross near schools, residences, through communities, under an interstate highway, and near other areas where accidents or terrorist-induced crimes[75] could leave a devastating toll on human life. For these reasons, the EIS must fully disclose the risks and potential consequences of an accidental or intentional release of natural gas from the pipeline.[76]

As the Department of Energy has observed:

> Documents prepared under NEPA should inform the decision maker and the public about the chances that reasonably foreseeable accidents associated with proposed actions and alternatives could occur, and about their potential adverse consequences. The term "reasonably foreseeable" extends to events that may have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. [Council on Environmental Quality (CEQ) NEPA Regulations, 40 CFR 1502.22]
>
> *Accident analyses are necessary for a reasoned choice among the proposed action and alternatives and appropriate consideration of mitigation measures.* Accident analyses in NEPA documents can provide estimates of the magnitude of risk that the proposed action and alternatives would present and a comparison of risk among the proposed action and alternatives.

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[75] FERC cannot categorically refuse to consider the risks of a terrorist attack on natural gas pipelines, including their catastrophic consequences, in its environmental reviews under NEPA. In *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Commission*, 449 F.3d 1016 (9th Cir. 2009), the Court found that NEPA required consideration of the risk of a terrorist attack against a proposed interim spent fuel storage installation. The Court found the NRC's refusal to consider the risks of such an attack under NEPA to be unreasonable and unlawful. The Court rejected each of the NRC's reasons for its failure to include such an analysis in its environmental review: that (1) the possibility of a terrorist attack is far too removed from the natural or expected consequences of agency action; (2) the risk of a terrorist attack cannot be determined, the analysis is likely to be meaningless; (3) NEPA does not require a "worst-case" analysis; and (4) NEPA's public process is not an appropriate forum for sensitive security issues. So, here, no such similar arguments justify a failure to consider such risks for a 36" diameter, high-pressure natural gas pipeline crossing populated areas.

[76] The risks of accidents are routinely considered in the environmental reviews of other facilities such as Department of Energy facilities, nuclear power generating facilities, and others.

U.S. Department of Energy, *Recommendations For Analyzing Accidents Under The National Environmental Policy Act* (July 2002), pp. 1-2 (emphasis supplied). [77]

The EIS should evaluate risks and accident impacts to residents, property, and resources. This evaluation should also include visitors and tourists at significant locations such as the Appalachian National Scenic Trail and other recreational facilities the pipeline is proposed to cross. *Cf., e.g.,* Letter from the National Park Service to FERC, Oregon LNG Export Project and Washington Expansion Project, FERC Nos. PF12-18-000, PF12-20-000 (Nov. 7, 2012) (National Park Service comments to FERC that the EIS must analyze safety impacts to visitors of the nearby Lewis and Clark National Historical Park and the Lewis and Clark National Historical Trail.)

Recent natural gas pipeline explosions demonstrate that, even with modern safety standards and inspections, deadly pipeline explosions continue to occur, causing loss of life and enormous economic losses.[78] The proposed PennEast main pipeline will have a potential impact radius (PIR) as defined by 49 C.F.R. §192.903 of nearly 1,000 feet.[79] As determined by Appendix C of the "Pipeline Emergency Response Guidelines" (2014) (see Appendix 15) for the Pipeline Association for Public Awareness, of which PennEast affiliate UGI is a member, the *minimum evacuation zone for the PennEast main pipeline for thermal exposure would exceed 3,000 feet in radius.*[80] In the case of an accident requiring evacuation within Lower Saucon Township, the evacuation zone would include I-78 and Rt. 33, the two primary regional transportation routes. See Appendix 16, Map

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[77] Available at: http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-AccidentAnalysis.pdf

[78] See, e.g., Appendix 14, PHMSA, Pipeline Significant Incident 20 Year Trend, Data as of 2/17/2015. From 1995 to the present, significant pipeline incidents have resulted in 360 fatalities, 1,368 injuries, and $6,983,415,589 in property damage (Data Source: PHMSA). The PHMSA database indicates that: From 1994 through 2013, the U.S. had 745 serious incidents with gas **distribution**, causing 278 fatalities and 1059 injuries, with $110,658,083 in property damage. From 1994 through 2013, there were an additional 110 serious incidents with gas **transmission**, resulting in 41 fatalities, 195 injuries, and $448,900,333 in property damage. From 1994 through 2013, there were an additional 941 serious incidents with gas **all system type**, resulting in 363 fatalities, 1392 injuries, and $823,970,000 in property damage. These figures do not fully account for the total economic losses attributable to these accidents.

[79] The PIR for a natural gas pipeline failure is determined by the formula $r = 0.69 * (\sqrt{(p*d^2)})$, where 'r' is the radius of a circular area in feet surrounding the point of failure, 'p' is the maximum allowable operating pressure (MAOP) in the pipeline segment in pounds per square inch and 'd' is the nominal diameter of the pipeline in inches. The PennEast main pipeline is 36" in diameter, and has a design maximum allowable pressure of 1,480 psi. Thus, the PIR for the PennEast main pipeline is 955 feet. The original derivation of this formula is contained in the Gas Research Institute (GRI) report by C-FER Technologies (C-FER), *"A Model for Sizing High Consequence Areas Associated with Natural Gas Pipelines"* (Stephens 2000). This formula was derived solely on the premise that thermal radiation from a jet/trench fire is the dominant hazard related to pipe rupture and subsequent ignition.

[80] The PAPA Pipeline Emergency Response Guidelines document is available at: http://www.pipelineawareness.org/wp-content/uploads/2014/09/2014-Pipeline-Emergency-Response-Guidelines.pdf

of Evacuation Zones within Lower Saucon Township (showing approximate evacuation radii for a 24-inch and a 36-inch natural gas pipeline at 1,480 pi.) The EIS must examine direct, indirect, and cumulative public safety risks and impacts of building and operating the pipelines, including loss of life, injuries and economic losses due to evacuation, property destruction and damage, and wildfires from a pipeline explosion. [81]

The EIS should include maps illustrating threats to loss of human life and property, including depictions of both the PIR and the evacuation zone. The EIS should include clear, visual information that explains the potential risks from accidental or intentional releases from the pipeline. FERC should also prepare a specific description of the properties, community and public resources, and residences that would be adversely affected in the event of a natural gas release.

In evaluating the public safety risks, the EIS should consider and realistically evaluate emergency response capabilities, or the lack thereof, in each of the areas through which the pipeline would pass. We do not believe that local municipalities have emergency response capability to adequately respond to a large-scale natural gas transmission pipeline release, explosion or fire.

P. Consideration of impacts on historic properties pursuant to the National Historic Preservation Act

FERC must also fulfill its obligations under the National Historic Preservation Act (NHPA) to "take into account the effect of the undertaking on any district, site,

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[81] We also note the scoping comments filed at Accession No. 20150220-5074 regarding the psychological health and stress impact of living near a 36" diameter 1,480 psi high pressure natural gas pipeline with its attendant risks of catastrophic accidents. We reiterate that this pipeline has a minimum evacuation radius of *3,000 feet.* Appendix 15, Pipeline Emergency Response Guidelines (2014). A substantial population resides within this evacuation distance over its 108 mile length. We believe that it would not be unreasonable to evaluate this "reasonably foreseeable" impact as part of the environmental review under NEPA. Under NEPA, "[e]ffects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, *or health*[.]" 40 CFR §1508.8 (emphasis supplied). The psychological impact would flow directly from a physical change in the environment: the physical construction, continued presence, and operation of the pipeline posing a threat. This fact alone takes the case out of the rationale of *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 103 S. Ct. 1556, 75 L. Ed. 2d 534 (1983), which held that the Nuclear Regulatory Commission was not required to consider psychological injuries under NEPA as part of its evaluation of a restart of Three Mile Island Unit 1. The Court specifically relied on its conclusion that there was an insufficient nexus with a change to the physical environment. Justice Brennan, concurring, stated: "*There can be no doubt that psychological injuries are cognizable under NEPA.* See ante, at 1559. As the Court points out, however, the particular psychological injury alleged in this case did not arise, for example, out of the direct sensory impact of a change in the physical environment." 460 U.S. at 779, 103 S. Ct. at 1564 (emphasis supplied).

building, structure, or object that is included in or eligible for inclusion in the National Register." 16 U.S.C. § 470f; see also *Pit River Tribe v. U.S. Forest Serv.*, 469 F.3d 768, 787 (9th Cir. 2006) (discussing the requirements of the NHPA). "[T]he preservation of this irreplaceable heritage is in the public interest," 16 U.S.C. § 470(b)(4).

FERC's January 13, 2015 "Notice Of Intent To Prepare An Environmental Impact Statement For The Planned PennEast Pipeline Project, Request For Comments On Environmental Issues, and Notice Of Public Scoping Meetings" states:

> In accordance with the Advisory Council on Historic Preservation's implementing regulations for Section 106 of the National Historic Preservation Act, we are using this notice to initiate consultation with applicable State Historic Preservation Offices (SHPO), and to solicit their views and those of other government agencies, interested Indian tribes, and the public on the Project's potential effects on historic properties. We will define the Project-specific Area of Potential Effects (APE) in consultation with the SHPOs as the Project develops. On natural gas facility projects, the APE at a minimum encompasses all areas subject to ground disturbance (examples include construction right-of-way, contractor/pipe storage yards, compressor stations, and access roads). Our EIS for this project will document our findings on the impacts on historic properties and summarize the status of consultations under Section 106. [internal footnote omitted]

Under the regulations of the Advisory Council on Historic Preservation, FERC must:

> (i) Identify consulting parties either pursuant to § 800.3(f) or through the NEPA scoping process with results consistent with § 800.3(f);
>
> (ii) Identify historic properties and assess the effects of the undertaking on such properties in a manner consistent with the standards and criteria of §§ 800.4 through 800.5, provided that the scope and timing of these steps may be phased to reflect the agency official's consideration of project alternatives in the NEPA process and the effort is commensurate with the assessment of other environmental factors.

36 C.F.R. §800.8(c)(1).

A representative of each municipality through which the pipeline may cut is entitled to participate formally as a consulting party in accordance with 36 C.F.R. part 800:

> (3) Representatives of local governments. A representative of a local government with jurisdiction over the area in which the effects of an undertaking may occur is entitled to participate as a consulting party.

36 C.F.R. §800.2(c)(3).

Moreover, the regulations governing this process provide that "[c]ertain individuals and organizations with a demonstrated interest in the undertaking may participate as consulting parties" either "due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties." 36 C.F.R. §800.2(c)(5). Lower Saucon Township meets that test, as the Township has a specific interest in preserving intact historic properties within the Township for their historic and social value as demonstrated by its history of partnership with the Lower Saucon Historical Society and its expenditure of public funds for preservation and maintenance of National Register-listed properties within the township.

For the record, Lower Saucon Township requests to participate as a "consulting party" in the Section 106 process with respect to all historic properties within its jurisdiction.

The Notice of Intent's reference to the Area of Potential Effects that it "at a minimum encompasses all areas subject to ground disturbance," signals that FERC may adopt an unlawfully narrow APE scope. FERC's consultation duty is in order to "identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties." 36 C.F.R. §800.1(a). NHPA regulations make clear that the scope of proper analysis is defined by the project's area of potential effects, see 36 C.F.R. § 800.4, which in turn is defined as "the geographic area . . . within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties," 36 C.F.R. § 800.16(d). This area is "influenced by the scale and nature of an undertaking." *Id.* The area of potential effects should sweep quite broadly here because, as in the ESA and NEPA contexts, the reach of the pipeline project extends to the entire area in which it will increase gas production.

Q. The EIS must fully and comprehensively consider the "no action" alternative and must not use an impermissibly narrow definition of the Project purpose and need.

The Commission must give full and comprehensive consideration to the benefits associated with the "no action" alternative, including appropriate quantification of the natural resource and ecological benefits of avoiding the adverse impacts that are identified. In weighing the various alternatives, it must not accept an impermissibly narrow statement of the project's purpose and need that in essence forecloses FERC from accepting any alterative except the routes and capacity proposed by the applicant for the project. PennEast's statement of need in its Resource Report 10 is a classic example of a

statement of "need" that is calculated to foreclose *ab initio* any consideration of alternatives that is different from its exact proposed project. [82]

The Commission must evaluate the full benefits of the "no action" alternative.

An evaluation of the full benefits of the "no action" alternative requires a concomitant full evaluation of the project risks and adverse impacts. If the EIS does not adequately address the full range and extent of the adverse environmental impacts from the Project, it will necessarily understate the environmental benefits that would result from the "no action" alternative.

In particular, the Commission must "compare the environmental consequences of the *status quo* to the consequences of the proposed action." *Center for Biological Diversity v. U.S. Dept. of Interior*, 623 F.3d 633, 642 (9th Cir. 2010). The *status quo* that must be analyzed as part of the "no action" alternative includes the fact that critical interior ridge-top and other forest habitat will remain intact, numerous waterways will remain uncrossed and the risk of erosion and sedimentation reduced, there will be no impact to wetlands, and the air and climate-changing pollution associated with the project will remain un-emitted. The EIS may not simply describe and compare a number of options for meeting energy demands. Such a limited evaluation would not allow "policymakers and the public to compare the environmental consequences of the status quo to the consequences of the proposed action." *See id.* In particular, the EIS should include a valuation of the environmental services being performed by the particular

[82] As we have noted above: PennEast claims that: "PennEast is not aware of any non-PennEast system alternatives that would satisfy the purpose and need of the Project. The purpose and need of the Project includes the need to satisfy the service that has been subscribed by the Project shippers under long-term firm contracts, which include multiple, unique receipt and delivery point combinations located along the PennEast system. PennEast is not aware of any other pipeline alternative that could satisfy the unique receipt and delivery point combinations subscribed under its agreements with the Project shippers." Resource Report 10, Preliminary Draft, FERC Section 7c Application, p.31. This "unique combination" was within the control of PennEast and its affiliates. One of the shippers is UGI Energy Services, LLC, which is one of the PennEast Pipeline Company LLC interest holders (22%) and its project manager. Another shipper, PSEG Power LLC, is a 22% interest holder in PennEast. Yet another shipper, South Jersey Gas Company, is a subsidiary of South Jersey Industries, a holding company, and 22% interest holder. Another shipper, Pivotal Utility Holdings, d/b/a Elizabethtown Gas, is a subsidiary of ALG Resources, a 22% interest holder. Another shipper, New Jersey Natural Gas, is a subsidiary of New Jersey Resources, a 22% interest holder in PennEast. Finally, Texas Eastern Transmission is a subsidiary of Spectra Energy, which provides the direct access to the eastern Marcellus Shale region of northeast Pennsylvania. The commitments of these entities under the terms of PennEast's open season announcement are based on requests for a maximum daily quantity ("MDQ"). Penneast Pipeline Company, LLC Announces Binding Open Season For Transportation Service, August 11, 2014, http://penneastpipeline.com/openseason/OpenSeason_Announcement.pdf The contracts are likely to be customarily based on maximum contract demand and maximum daily quantity. Such arrangements would not preclude the use of the pipeline for transmission of natural gas for export.

environmental features that would be adversely affected and a concomitant analysis of the monetized loss from adverse impacts to these affected features. [83]

R. The Commission would violate NEPA and the NGA by narrowly defining the Project's purpose in order to reject all other alternatives.

> The Project is designed to bring lower cost natural gas produced in the Marcellus Shale region in eastern Pennsylvania to homes and businesses in Pennsylvania and New Jersey.

PennEast Resource Report 1 (also styled in the footer as "Preliminary Draft - FERC Section 7c Application), p.1-2.

> The Project is designed to provide a new pipeline alternative to serve markets in the region. An additional supply of natural gas to the region will provide a benefit to consumers, utilities and electric generators by providing enhanced competition among suppliers and pipeline transportation providers. The Project will satisfy the needs of shippers seeking (i) additional supply flexibility, diversity and reliability; (ii) liquid points for trading in locally produced gas, including Marcellus Shale gas; (iii) direct access to premium markets in the northeast and mid-Atlantic regions; (iv) the ability to capture pricing differentials between the various interconnected market pipelines; and (v) firm access to long-lived dry gas reserves. The Project will provide shippers additional opportunities to buy and sell supplies and to transport natural gas to where it is needed and valued most. The Project also offers shippers a short-haul transportation option for direct access to Marcellus Shale natural gas supplies.

Id.

> The Project is designed to bring lower cost natural gas to homes and businesses in Pennsylvania and New Jersey. Figure 1.1-3 and 1.1-4 illustrate the increase expected on the electric system between 2012 and 2040 that will significantly contribute to this increased demand for natural gas. Figure 1.1-5 shows the PJM capacity fuel mix as of 12/1/2014. Further, the proposed Project will help to spur economic growth in Pennsylvania, New Jersey and surrounding states by providing an abundant supply of low-cost energy, making the region more competitive both nationally and internationally.

Id., p. 1-4

Given this range of purported purposes, the Commission should analyze in detail whether alternatives exist to meet one, some, or all of these purposes. These include

[83] See, e.g., Dr. James Boyd, Resources for the Future, *Valuation of Ecosystem Services*, and references therein, available at: http://www.moore.org/materials/white-papers/Ecosystem-Services-Seminar-3-Valuation.pdf

alternatives of smaller project scopes, utilization of other existing capacity, contracts with other suppliers, and so forth.

FERC cannot interpret the project's purpose and need so narrowly that every conceivable alternative is ruled out by definition. *See Simmons v. U.S. Army Corps of Eng's*, 120 F.3d 664 (7th Cir. 1997) (cautioning agencies not to put forward a purpose and need statement that is so narrow as to "define competing 'reasonable alternatives' out of consideration (and even out of existence)"); *National Parks & Cons. Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1072 (9th Cir. 2009) (finding a purpose and need statement that included the agency's goal to address long-term landfill demand, and the applicant's three private goals was too narrowly drawn and constrained the possible range of alternatives in violation of NEPA). Thus, a statement of purpose and need that primarily addresses the corporate interests for financial benefit of the PennEast Pipeline Company, LLC, and the shippers for the lowest cost supply of natural gas is impermissibly narrow. Such narrow statements of purpose and need undermine the NEPA process and will not be upheld. *Environmental Prot. Info. Center v. U.S. Forest Serv.*, 234 F. Appx. 440, 443 (9th Cir. 2007) (agencies cannot "define[] the objectives of the project so narrowly that the project [is] the only alternative that would serve those objectives"). Similarly, defining the Project's purpose as serving the needs of specific customers contravenes the NGA's overriding purpose "to protect consumers against exploitation at the hands of natural gas companies." *United Distrib. Co. v. FERC*, 88 F.3d 1105, 1122 (D.C. Cir. 1996) (citation omitted). Neither NEPA nor the NGA allows FERC to reject all alternatives except this Project in order to promote the pecuniary interests of specific private corporations.

VIII. COMMUNICATIONS

Communications regarding this matter should be directed to:

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