UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Adelphia Gateway, LLC
Adelphia Gateway Project
Docket No. CP18-46-000

COMMENTS OF LOWER SAUCON TOWNSHIP, NORTHAMPTON COUNTY, PENNSYLVANIA ON ENVIRONMENTAL ISSUES AND THE SCOPE OF THE ENVIRONMENTAL ASSESSMENT

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ADELPHIA GATEWAY, LLC
ADELPHIA GATEWAY PROJECT
DOCKET NO. CP18-46-000

COMMENTS OF LOWER SAUCON TOWNSHIP, NORTHAMPTON COUNTY, PENNSYLVANIA ON ENVIRONMENTAL ISSUES AND THE SCOPE OF THE ENVIRONMENTAL ASSESSMENT

Lower Saucon Township, Northampton County, PA, welcomes the opportunity to present its comments on the scope of the environmental assessment ("EA") of this project.

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. We respectfully submit that prior Federal Energy Regulatory Commission ("FERC") Environmental Impact Statements (EIS) and EAs 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. SUMMARY OF THE PROPOSED PROJECT

Adelphia proposes to acquire and convert an existing oil pipeline and an existing dual-phase oil and natural gas pipeline to natural gas only, and construct and operate new natural gas pipelines, compressor stations, meter stations, and appurtenant facilities in Delaware, Bucks, Chester, Montgomery, and Northampton Counties, Pennsylvania, and New Castle County, Delaware. A portion of the mainline of the pipeline would traverse through Lower Saucon Township. The Adelphia Gateway Project would provide about 175 million standard cubic feet of natural gas per day to the greater Philadelphia industrial region with potential to serve additional markets in the northeast.

Specifically, the Adelphia Gateway Project would consist of the construction of the following facilities:

- one new 5,625 horsepower (hp) compressor station in Delaware County, Pennsylvania (Marcus Hook Compressor Station);
- one new 5,625 hp compressor station in Bucks County, Pennsylvania (Quakertown Compressor Station);
- 0.25 mile of new 16-inch-diameter pipeline lateral in Delaware County, Pennsylvania and New Castle County, Delaware (Parkway Lateral);

- 4.5 miles of new 16-inch-diameter pipeline lateral in Delaware County, Pennsylvania (Tilghman Lateral);
- one new interconnect each in Montgomery County and Bucks County, Pennsylvania;
- three new interconnects in New Castle County, Delaware;
- three new interconnects in Delaware County, Pennsylvania;
- eight new blowdown assemblies (one in Delaware County, two in Montgomery County, and five in Chester County, Pennsylvania);
- one new mainline valve in Delaware County, Pennsylvania; and
- one temporary wareyard in Delaware County, Pennsylvania.

Additionally, the Adelphia Gateway Project would require the acquisition and use of the following existing facilities:

- 4.4 miles of existing 20-inch-diameter natural gas pipeline in Northampton County, Pennsylvania;
- 84 miles of existing 18-inch-diameter pipeline (the northern 34-mile segment was used to transport oil and natural gas, and the southern 50-mile segment was used to transport fuel oil); and
- four existing meter stations in Bucks, Delaware, and Northampton Counties, Pennsylvania.

Within Lower Saucon Township, the proposed route of the Adelphia Gateway pipeline would largely parallel the route of the Hellertown Lateral of the PennEast Pipeline (FERC Docket CP15-558). Based on route information currently available to the Township, the Adelphia Gateway pipeline appears to cross the Hellertown Lateral between Hellertown Lateral mileposts 1.7 and 1.8.

II. FERC SHOULD PREPARE AN ENVIRONMENTAL IMPACT STATEMENT, NOT AN ENVIRONMENTAL ASSESSMENT, FOR THIS PROJECT.

FERC should prepare an environmental impact statement in accordance with its regulations implementing NEPA. Those regulations provide:

> [18 CFR] **§380.6. Actions that require an environmental impact statement.**
> (a) Except as provided in paragraph (b) of this section, an environmental impact statement will *normally be prepared* first for the following projects: …
>
> (3) Major pipeline construction projects under section 7 of the Natural Gas Act using rights-of-way in which there is no existing natural gas pipeline[.] [1]

[1] See also, **40 CFR §1501.4 Whether to prepare an environmental impact statement.**
"In determining whether to prepare an environmental impact statement the Federal agency shall:
(a) Determine under its procedures supplementing these regulations (described in §1507.3) whether the proposal is one which:
(1) Normally requires an environmental impact statement[.]"

[emphasis supplied].

According to the Adelphia Gateway Pipeline project application, the project includes the following:

- 0.25 mile of new 16-inch-diameter pipeline lateral in Delaware County, Pennsylvania and New Castle County, Delaware (Parkway Lateral);
- 4.5 miles of new 16-inch-diameter pipeline lateral in Delaware County, Pennsylvania (Tilghman Lateral);
- 50 miles of existing 18-inch-diameter pipeline that has not previously transported natural gas, but rather only fuel oil.

Thus, under a strict reading of FERC's own regulations, this project constitutes a "[m]ajor pipeline construction project[] under section 7 of the Natural Gas Act using rights-of-way in which there is no existing natural gas pipeline."[2] It also seems apparent that the project as a whole may have significant environmental impacts. *See, e.g.,* "Clean Air Council's Initial Comments on the Adelphia Gateway Pipeline Project", February 13, 2018 (Accession No. 20180213-5358). FERC should therefore prepare an environmental impact statement for the Adelphia Gateway project.

Indeed, because an environmental impact statement should be prepared, rather than an environmental assessment, these scoping comments address the scope of such an environmental impact statement.

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

We request that FERC, as required by Council on Environmental Quality ("CEQ") regulations, indicate to the public (to the extent applicable) all other public environmental assessments and EIS documents that are *related to*, although not within the scope of, the environmental assessment under consideration in this scoping process.[3]

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[2] While the Adelphia Gateway Resource Report 1 (p.15) states that about 20,300 feet of the Tilghman Lateral would be "co-located with existing right-of-way", the text of 18 CFR §380.6 does not set forth an exception for such co-location where no natural gas pipeline exists.

[3] 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.

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.

IV. THE ENVIRONMENAL REVIEW SHOULD IDENTIFY POTENTIAL IMPACTS TO NATURAL AREAS AND CULTURAL RESOURCES WITHIN LOWER SAUCON TOWNSHIP OR IN CLOSE PROXIMITY TO THE TOWNSHIP.

Lower Saucon Township is a "local agency" and an "interested person"[4] with respect to this project and any 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.[5]

Because the route is subject to ongoing modification, we identify resources that are subject to potential impacts within the general area of the proposed pipeline 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 and Adelphia reserves the right in its open season notice to "change the scope" of the project, 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.

Based on the information available to the Township, it appears that the mainline route travels through three Natural Areas of State Significance within Lower Saucon Township: the Bull Run Natural Heritage Area (an area which includes the Redington Cave), the Granite Hill Slope Natural Area, and the Focht Hill Vernal Pools Natural Area and the Hellertown Reservoir Area Vernals. The Bull Run Natural Heritage Area is a "forested area includ[ing] nearly 200 acres of interior forest, and is a Natural Heritage Area of statewide significance recognized by the regional Lehigh Valley Planning Commission. See, NATURAL HERITAGE INVENTORY OF LEHIGH AND NORTHAMPTON COUNTIES, PENNSYLVANIA - UPDATE 2013 (June 2013), p. 111 (document located at: http://www.naturalheritage.state.pa.us/CNAI_PDFs/Lehigh%20and%20Northampton%20CNHI_update_2013.pdf . The Redington Cave, a substantial portion of which is located within the Bull Run Natural Heritage Area, contains bat habitat. The Vernal Pools are important amphibian breeding habitat. Salamanders and frogs that use vernal pools for breeding typically leave the pool for upland habitats once mating is completed. While the pools are essential for breeding and early development of amphibians, the adjacent forested habitat is also critical to support adult amphibians. It is important to maintain

[4] See, e.g., 40 C.F.R. §1501.7.

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

current hydrologic conditions to preserve the typical fluctuating water level of seasonal pools; thus, activities that may disturb those conditions must be avoided. Four sensitive species of concern also occur within the forested slope of the Focht Hill Vernal Pools. These species utilize the forest and the wetlands as their primary habitats.

Adelphia and FERC should identify areas of existing pipeline that may require repair or other construction work that have the potential of impacting these protected natural areas of statewide significance. In addition, the analysis should reflect the fact that the project is likely to extend the life of the pipeline, requiring maintenance, repairs, vegetation removal, and other activities that disturb these natural areas.

Adelphia's Resource Report 1 (p. 26) asserts, improbably, "Adelphia does not anticipate a scenario in which the Project, once constructed, would no longer be needed." The notion that this pipeline could exist forever *in futuro* is absurd. The environmental analysis should consider the impacts to the natural areas caused by the ultimate abandonment and removal of the pipeline, including earth disturbance and de-construction operations.

V. THE ENVIRONMENTAL ANALYSIS MUST INCLUDE A DETAILED ANALYSIS OF THE PROJECT PURPOSE AND NEED, SUPPORTED BY SUBSTANTIAL EVIDENCE.

As noted, the Adelphia Gateway project appears to offer potentially redundant services, or services that could provided by alternative means, as it will run nearly parallel to the PennEast Pipeline Hellertown Lateral, for which FERC issued a certificate on January 19, 2018. Moreover, the statement of need for the project as currently proposed and as set forth in Adelphia's Resource Report 1 (p.1) appears to be inadequate. That statement of need asserts:

> The Project is designed to increase available natural gas pipeline capacity to the Greater Philadelphia industrial region with potential to serve additional markets in the Northeast while continuing to provide uninterrupted service to two existing power plants at the northern end of the system, the Lower Mount Bethel Power Plant and the Martins Creek Power Plant.

The "*continuation*" of service to existing power plants that are already adequately served by existing supplies does not establish any need for the project as proposed. And the assertion of project design to "increase available natural gas pipeline capacity" likewise fails to establish any need for this project. Such statements amount to nothing more than circular *ipse dixit* assertions: "We are building natural gas pipeline capacity for the purpose of increasing available pipeline capacity."

The simple invocation of precedent agreements[6] should also no longer suffice to establish project need. *Cf., Notice of Inquiry, Certification of New Interstate Natural Gas Facilities*, Docket PL18-1-000, 163 FERC ¶ 61,042. Indeed, if Adelphia intends to rely upon them, 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). This is particularly so in light of Adelphia's reservation of a purported right to "*revise the scope of the project*" if "the total capacity requested under the binding precedent agreements on the Project exceeds the planned scope of the Project."[7] Application Exhibit Z-3, Open Season Notice, "Adelphia Gateway, LLC Announces Binding Open Season For Transportation Service", Accession No. 20180112-5115. In addition, FERC should evaluate the relationships between the applicant Adelphia Gateway LLC and the entities with which it enters into transportation contracts and precedent agreements.

In weighing alternatives and project impacts, FERC must not uncritically accept Adelphia's claims regarding the project's purpose and need that, in essence, foreclose FERC from accepting any alterative except the routes, delivery points, and capacity proposed by Adelphia.

VI. THE ENVIRONMENTAL DOCUMENT 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 ALL FORESEEABLE PROJECT IMPACTS, INCLUDING DIRECT, INDIRECT, AND CUMULATIVE IMPACTS.

Additional natural gas production in the Marcellus Shale region is a reasonably foreseeable consequence of demand-creating projects such as natural gas pipelines that would, *inter alia*, extend the time of operation of fossil fuel in place of electric generating capacity with renewable energy resources that would otherwise displace it. Thus, the Commission must consider the environmental consequences of this development.

The Commission has historically 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.

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[6] See, e.g., "Abbreviated Application Of Adelphia Gateway, LLC For Certificates Of Public Convenience And Necessity Authorizing Acquisition, Construction, And Operation Of Certain Pipeline Facilities And For Related Authorizations", Accession No. 20180112-5115, pp. 5-6.

[7] If the "scope of the project" changes, FERC should issue a new notice of application and a new notice of intent to issue an environmental assessment or environmental impact statement, and establish new deadlines for intervention, etc.

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).

Even assuming that the pipeline would operate only until the end of the initial terms of the precedent agreements or other transportation service agreements, it is unlikely that existing natural gas 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 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.

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.[8] "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[.]"[9]

Thus, the 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 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. 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

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[8] 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

[9] 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

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. FERC continues to assert that the "potential environmental impacts resulting from [natural gas] production are not reasonably foreseeable." "Order Issuing Certificates", PennEast Pipeline Company, LLC, 162 FERC ¶ 61,053 (January 19, 2018), Order at 73. 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,*[10] 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 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. 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

[10] 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

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 Adelphia Gateway 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).

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.*[11]

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;

· 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;

[11] 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 Final Supplemental General Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (2015) ("FSGEIS"). The FSGEIS is available at: http://www.dec.ny.gov/energy/75370.html

· 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.

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

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[12] 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.

[12] 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!"

Because the pipeline can be expected to be operational over a period of decades – indeed, as noted above, Adelphia claims it does not envision any scenario in which the pipeline will not be needed – it is arbitrary and capricious to assume that additional natural gas production facilities will not be associated with the project.

C. 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 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 pipeline, additional natural gas development will be required to fill the capacity of the pipeline project and additional gathering lines will be constructed to ultimately 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 (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 this 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.

D. The Commission's environmental analysis 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 Adelphia 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.

FERC's Strategic Plan identified the approval of natural gas infrastructure, including pipelines, as a specific goal over the next several years.[13]

E. The Commission must ensure that all measures intended to "minimize" or mitigate the Project's significant environmental impacts are fully documented in the environmental analysis, 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

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[13] Then-Chairperson LaFleur's January 27, 2015 remarks at the National Press Club addressed the implications of the federal "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 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*

> 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").*[14] The Commission cannot satisfy these criteria by prematurely preparing an environmental assessment or EIS 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, 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.").

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

The CEQ's *Final Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews* issued in August 2016[15] stated:

> [W]hen addressing climate change agencies should consider: (1) The potential effects of a proposed action on climate change as indicated by

[14] The guidance is available at: https://www.energy.gov/nepa/downloads/appropriate-use-mitigation-and-monitoring-and-clarifying-appropriate-use-mitigated

[15] The CEQ guidance is available at: https://obamawhitehouse.archives.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf We submit that NEPA itself requires such consideration of climate change irrespective of any particular guidance document that may be issued by CEQ.

> assessing GHG emissions (e.g., to include, where applicable, carbon sequestration); and, (2) The effects of climate change on a proposed action and its environmental impacts.

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 the totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because 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 a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact. When considering GHG emissions and their significance, agencies should use appropriate tools and methodologies for quantifying GHG emissions and comparing GHG quantities across alternative scenarios. Agencies should not limit themselves to calculating a proposed action's emissions as a percentage of sector, nationwide, or global emissions in deciding whether or to what extent to consider climate change impacts under NEPA.

Id., p. 11

As the initial comments from the Clean Air Council state:

> NJR includes in its application an estimate of the operational greenhouse gas emissions from the Project: about 63,000 tons per year. RR01, § 1.11.2.8. NJR further estimates that if all the delivered gas were burned, the annual emissions would be 4,861,766 tons per year. Id. However, NJR's analysis ends there without considering how these emissions will impact the environment and human health. NJR further notes that "The GHG emissions from the construction and operation of the Project would be negligible compared to the global GHG emission inventory." Id. This is not enough.

Initial Comments of Clean Air Council, Accession No. 20180213-5358, p.14 (internal footnote omitted)

The environmental analysis 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., data formerly located at* 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 stations, pipeline and other infrastructure, all construction emissions, and all emissions from indirectly-related activities.

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, *formerly located at* 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/.

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.[16] 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 or, even worse, all global GHG emissions. As noted above, the CEQ guidance explicitly instructed agencies to reject this line of reasoning: "a statement that

[16] *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%).

emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA."

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.

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

Natural gas pipelines place a significant number of people at risk of catastrophic accidents resulting from a natural gas accident. The Adelphia pipeline would cross near schools, residences, through communities, under an interstate highway, and near other areas where accidents or terrorist-induced crimes[17] could leave a devastating toll on human life. For these reasons, the environmental analysis must fully disclose the risks and potential consequences of an accidental or intentional (including from a terrorist attack) release of natural gas from the pipeline.[18]

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]

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[17] 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.

[18] 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.

> *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.

U.S. Department of Energy, *Recommendations For Analyzing Accidents Under The National Environmental Policy Act* (July 2002), pp. 1-2 (emphasis supplied). [19]

The analysis should evaluate risks and accident impacts to residents, property, and resources.

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.[20] The proposed 18" diameter portion of the Adelphia pipeline has a potential impact radius (PIR) as defined by 49 C.F.R. §192.903 of approximately 408 feet.[21] As determined by Appendix C of the "Pipeline Emergency Response Guidelines" (2017) for the Pipeline Association for Public Awareness, the *minimum evacuation zone for the 18" main pipeline for thermal exposure would 1,300 feet in radius.*[22] 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, cutting them off and causing substantial regional and economic disruptions. 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

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

[20] 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.

[21] 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 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.

[22] The PAPA Pipeline Emergency Response Guidelines document is available at: https://www.pipelineawareness.org/media/1092/2017-pipeline-emergency-response-guidelines.pdf

economic losses due to evacuation, property destruction and damage, and wildfires from a pipeline explosion.

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. 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.

The environmental analysis should include a detailed disclosure and analysis of the risks of terrorist attacks along the pipeline, including the risks of multiple points of attack, which would cause consequences greater than that for a single accident or release point. This should include the potential consequences of such an attack including the range of total potential loss of life and number of injuries, societal disruption, financial and economic impacts, and other losses if multiple points along the pipeline were to be targeted.

A 2012 Congressional Research Service report acknowledges:

> Since September 11, 2001, federal security warnings have identified pipelines as potential terror targets in the United States. Until recently, attention was most heavily focused on physical threats to pipelines, especially in light of several actual plots involving physical pipeline attacks on U.S. soil. In 2006, for example, federal authorities acknowledged the discovery of a detailed posting on a website linked to Al Qaeda that reportedly encouraged attacks on U.S. pipelines using weapons or hidden explosives.

Congressional Research Service Report for Congress, "Pipeline Cybersecurity: Federal Policy", R42660, Paul W. Parfomak (August 16, 2012) ("CRS Report") available at: http://fas.org/sgp/crs/homesec/R42660.pdf. CRS Report, p. 2.

However, vulnerabilities include not just physical attacks, but targeted challenges to supervisory control and data acquisition (SCADA) systems.[23] The CRS Report emphasizes the heightened risk of terrorist attack at natural gas pipeline facilities:

> While the pipelines sector has many cybersecurity issues in common with other critical infrastructure sectors, it is somewhat distinct in several ways:

[23] "In particular, cyber infiltration of supervisory control and data acquisition (SCADA) systems could allow 'hackers' to disrupt pipeline service and cause spills, explosions, or fires—all from remote locations via the Internet or other communication pathways." CRS Report, p. 1.

> • Pipelines in the United States have been the target of several confirmed terrorist plots and attempted physical attacks since September 11, 2001.
> • Changes to pipeline computer networks over the past 20 years, more sophisticated hackers, and the emergence of specialized malicious software have made pipeline SCADA operations increasingly vulnerable to cyber attacks.
> • There recently has been a coordinated series of cyber intrusions specifically targeting U.S. pipeline computer systems.

CRS Report, Summary.

This threat is not theoretical or speculative. "In March 2012, the Department of Homeland Security (DHS) reported ongoing cyber intrusions among U.S. natural gas pipeline operators." CRS Report, p. 1, citing Industrial Control Systems Cyber Emergency Response Team (ICS-CERT), "Gas Pipeline Cyber Intrusion Campaign," ICS-CERT Monthly Monitor, April 2012, p.1, http://www.us-cert.gov/control_systems/pdf/ICSCERT_Monthly_Monitor_Apr2012.pdf[24]

As the CRS Report points out:

SCADA-related problems were a primary cause or contributing factor in several recent pipeline accidents which had catastrophic consequences.

• San Bruno, CA—A 2010 natural gas pipeline explosion killed 8 people, injured 60 others, and destroyed 37 homes. Erroneous and unavailable SCADA pressure readings and other SCADA deficiencies were partly responsible for excessive line pressure which ruptured the pipeline.
• Marshall, MI—A 2010 pipeline spill released 819,000 gallons of crude oil into a tributary of the Kalamazoo River. Various SCADA control center deficiencies, including the mishandling of pressure alarms, delayed the spill response and increased the size of the spill.
• Bellingham, WA—A 1999 gasoline pipeline explosion killed three people and caused $45 million in damage to a city water plant and other property. The SCADA system used to operate the pipeline became unresponsive, making it difficult to analyze pipeline conditions and respond to operational problems that led to the pipeline failure.

While these incidents were all accidental, they are indicative of physical consequences that could result from a pipeline release initiated by a cyber attacker.

CRS Report, p. 4 (internal footnotes omitted).

FERC'S typical brush-off of the risks of terrorism in environmental statements is not the required "hard look" that NEPA requires. "If the risk of a terrorist attack is not insignificant, then NEPA obligates the [agency] to take a "hard look" at the

[24] The cited link is no longer live, but the document can now be found here: https://ics-cert.us-cert.gov/sites/default/files/Monitors/ICS-CERT_Monitor_Apr2012.pdf (last accessed February 18, 2018).

environmental consequences of that risk. *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm'n*, 449 F.3d 1016, 1032 (9th Cir. 2006); *San Diego Navy Broadway Complex Coalition v. U.S. Dep't of Defense*, 817 F.3d 653, 660 (9th Cir.), *cert. denied sub nom. San Diego Navy Broadway Complex Coal. v. Dep't of Defense*, 137 S. Ct. 597, 196 L. Ed. 2d 475 (2016) (concluding that the United States must address the risk of terrorism at a new redevelopment project of mixed Navy military and civilian facilities, including hotels, retail, and entertainment spaces); *Tri-Valley Cares v. Dep't of Energy*, 203 F. App'x 105, 2006 WL 2971651 (9th Cir. 2006) (consideration of effects of terrorist attack was required in environmental assessment for proposed construction of federal government biological weapons research laboratory and failure of the Department of Energy to consider those effects warranted remand). FERC clearly does not deem the risk of a terrorist attack on natural gas pipeline facilities to be "insignificant." Among other things, it has established a rule that requires natural gas pipeline companies to report "at the earliest feasible time" any "[d]amage to any jurisdictional natural gas facilities...caused by a hurricane, ... or terrorist activity that results in a loss of or reduction in pipeline throughput or storage deliverability." 18 C.F.R. 260.9(a)(1)(i); Final Rule, *Revision of Regulations to Require Reporting of Damage to Natural Gas Pipeline Facilities* (Docket No. RM06-18-000; Order No. 682), https://www.ferc.gov/EventCalendar/Files/ 20060823093743-RM06-18-000.pdf

In *San Luis Obispo Mothers for Peace*, the Court granted a petition for review of the Nuclear Regulatory Commission's decision to exclude from its NEPA evaluations the risks of terrorism from a proceeding for licensing of an interim spent fuel storage facility. In doing so, the Court rejected each and every reason offered by the NRC to exclude the issue from meaningful consideration: (1) the possibility of terrorist attack is too far removed from the natural or expected consequences of agency action to require study under NEPA; (2) because 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. *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm'n,* 449 F.3d 1016, 1022 (9th Cir. 2006)[25]

[25] *But see, New Jersey Dep't of Envtl. Prot. v. U.S. Nuclear Regulatory Comm'n*, 561 F.3d 132 (3d Cir. 2009) (affirming the NRC's refusal to consider the environmental effects of a hypothetical aircraft attack on a nuclear power facility in a relicensing proceeding and "departing from" the reasoning in *San Luis Obispo)*. That case, however, is distinguishable, as: (1) the Court found that there is no "reasonably close causal relationship" between a *relicensing* proceeding and the environmental effects of an aircraft attack on an existing licensed facility, noting that *San Luis Obispo*_involved the proposed construction of a new facility—a change to the physical environment arguably with a closer causal relationship to a potential terrorist attack than the mere relicensing of an existing facility; (2) the NRC *had already made* the assessment of the impacts of a terrorist attack in a generic environmental impact statement ("GEIS"). The GEIS concluded that should such an unlikely event occur, the effects would be "no worse than those expected from internally initiated events." *Id.*, at 143. As the Court explained, "[t]he NRC rules codify these generic findings, and by regulation, license renewal applicants are excused from discussing generic issues in their environmental reports. *See* 10 C.F.R. § 51.53(c)(3)(i)." *New Jersey Dep't of Envtl. Prot.*, 561 F.3d at 143 (3d Cir. 2009). Here, so far as the Township is aware, FERC has prepared no generic environmental impact statement regarding the risks of terrorist attacks on natural gas pipelines. Moreover, the consequences of a terrorist attack at multiple points along a pipeline would exceed those of a single-point accident.

In *San Diego Navy Broadway Complex Coalition*, the Court further admonished that "whether or not the intelligence community is aware of a *specific* threat to a facility at the time a NEPA analysis is conducted should have no bearing on whether to consider the impacts of an attack." 817 F.3d at 660. And whether the risks are "quantifiable" or not "misses the point". *San Luis Obispo Mothers for Peace*, 449 F.3d at 1031 ("The numeric probability of a specific attack is not required in order to assess likely modes of attack, weapons, and vulnerabilities of a facility, and the possible impact of each of these on the physical environment, including the assessment of various release scenarios.... It is therefore possible to conduct a low probability-high consequence analysis without quantifying the precise probability of risk."). Clearly, it is far easier to evaluate such risks to a natural gas pipeline than a nuclear power facility – and a natural gas pipeline is clearly a "softer target" than a nuclear power reactor facility.

H. The environmental analysis 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 all 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, delivery points, and capacity proposed by the applicant for the project.

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 analysis 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).

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 Adelphia Gateway project 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 would 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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