



October 9, 2012

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

**Re: Constitution Pipeline Company, LLC, Docket No. PF12-9-000
Constitution Pipeline Project
Response to Notice of Intent to Prepare an Environmental Impact Statement for the
Planned Constitution Pipeline Project, Request for Comments on Environmental
Issues, and Notice of Public Scoping Meetings**

Dear Ms. Bose:

On behalf of the Delaware Riverkeeper Network (“DRN”), we submit the following comments on the scope of the Environmental Impact Statement (“EIS”) to be prepared by the Federal Energy Regulatory Commission (“FERC”) with respect to the Constitution Pipeline Project (the “Project”) proposed by Constitution Pipeline Company (“Constitution”).

This Project, and others like it, fit into a larger picture of exploding shale gas development in the Marcellus Shale region. Currently, there are at least twelve separate large scale transmission pipeline projects that either currently traverse the Delaware River Basin or are planned to cross the Delaware River Basin. These projects include:

- TGP 300 Line Upgrade Project (CP09-444)
- Columbia 1278k Replacement (CP10-492)
- ESNG Eastern Shore Expansion (C11-333)
- ESNG New Castle Project (CP11-303)
- DTE Bluestone Pipeline (Map Attached)
- TGP Northeast Upgrade Project (CP11-161)
- ESNG Greenspring Project (CP12-461)
- Transco Northeast Supply Link (CP12-30)
- Transco Philadelphia Lateral (CP11-508)
- Transco Mainline “A” Replacement (CP12-497)
- **Constitution Pipeline (PF12-9)**
- Texas Eastern Appalachia to Market Expansion 2014 (TEAM 2014) Project (not in pre-filing yet)

DELAWARE RIVERKEEPER NETWORK
925 Canal Street, Suite 3701
Bristol, PA 19007
Office: (215) 369-1188
fax: (215) 369-1181
dm@delawareriverkeeper.org
www.delawareriverkeeper.org

- Transco Leidy Southeast Expansion (Not in Prefiling yet)
- Sonoco Mariner East Project (Not in Prefiling yet)
- Commonwealth Pipeline (Not in Prefiling yet)
- Transco Northeast Connector (Not in Prefiling yet)
- NiSource East Side Expansion Project (Not in Prefiling yet)

Records maintained by the Pennsylvania Department of Environmental Protection show that drilling of wells in the Marcellus Shale increased by nearly 400 percent between 2008 and 2009, from 195 wells to 768 wells.¹ The increased development is not limited to the drilling of wells. FERC has reported that 5.6 billion cubic feet per day of pipeline capacity was constructed in the Northeast in 2008 and 2009, and an additional 1.2 billion cubic feet per day will have been constructed in the region by January 2011.² According to FERC, “[m]uch of the new pipeline capacity in the area is targeted at improving the access of shale gas to markets.”³ Thus, the proposed Project is both a product of the development of the Marcellus Shale and a likely catalyst for further gas development. The impacts of the Project cannot be understood apart from the totality of the past, present, and reasonably foreseeable future actions associated with Marcellus Shale development.

These comments begin by identifying crucial matters not listed in the Notice of Intent to Prepare an Environmental Assessment (the “Notice of Intent”) that FERC must assess.⁴ The comments then address some of the issues that FERC must consider within the ten categories of potential impacts listed in the Notice of Intent. Lastly, the comments call FERC’s attention to recent and ongoing action by the Delaware River Basin Commission (“DRBC”) regarding that agency’s authority in regulating natural gas pipeline construction projects. Additionally, provided as Exhibit 1, are DRN’s comments on FERC’s Plans and Procedures (FERC Docket No. AD12-2-000), which DRN encourages FERC to adopt, and apply, to any construction activities for the current Project.

I. FERC Must Assess Crucial Matters Not Included in the Notice of Intent.

NEPA⁵ and its implementing regulations⁶ require agencies to consider a full range of environmental impacts, including “ecological (such as the effects on natural resources and on the

¹ See Bureau of Oil & Gas Mgmt., Pa. Dep’t of Env’tl. Prot., *Wells Drilled in 2008* (Dec. 31, 2008),

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

<http://www.dep.state.pa.us/dep/deputate/minres/oilgas/BOGM%20Website%20Pictures/2009/2009%20%20Wells%20Drilled.jpg>.

² Fed. Energy Regulatory Comm’n, *Winter 2010-11 Energy Market Assessment* 10 (Oct. 21, 2010), <http://www.ferc.gov/market-oversight/mkt-views/2010/10-21-10.pdf>.

³ *Id.*

⁴ Fed. Energy Regulatory Comm’n, Docket No. PF12-9-000, Notice of Intent to Prepare an Environmental Impact Statement for the Planned Constitution Pipeline Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings (Sept. 7, 2012) [hereinafter “Notice of Intent”].

⁵ 42 U.S.C. §§ 4321-4370f (2006).

⁶ 40 C.F.R. §§ 1500-08 (2010).

components, structures, and functioning of affected ecosystems), aesthetic, historic, [and] cultural” impacts, “whether direct, indirect, or cumulative.”⁷ The Notice of Intent fails to address several important issues that FERC must assess as part of the NEPA review process.

A. Climate Change and Greenhouse Gases

Carbon sequestration in forest cover is a critical mechanism in combating climate change. Forests serve as carbon sinks, removing excess carbon dioxide from the atmosphere and storing the compound over several decades. Constitution proposes to clear-cut a stretch of 80 miles of forest, decreasing the ecosystem’s ability to provide carbon sequestration benefits. This impact must be addressed in the EIS.

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

Further, FERC should consider the cumulative impacts of the Project’s direct and indirect greenhouse gas (“GHG”) emissions. Direct emissions may include but are not limited to carbon dioxide (“CO₂”) and nitrous oxide (“N₂O”) emissions from compressor engines, line heaters, and generators; fugitive methane emissions from compressors and pipelines;⁸ and black carbon emissions from diesel vehicles and equipment. Notably, methane is 56 times and N₂O is 280 times more warming than CO₂ over a twenty-year period,⁹ while black carbon is estimated to be 2,200 times more warming than CO₂ over the same period.¹⁰ A recent study published in the peer-reviewed journal *Climatic Change Letters*, estimates that somewhere from 3.6 – 7.9 percent of methane is making its way into the atmosphere during the production life cycle of shale gas extraction.¹¹ Such estimates indicate GHG emissions from the process of shale gas extraction via hydraulic fracturing approximate, and I not exceed, the GHG emissions from coal.

Indirect emissions, “which are caused by the [proposed] action and are later in time or farther removed in distance, but are still reasonably foreseeable,”¹² are among the effects that agencies are required to consider under NEPA.¹³ The Council on Environmental Quality

⁷ 40 C.F.R. § 1508.8 (2010).

⁸ “The U.S. natural gas transmission network contains more than 279,000 pipeline miles. Along this network, compressor stations are one of the largest sources of fugitive emissions, producing an estimated 50.7 billion cubic feet (Bcf) of methane emissions annually from leaking compressors and other equipment components such as valves, flanges, connections, and open-ended lines.” Env’tl. Prot. Agency, *Lessons Learned from Natural Gas STAR Partners 1* (Oct. 2003), available at http://www.epa.gov/gasstar/documents/ll_dimcompstat.pdf.

⁹ See United Nations Framework Convention on Climate Change, *Global Warming Potentials* http://unfccc.int/ghg_data/items/3825.php (last visited Nov. 10, 2010).

¹⁰ See L. Bruce Hill, Clean Air Task Force, *The Carbon Dioxide-Equivalent Benefits of Reducing Black Carbon Emissions from U.S. Class 8 Trucks Using Diesel Particulate Filters: A Preliminary Analysis 3* (2009), available at <http://www.catf.us/resources/publications/files/CATF-BC-DPF-Climate.pdf>.

¹¹ Robert Howarth et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations*, CLIMATIC CHANGE, (November 12 2010).

¹² 40 C.F.R. § 1508.8(b) (2010).

¹³ See *id.* § 1508.25(c).

(“CEQ”) Draft Guidance has noted that “for Federal actions that require an EA or EIS *the direct and indirect GHG emissions from the action should be considered in scoping,*” and these GHG impacts should be considered in the context of the “aggregate effects of past, present, and reasonably foreseeable future actions.”¹⁴ One indirect effect of the Project’s transportation of natural gas from the Marcellus Shale region is that this gas will be combusted for use, releasing greenhouse gases that cause climate change. This effect is reasonably foreseeable. Where CEQ has called for NEPA analyses of GHG sources to “take account of all phases and elements of the proposed action over its expected life,”¹⁵ such downstream effects of a gas pipeline should be assessed. Moreover, cumulative impact analysis requires that these GHG emissions be considered in the context of GHGs emitted from the aggregate of natural gas that has been and foreseeably will be extracted from the Marcellus Shale region.

B. Energy

Energy impacts must also be examined in the NEPA document. Aspects of the Project that should be studied for their energy impacts include: all energy-consuming equipment and processes that will be used during the construction and operation of the Project; the energy efficiency of required materials, fuels, and equipment; the number of maintenance trips necessary for maintaining the ROW; the mode of transportation and use of fuel for these activities; and an estimate of the total energy requirements for each proposed alternative.

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

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

C. Infrastructure, Access, and Circulation

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

FERC must also address localized impacts along access roads arising from the removal of vegetation, which will in turn lead to loss of forest connectivity, increased edge effects on the core forest, and increased erosion. The heavy construction equipment utilizing these roads will compact the soil, leading to a degradation of groundwater recharge capabilities. Access roads constructed or modified to enter gas exploration or extraction facilities contribute significantly to

¹⁴ Council on Env'tl. Quality, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions 5, 9-10 (Feb. 18, 2010) (emphasis added), *available at* http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FI_NAL_02182010.pdf (notice of availability published at 75 Fed. Reg. 8,046 (Feb. 23, 2010)).

¹⁵ *Id.* at 5.

sedimentation and surface water quality degradation.¹⁶ Finally, the installation of fill materials along these roads will also import invasive species to the ROW. The NEPA document must examine these long-term effects.

D. Environmental Justice

The large land area impacted by the Project raises substantive environmental justice issues. The Commission is obligated to address these issues in accordance with Executive Order 12,898 (“Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”).¹⁷ Many of those in communities living in the area impacted by the Project particularly rely on the conservation of the natural environment. The disproportionate impact on these communities must be included in the scope of FERC's environmental review.

E. Land Pricing

FERC must require the applicant to consider alternative routes that do not impact public open space. Utilities routinely propose pipeline routes that impact public open space because these lands are valued at a lower rate when compared to non-preserved lands.¹⁸ FERC must not permit this “savings” to the applicant to drive the siting process. Public and preserved lands must be priced according to their value to the utility.

We urge FERC to be mindful of the distorted pricing of open space as it evaluates alternative routes for this Project and as it considers the cumulative environmental harms of the proposed pipeline expansion. We suggest that FERC's historical approach to evaluating cumulative impacts gives inadequate consideration to the distorted incentives of utility companies.¹⁹

II. FERC Must Thoroughly Assess All of the Potential Impacts Identified in the Notice of Intent

¹⁶ See C.J. Randall, Hammer Down: A Guide to Protecting Local Roads Impacted by the Marcellus Shale (Dec. 2010), available at

¹⁷ Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

¹⁸ See *Portland Natural Gas Transmission Sys. v. 19.2 Acres of Land*, 195 F. Supp. 2d 314, 323-4 (D. Mass. 2002) (valuing “industrial park” parcels at \$50,000/acre and \$30,000/acre; valuing “open space” parcels at \$983/acre); Letter from John J. Donahue, Superintendent, Delaware Water Gap National Recreation Area, Nat’l Park Serv., U.S. Dep’t of the Interior, to David Hanobic, Fed. Energy Regulatory Comm’n 2 (Oct. 8, 2010) (hereinafter “Nat’l Park Serv. Comment”) (“[u]tility companies normally assert the least environmental impacts result from utilizing utility corridors located in this national park unit. This is flawed logic and can adversely affect the natural and cultural resources in [the DWGNRA] as well as the mission of the [NPS].”).

¹⁹ See Order Issuing Certificate and Approving Abandonment, 131 F.E.R.C. ¶ 61,140, at ¶ 84, 2010 WL 2007482, at *20 (May 14, 2010) (finding no “significant cumulative impact” on “special water resources in Pike County” from the concurrent development of the 300 Line Project, the Susquehanna-Roseland Electric Transmission Line project, the Columbia Gas Pipeline (Line 1278/Line K Replacement) Project, and Marcellus Shale Development Activities).

The Notice of Intent identified ten categories of impacts that could occur as a result of the construction and operation of the Project:

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

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

A. Cumulative Impacts and Land Use

i. Cumulative Impacts

Cumulative impacts are:

impact[s] on the environment which result[] from the incremental impact of the action *when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.* Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.²⁰

CEQ has emphasized that cumulative effects analysis includes a “[f]ocus on truly meaningful effects” of “past, present, and future actions” as well as “all federal, nonfederal, and private actions.”²¹

CEQ has made clear that “[t]he statutory clause ‘major Federal actions significantly affecting the quality of the human environment’ is to be construed by agencies with a view to the overall, cumulative impact of the action proposed (and of further actions contemplated).”²² Whether a project “significantly” affects the quality of the human environment²³ depends on

²⁰ 40 C.F.R. § 1508.7 (2010) (emphasis added).

²¹ Council on Envntl. Quality, Considering Cumulative Effects Under the National Environmental Policy Act 11 (1997), *available at* <http://ceq.hss.doe.gov/nepa/ccenepa/sec2.pdf>.

²² Statements on Proposed Federal Actions Affecting the Environment, 35 Fed. Reg. 7,390, 7,391 (May 12, 1970).

²³ 42 U.S.C. § 4332 (C) (2006).

“considerations of both context and intensity.”²⁴ Intensity refers to “the severity of impact” and requires consideration of factors including “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.”²⁵ “Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.”²⁶

The requirement to consider cumulative impacts applies to EISs.²⁷ Cumulative impacts caused by “reasonably foreseeable” future actions are cognizable under NEPA.²⁸ Moreover, FERC must consider the cumulative effects of actions similar to the proposed action, whether existing or reasonably foreseeable.²⁹

In one particularly instructive case in the Northeast region, the Postal Service proposed construction of a facility that would require the paving of six acres of undeveloped land adjacent to an existing airport and highway.³⁰ The court found the agency’s Finding of No Significant Impact in its Environmental Assessment (“EA”) arbitrary and capricious, noting that the EA’s consideration of the proposed facility’s cumulative impact on water quality only addressed “the

²⁴ 40 C.F.R. § 1508.27 (2010).

²⁵ 40 C.F.R. § 1508.27(b)(7) (2010).

²⁶ *Id.*

²⁷ *See Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1076 (9th Cir. 2002).

²⁸ *See* 40 C.F.R. § 1508.7 (2010); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1214-15 (9th Cir. 1998).

²⁹ *See, e.g., Nat’l Audubon Soc’y v. Dep’t of Navy*, 422 F.3d 174, 196-97 (4th Cir. 2005) (stating that cumulative impact analysis of a proposed outlying landing field for Navy aircraft should have considered whether flights from and between the aircraft homebase station and the field would “add any significant noise-related or other environmental impacts to those that the *existing* military airspace currently imposes” and whether the proposed field would have cumulative effects in light of the reasonably foreseeable designation of additional military operating areas, even in non-adjacent areas) (emphasis added); *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005) (finding environmental impact analysis of timber harvesting activity inadequate where the agency did not consider “in detail past timber harvesting projects and the impact of those projects,” in combination with the proposed timber harvest, on the environment); *Grand Canyon Trust v. Fed. Aviation Admin.*, 290 F.3d 339, 347 (D.C. Cir. 2002) (noting that the EA for the proposed construction of a replacement airport “must evaluate the cumulative impact of noise pollution [on a nearby national park] as a result of construction of the proposed replacement airport *in light of air traffic near and over the Park, from whatever airport, air tours near or in the Park*”) (emphasis added); *Natural Res. Def. Council v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988) (determining that cumulative impact assessment of an Outer Continental Shelf (“OCS”) oil and gas leasing activity must consider the cumulative impacts of “simultaneous OCS development in different areas”); *Mountaineers v. U.S. Forest Serv.*, 445 F. Supp. 2d 1235, 1247-48 (W.D. Wash. 2006) (concluding that cumulative impact analysis that only accounts for the incremental environmental effect of a proposed trail project on current trail use and only in a narrowly defined area is inadequate and must instead address “the overall level of environmental impact caused by the [entire] trail system”).

³⁰ *See U.S. v. 27.09 Acres of Land*, 760 F. Supp. 345, 347 (S.D.N.Y. 1991).

interaction of expected runoff from the site with present levels of runoff from the nearby highway and airport.³¹ The court commented:

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

The failure of the EA to consider the facility's cumulative impact in conjunction with nearby anticipated development is a matter of particular concern in light of the regulations' clear statement that agencies should account for the impact of "reasonably foreseeable future actions."³²

The Court further found the EA lacking because it "framed its cumulative impact analysis too narrowly by considering only the facility's two immediate neighbors," the airport and highway.³³ "[A] critical consideration in determining the facility's cumulative environmental effects must be the interaction of its runoff with other pollutants . . . from whatever source."³⁴ In short, the determination that must be made – whether a proposed project will have "significant" impacts – necessarily includes a consideration of the impact of the action when added to other past, present, and reasonably foreseeable future actions, whether federal, non-federal, or private.³⁵

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

Courts have regularly held that induced development related to large-scale development projects has properly been considered cumulative actions under NEPA. For example, a court held that NEPA required the Corps to analyze both the significant upland development adjacent to several shoreline casinos, and the secondary development that may result from the casinos. *Friends of the Earth v. United States Army Corps of Eng'rs*, 109 F. Supp. 2d 30, 43 (D.D.C. 2000); *see also City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create.); *Mullin v. Skinner*, 756 F. Supp. 904, 925 (E.D.N.C. 1990) (agency enjoined from proceeding with bridge project which induced growth in island community until it prepared an adequate EIS identifying and discussing in detail the direct, indirect, and cumulative impacts of and alternatives to the proposed Project); *Grand Canyon Trust v. Fed. Aviation Admin.*, 290 F.3d 339, 347 (D.C. Cir. 2002) (the cumulative

³¹ *Id.* at 351.

³² *Id.* (citing 40 C.F.R. §§ 1508.6, 1508.27(b)(7)).

³³ *Id.*

³⁴ *Id.* at 351-52.

³⁵ *See* 40 C.F.R. §§ 1508.7-8, 1508.27 (2010).

impact analysis for the proposed construction of an airport was required to evaluate the cumulative impact of noise pollution on a nearby park as a result of the proposed action, “in light of air traffic near and over the Park, from whatever airport, and air tours near or in the Park.”).

The scope of a cumulative impact analysis is not even categorically delimited by a requirement of causality. The language of the NEPA regulations indicates that cumulative impacts include impacts of “past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7. The impacts of these “other actions” considered in the cumulative impact analysis need not be directly initiated by the project. *See also Nat. Res. Def. Council. v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988) (determining that the cumulative impact assessment of an Outer Continental Shelf (“OCS”) oil and gas leasing activity must consider the cumulative impacts of “simultaneous OCS development in different areas” without requiring that such other OCS development be *caused* by the proposed leasing activity).

Here, the fact that some natural gas development may or may not occur with or without the Project’s construction is ultimately irrelevant. What controls here is that there will be significant development around the Project. *U.S. v. 27.09 Acres of Land*, 760 F. Supp. 345, 351–52 (S.D.N.Y. 1991) (finding a FONSI unsupported where the cumulative impact analysis for construction of a Postal Service facility failed to consider the impacts of future nearby development without requiring that such other development be *caused* by construction of the proposed facility).

In the cumulative impacts analysis, FERC staff must not abdicate its NEPA responsibilities by categorically deferring to standards administered by other agencies, without independently assessing anticipated impacts. *See, e.g., Calvert Cliffs’ Coordinating Comm. v. U.S. Atomic Energy Comm’n*, 449 F.2d 1109, 1123 (D.C. Cir. 1971) (holding that lead agency’s deferral to standards of other agencies neglected NEPA’s “mandated balancing analysis”). There are no cases “indicating that exclusion of consideration of an issue under the AEA requires exclusion of the same issue from consideration under NEPA.” *Limerick Ecology Action, Inc. v. U.S. Nuclear Regulatory Comm’n*, 869 F.2d 719, 729 (3d Cir. 1989). To the extent that the EIS addresses impacts related to gas development, it must independently assess the impacts from such activities and not simply point to compliance with other agencies’ permitting requirements as a basis for concluding that no significant cumulative impacts exist. Such blind acceptance of presumed compliance with standards implemented by another agency as a basis for a FONSI does not suffice as a hard look under NEPA. *See Calvert Cliffs’*, 449 F.2d at 1122. Permitting requirements “essentially establish a *minimum condition*” for approval of a project, *id.* at 1125 (emphasis in original), and do not necessarily indicate whether a project’s impacts will be significant as understood in the NEPA context.

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.

That the scope of a cumulative impact analysis is not bound by a causation requirement notwithstanding, there is a clear and linear causal link between interstate natural gas transmission line construction and upstream natural gas development. Ultimately, the development of

upstream activities in the Marcellus region may only proceed if the Commission continues to expand access to markets through the interstate pipeline system. All potential interstate transmission lines must first be approved by the Commission before construction may begin. Thus, the Commission is, in effect, 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).

Here, there can be no doubt whatsoever that the construction of an interstate natural gas transmission line in order 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, a better example of a federal agency’s serving as gatekeeper could hardly be imagined. Unlike a hypothetical producer of widgets, which has many options to transport its goods to markets across state lines via road, train, and/or air freight, natural gas producers are entirely constrained by the nature of the product they produce and sell and are wholly reliant on FERC-approved interstate natural gas transmission lines to sell their goods in interstate commerce. 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 without access to interstate transmission lines.

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 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. The effects of Marcellus development will have effects within “all, or part, of the time span” of the Project’s effects, and Marcellus 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 within the Project’s service area shale gas development will occur. 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.

FERC must examine the cumulative impact of the multiple utility and other linear projects that are being proposed or constructed in the area. These projects do not occur in a vacuum. As one by one they steadily deplete the natural and scenic resources of the region, the combined impact becomes potentially devastating. If utility infrastructure proposals continue to move forward at this pace, the environmental impacts will be ruinous.

ii. Land Use

Any NEPA analysis by FERC must recognize and address the role that state regulations play in the Project. The Land and Water Conservation Fund Act of 1965 created a fund “for and authorizing Federal assistance to the States in planning, acquisition, and development of needed land and water areas and facilities and ... for the Federal acquisition and development of certain

lands and other areas.”³⁶ These lands must be “continually maintained in public recreation use unless NPS approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value.”³⁷ The NEPA document must address whether the Project will impact any lands receiving assistance from the Land and Water Conservation Fund. If the Project will convert such lands “in whole or in part to other than public recreation uses[.]” an application must be submitted to the National Park Service and “[a]ll practical alternatives to the proposed conversion [must] be[] evaluated.”³⁸

B. Geology and Soils

This section must include a full examination of the geological formations that will be impacted by construction activities, such as groundwater aquifers and water table depth, sinkholes, and springs. FERC must disclose how this Project will avoid all negative impacts to these features.

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

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

C. Water Resources, Fisheries, and Wetlands

i. Water Resources

Expanding infrastructure for corporate profit while endangering the water supply for state residents is not a wise policy nor is it required by public convenience and necessity. Locating the Project on these lands is especially alarming as the pipelines and gravel surrounding them create new conduits for water, altering the hydrologic pattern of the watershed lands. Water will run parallel with the new pipeline instead of recharging aquifers and river ecosystems, degrading the quality and quantity of water.

We also have concerns about the chemical contamination of water resources. Any expansion of the ROW will require that the applicant provide maintenance to a larger area.

³⁶ Land and Water Conservation Fund Act of 1965 Pub. L. No. 88-578, 78 Stat. 897 (1965).

³⁷ 36 C.F.R. § 59.3 (2010).

³⁸ *Id.*

Current practices call for the ROW to be clear of vegetative matter to prevent damage to the gas pipeline. Herbicides are used to accomplish this. For Alternative K, widening the ROW will result in increased herbicide use on the federal, state, and county parklands along the ROW and, as run-off capacity will be intensified in the ROW due to lack of vegetation and forest cover, the herbicides may travel downstream to the Upper Delaware Watershed and the Delaware River (a major source of drinking water for New York, New Jersey, and Pennsylvania).

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

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

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

To determine current water quality, the NEPA document must include a survey of the established benthic community in potential impacted streams. This should include the composition, quantity, and diversity of the community. Construction related water impacts include the possibility of fuel spills and contamination of runoff and further erosion and sedimentation. This concern and possible prevention must be addressed in the general construction activity stormwater permit as required under the Clean Water Act.³⁹

Any potential channel relocations that occur due to construction must be studied as an impact. Installing the Project will require stream diversions that will impact wetland areas. These areas of stream channel modification must be identified so that the impacts on wildlife resources be can fully examined with the coordination of NPS, Fish and Wildlife Service, and New York and Pennsylvania agencies as required under the Fish and Wildlife Coordination Act.⁴⁰

In studying impacts to water quality, consideration must also be given to visitor experience and how diminished water quality would affect recreational uses of the Delaware

³⁹ See 33 U.S.C. § 1342(p) (2006); 40 C.F.R. § 122.26 (b)(15) (2010); 40 C.F.R. § 450.10 to §450.24 (2010) (except for the turbidity limitations of §450.22(a), which according to §450.10(b), are not applicable to gas pipeline construction activity).

⁴⁰ 16 U.S.C. § 662 (a) (2006).

River and state and county parklands (e.g., boating, canoeing, aesthetic qualities, and degradation of fisheries).

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

ii. Wetlands

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

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

iii. Floodplains

Beneficial floodplain values identified in the Unified National Program for Floodplain Management⁴¹ should be utilized in examining impacts. These include the accelerated runoff produced along the ROW that will result in more erosion and deposition within streams, increased transport and loading of contaminants, increase in flood peaks due to accelerated runoff (in turn reducing the amount of water entering the ground), decrease in groundwater recharge, blocked or diverted groundwater flow, and the removal of habitat and food source for wildlife and fishery resources. These impacts can also produce a “ripple” effect by upsetting the balanced ecosystem of the landscape through construction activities. The NEPA document must consider these long-term, cumulative impacts.

iv. Fisheries

⁴¹ The Fed. Interagency Floodplain Mgmt. Task Force, A Unified National Program for Floodplain Management (1994), *available at* <http://www.fema.gov/library/viewRecord.do?id=4150>.

To the extent that Alternative K is considered, impacts to the entirety of the Upper Delaware River watershed caused by the Project must be examined, including tributaries and wetlands.

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

Beyond impacts resulting from construction of the Project, the NEPA document must examine impacts to all wetland ecosystems caused by the channelization of groundwater to new areas as it runs parallel to the new pipeline. A recent gas pipeline installation that crosses the Musconetcong River in Asbury, New Jersey has resulted in an alteration in the channelization of groundwater towards running parallel with the pipeline and away from the river, decreasing water levels in the river and negatively impacting trout spawning and macroinvertebrate populations.⁴²

D. Vegetation, Wildlife, and Endangered and Threatened Species

i. Vegetation

The removal of vegetation will have a multitude of secondary effects including increasing runoff potential and erosion, allowing for the encroachment and establishment of invasive species and destruction of wildlife habitat along with primary impacts of loss of biodiversity, loss of forest cover and increase and magnification of forest edge impacts, including deer browse, to the core forest, and increased use of herbicides along the ROW that will impact the surrounding ecosystem. Removal of forest cover would change the light exposure and soil moisture content, which will have impacts to the surrounding vegetative community. Vegetation removal will also be required along proposed access roads and similar impacts should be expected in these areas as well.

ii. Wildlife

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

In areas of highly valued but threatened ecosystems, the best available science must be employed to ensure protection of wildlife and avoid jeopardy to wildlife habitat. Failure to employ the best available science to determine the biological baseline and evaluate potential impacts would thwart the purposes of NEPA.⁴³

⁴² See Stephen E. Laney, *Spring Flow Restoration*, *The Professional Geologist*, March/April 2007, at 43.

⁴³ See 42 U.S.C. § 4332 (2006) (requiring, "to the fullest extent possible," that "all agencies of the Federal Government shall - (A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decision making which may have an impact on man's environment"); 40 C.F.R. §

iii. Endangered and Threatened Species

Endangered species and their suitable habitat must be carefully studied as part of the NEPA document. Species monitoring is an extensive process and the timeframe for conducting these studies must not be cut short simply to satisfy the applicant's desired in-service date.

FERC must provide full information on this aspect of impacts as no federal agency may assist or sponsor any activity that may adversely affect an endangered species in compliance with the Endangered Species Act.⁴⁴ Specifically, a recent report from Bat Conservation International indicates that land disturbance associated with shale gas development, such as pipeline construction, pose serious threats for bat populations, including the little brown bat and the federally endangered Indiana bat.⁴⁵ The report notes that bats have been significantly impacted by White-nose Syndrome and as a result are at increased risk from human impacts such as shale gas development.⁴⁶ An additional species that threatened by gas drilling activities is the Federally and State-listed endangered dwarf wedgemussel. The presence of dwarf wedge mussel indicates a clean water source of well-oxygenated, unpolluted water. An examination on the potential impacts to species such as the dwarf wedgemussel and Indiana Bat as a result of construction activity for the Project is an important part of the EIS.

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

iv. Invasive Species

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

⁴⁴ See 16 U.S.C. § 1536(a)(2) (2006) (requiring each Federal agency to insure, using the best scientific and commercial data available, that any action authorized by such agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary . . . to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section.").

⁴⁵ Hein, C. D., *Potential impacts of shale gas development on bat populations in the northeastern United States*, Bat Conservation International (2012), available at:

http://www.delawariverkeeper.org/resources/Reports/Impacts_of_Shale_Gas_Development_on_Bats.pdf.

⁴⁶ *Id.*

Invasive vegetation out-competes native vegetation and spreads rapidly through forest openings.⁴⁷ The entire Project would extend the ROW during construction, creating edge impacts on forest communities that were previously undisturbed. The newly-created forest edge will be a direct impact of the Project and will be a prime spot for invasive species infestation due to the increased light intensity on the newly-created edge. Moreover, the Project's disturbance of vegetation in the ROW, access roads, and temporary workspace will require re-vegetation following construction, which will itself introduce new invasive species.

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

Moreover, NEPA review must also encompass the impacts of invasive species on groundwater recharge. Invasive species often have shallower root systems than native plants, which allows the soil to erode more readily and to degrade the quality of watersheds by adding to "suspended sediment loads and turbidity."⁴⁸

If Constitution anticipates treating restoration sites with lime and fertilizer, infestation by invasive species might be facilitated. The impacts of adding these compounds to the soil structure and its effects of creating a suitable habitat for invasive species must be addressed in the NEPA document.

Unless FERC requires long-term invasive species management practices, including inspection and maintenance to coincide with ROW mowing every 3-5 years, for the entire length of the ROW and forest buffer of the Project here, the impacts of invasive species infestations stemming from the Project will be vast.

Finally, the financial impacts of invasive species management must be considered. If the applicant does not commit to conducting invasive species management for a long time and outside the ROW in the associated forest buffer, other agencies will be left to foot the bill for future eradication programs and efforts. The NEPA document must consider the Project in light of the unavailability of government resources to ensure the applicant's mitigation and restoration projects are successful on public trust lands.

⁴⁷ New Jersey Audubon Society, Forest Health and Ecological Integrity Stressors and Solutions: Policy White Paper (March, 2005), *available at* <http://www.njaudubon.org/Portals/10/Conservation/PDF/ForestHealthWhitePaper.pdf> (stating that unpalatable exotic plants rapidly take over forest openings, because white tailed deer only eat the native plants).

⁴⁸ T. Stohlgren, C. Jarnevich & S. Kumar, Forest Legacies, Climate Change, Altered Disturbance Regimes, Invasive Species and Water, *Unasylva* 229, 2007, at 44, 47-8, *available at* <http://www.fao.org/forestry/unasylva/8707/en/>; Audubon Society of Portland, Invasive Plant Management <http://audubonportland.org/sanctuaries/invasives> (last visited Nov. 11, 2010).

The Project is likely to result in further encroachment of robust and undesirable invasive vegetation species into forest and park lands, destroying biodiversity, reducing the effectiveness of groundwater recharge, and driving away recreational visitors. FERC cannot allow Constitution to proceed without investigating the possible extent of these impacts during NEPA review, especially at a time when the state and federal budgets cannot cushion the affected communities from the environmental impact.

v. Landscape Connectivity

The construction of the ROW will create further fragmentation of the forest, allowing edge species, specifically white-tail deer and cowbirds, to encroach deeper into the core forest. These edge effects can negatively impact species at least 300 feet within the forest boundary.⁴⁹ As deer herbivory is a major culprit in the declining health and biodiversity of forest subcanopies,⁵⁰ these impacts must be examined to ensure rare, threatened, and endangered plant species populations can be maintained in the ecosystem surrounding the ROW. This will similarly decrease habitat for fauna and result in dislocation of species. These habitats must be examined to ensure no portions of the planned expansion area are an essential functional portion of a species' overall habitat requirements, such as nesting or feeding, and therefore could not or would be very difficult to replace. An overall decline in population numbers could result if the remainder of habitat area cannot meet the specific requirements of the species. Furthermore, species requiring large integral home ranges will be negatively impacted and coordination with NPS and Fish and Wildlife Service is necessary to identify whether such species will be impacted by further forest fragmentation.

E. Cultural Resources

i. Archaeological Resources

Thorough studies must be conducted along the ROW, access roads, and all areas that will be potentially impacted by this Project, i.e. locations along the Delaware River (in the context of Alternative K), for resources protected by the Archeological Resources Protection Act of 1979,⁵¹ which requires that permits be issued to remove or excavate all archeological resources that will be impacted by the Project before construction can begin.⁵² These studies must determine what impacts the Project might have and if excavation of the archeological resources would be successful. This will require cooperation with tribal groups for permission to remove these remnants.⁵³ All areas must be identified and studied in depth before permits can be granted to the applicants.

⁴⁹ See Janzen, D.H., *The Eternal External Threat*, in Conservation Biology, The Science of Scarcity and Diversity (Soulé, M. E., ed. 1986).

⁵⁰ See New Jersey Audubon Society, Forest Health and Ecological Integrity Stressors and Solutions: Policy White Paper 9 (March, 2005), available at <http://www.njaudubon.org/Portals/10/Conservation/PDF/ForestHealthWhitePaper.pdf> (stating that "[e]levated deer densities have devastating impacts on the understory of forests and even the regeneration of the forest itself.").

⁵¹ See 16 U.S.C. §§ 470aa-mm (2006).

⁵² 43 CFR §§ 7.4, 7.5 (2010).

⁵³ 43 CFR § 7.7 (2010).

ii. Viewsheds

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

F. Air Quality and Noise

i. Air Quality

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

The cumulative impact analysis also should include consideration of the incremental impact of the Project on air quality, added to the air quality impacts of existing and reasonably foreseeable Marcellus Shale development in the region, including other pipeline construction. Natural gas and oil production and transmission emit substantial amounts of air pollution, including volatile organic compounds (“VOCs”), nitrogen oxides (“NOx”), and toxic air pollutants.⁵⁴ The toxic air pollutants include benzene, a known carcinogen; toluene, nhexane, and xylenes, which can lead to nervous system effects; and ethylbenzene, which can cause blood disorders.⁵⁵ Recent tests suggest that compressor stations also may emit harmful levels of formaldehyde, another known carcinogen.⁵⁶ VOCs and NOx contribute to local and regional ozone pollution, which has serious impacts on human respiratory and cardiovascular health as well as on vegetation and forest ecosystems.⁵⁷ Particulate matter too, whether directly emitted from exhaust and fugitive dust during construction or from operation of diesel-fired engines or

⁵⁴ See Al Armendariz & Env'tl. Def. Fund, Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements 24 (2009), available at http://www.edf.org/documents/9235_Barnett_Shale_Report.pdf; see also Env'tl. Prot. Agency, Outdoor Air – Industry, Business, and Home: Oil and Natural Gas Production – Additional Information, http://www.epa.gov/oaqps001/community/details/oil-gas_addl_info.html (last visited Nov. 11, 2010).

⁵⁵ See *Id.*

⁵⁶ See Aman Batheja, *Carcinogen from gas compressor stations being monitored*, Star_Telegram, Oct. 4, 2010, available at http://www.star_telegram.com/2010/10/03/2516374/formaldehyde_from_gas_compressor.htm.

⁵⁷ See National Ambient Air Quality Standards for Ozone, 75 Fed. Reg. 2,938, 2,938, 3,000 (Jan. 19, 2010); see also Judy Fahys, *Ozone Raises Its Ugly Head in Utah*, Salt Lake Tribune, Oct. 21, 2010, available at <http://www.sltrib.com/sltrib/home/50516943-76/ozone-county-basin-epa.html.csp>.

indirectly created from interactions of NOx emissions in the atmosphere, affects respiratory and cardiovascular health.⁵⁸

An examination of 2009 emissions data shows that in north-central Texas, VOCs and NOx emissions from compressor engines in the Barnett Shale area amounted to four times the emissions from all airports in the Dallas-Fort Worth area,⁵⁹ which includes the Dallas-Fort Worth International Airport, one of the busiest airports in the world. 2009 NOx and VOC emissions from Barnett Shale oil and gas development generally were comparable to emissions from all the cars and trucks in the nine-county Dallas-Fort Worth metropolitan area.⁶⁰ These figures suggest that any proper assessment of a Marcellus Shale development project must consider the cumulative impacts of all oil and gas development in the area in order to truly comprehend the Project's effect on the quality of the human environment.

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

ii. Noise

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

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

Noise impacts to visitor experience must be examined as sensitivity to noise is very variable and these impacts may lead to less utilization of the associated parklands by the public. These areas are generally given additional protection when projects are evaluated. For example, the Federal Highway Administration's Exterior Noise Abatement Criteria has an activity category "Land where serenity and quiet are of extraordinary importance" and the maximum noise level is 57 dBA.⁶¹ Consequently, we urge FERC to consider the proposed construction area a noise sensitive area and hold the Project to at least the minimal standards⁶² given other sensitive areas (i.e. a 55 dBA day/night limit for new compressor stations) and also evaluate whether even that impact might be excessive in terms of affecting natural preservation and public enjoyment of the area.

⁵⁸ Env'tl. Prot. Agency, Particulate Matter: Health and Environment, <http://www.epa.gov/pm/health.html> (last visited Nov. 11, 2010).

⁵⁹ See Armendariz, *supra* note 121, at 25.

⁶⁰ See *id.*

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

⁶² See 18 C.F.R. § 157.206(b)(5).

In addition, given the scale of the Project and sensitivity of its location, FERC must include construction impacts in the scope of its environmental review. To determine these impacts, the applicant must be asked to provide specific details on construction activities, including the type of equipment that will be used and when it will be used, what season and time of day construction activities will occur, and the specific noise-producing attributes of each piece of equipment. Noise levels produced at 50 ft are about 84 to 85 dBA from backhoes and bulldozers, 91 to 92 dBA from graders, and 80 to 88 dBA from compressors.⁶³

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

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

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

III. As a Condition to any FERC Certification of the Project, FERC Must Require that the Project Sponsor Obtain All Applicable Authorizations and Approvals from Federal and State Regulatory Bodies, Which Includes the Delaware River Basin Commission.

In the event that a portion of the proposed project crosses through the Delaware River Basin, Constitution must apply for a docket, and receive approval of that docket, before the Delaware River Basin Commission (“DRBC”). This requirement should be made clear as a condition on any Certification provided by FERC for the Project.

DRBC review is required when a project entails (a) a withdrawal or discharge that exceeds an established threshold, (b) diversion of wastewater into the basin, or (c) diversion of water or wastewater out of the basin. To the extent that the Project involves such activities it must apply for a withdrawal/discharge docket with the DRBC.

Additionally, pursuant to Section 2.3.5.A.12 of the Rules of Practice and Procedure of the DRBC, the DRBC also requires project proponents to submit projects for review for all projects that involve a “involve significant disturbance of ground cover affecting water resources.” Constitution’s Project undeniably meets this standard, as a significant portion of the pipeline (Alternative K) may lie within the jurisdiction of the DRBC. Therefore, Constitution must consult with, and gain approval of, the DRBC regarding construction of this pipeline. To the

⁶³ U.S. Department of Transportation, FHWA, CADOT, and SBAG 1993.

extent that Constitution has not made such a consultation, and received such approval, any Certification of the Project by the Commission allowing construction activities is improper.

Conclusion

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

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

Respectfully Submitted,



Maya K. van Rossum
the Delaware Riverkeeper
925 Canal Street, Suite 3701, 7th Floor
Bristol, PA 191007

/s/ Aaron Stemplewicz

Aaron Stemplewicz, Staff Attorney
Delaware Riverkeeper Network
925 Canal Street, Suite 3701, 7th Floor
Bristol, PA 191007
aaron@delawareriverkeeper.org