UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Dominion Transmission, Inc. **Docket No. CP14-497-000**

COMMENTS OF ALLEGHENY DEFENSE PROJECT

The following comments are provided on behalf of the Allegheny Defense Project regarding the Federal Energy Regulatory Commission's ("FERC") environmental assessment ("EA") for Dominion Transmission's ("Dominion") proposed New Market Project ("Project"). Dominion proposes to construct and operate two new compressor stations near Pennsylvania's shale gas fields in the southern tier of New York. *See* EA at 1. Dominion further proposes modifications at three existing compressor stations (including adding compression at one of these stations) and at an existing meter station.

I. FERC failed to consider the indirect effects of gas drilling in the Marcellus and Utica shale formations.

According to Dominion, the Project "is designed to provide natural gas firm transportation services in Pennsylvania (PA) and NY, creating *increased access for production in this region* to major natural gas markets of the Northeast and Mid-Atlantic regions[.]" Application at 1 (emphasis added). Since New York has banned shale gas development, it is highly likely that the majority of shale gas that will be produced for the Project will be sourced from Pennsylvania's shale gas fields, impacting Pennsylvania's land, water and air. FERC, however, failed to even consider the increased production that is likely to result from authorization of this Project as an indirect effect in the EA.

Indirect effects are:

> [C]aused by the action and 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 effects on air and water and other natural systems, including ecosystems.

40 C.F.R. § 1508.8(b). The indirect effects of shale gas development in the Marcellus and Utica shale formations are both causally related to the Project and reasonably foreseeable. As such, this will lead to effects on Pennsylvania's land, water and air. Therefore, FERC has an obligation to take a hard look at the environmental effects of Marcellus and Utica shale extraction as part of its analysis of the Project.

a. There is a sufficient causal relationship between the Project and induced shale gas extraction in the Marcellus and Utica Shale formations.

Before discussing the causal connection between the Project and induced shale gas drilling, it is first important to point out that FERC's failure to make any attempt to quantify the indirect effects of shale gas drilling "require[s] the public, rather than the agency" to ascertain the effects of the Project. *Te-Moak Tribe of Western Shoshone of Nevada v. U.S. Department of the Interior*, 608 F.3d 592, 605 (9th Cir. 2010). "Such a requirement would thwart one of the 'twin aims' of NEPA – to 'ensure[ ] that the *agency* will inform the *public* that it has indeed considered environmental concerns in its decision making process.'" *Id*. (*quoting Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97, 103 S.Ct. 2246, 76 L.Ed.2d 437 (1983)) (emphasis added by Ninth Circuit). Compliance with NEPA "is a primary duty of every federal agency; fulfillment of this vital responsibility should not depend on the vigilance and limited resources of environmental plaintiffs." *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1161 (9th Cir. 1997) (*quoting City of Davis v. Coleman*, 521 F.2d 661, 671 (9th Cir. 1975). *See also Center for Biological Diversity v. U.S. Forest Service*, 349 F.3d 1157, 1166 (9th Cir. 2003) ("The procedures prescribed both in NEPA and the

implementing regulations are to be strictly interpreted 'to the fullest extent possible' in accord with the policies embodied in the Act….'[g]rudging, pro forma compliance will not do.'") (citations omitted)). FERC's failure to even consider induced shale gas drilling as an indirect effect of the Project "require[s] the public, rather than [FERC]" to ascertain the Project's effects and turns NEPA on its head.

In its application, Dominion states that the Project is designed to provide its customers with "increased access for production in this region." Application at 1. Dominion further states that the "Customers will enter into service agreements commencing on or before November 1, 2016 for firm transportation service for a primary term of 15 years." Application, Ex. I at 2. This is a long-term agreement that can reasonably be expected to require future drilling to satisfy.

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. 1989). The issue in *Sylvester* concerned the construction of a golf course that was part of a larger resort construction project. The golf course construction involved filling wetlands, which triggered the jurisdiction of the U.S. Army Corps of Engineers ("Corps"). The Corps limited its analysis to "the secondary and cumulative impacts of the golf course" and "did not include the other resort facilities." *Sylvester*, 884 F.2d at 400. The court held that the Corps was not required "to look further than it did" because the golf course and the resort were not "two links of a single chain" since "each could exist without the other." *Id*. The situation in *Sylvester* is inapposite to the situation here where Dominion explicitly states that the Project is designed to provide its customers with "increased access for

production in this region." Recent industry statements and materials provide additional evidence that infrastructure projects, such as the New Market Project, induce additional shale gas drilling.

For example, Energy Transfer Partners, the proponent of the Rover Pipeline Project, recently wrote to FERC requesting that it expedite its review of that project. *See* Docket No. CP15-93-000, Accession No. 20151109-5038. In its letter, Energy Transfer Partners states:

> As it stands today, the Marcellus and Utica production regions are severely constrained by a lack of take-away capacity (as evidenced by the numerous pipeline certificate applications seeking authorization to construct facilities in those regions that are currently under Commission review), which is resulting in *production curtailments*, shut-in production, significant sub-market pricing structures in certain areas and an overall destabilization of the region.

Id. at 2. In other words, the authorization of infrastructure projects that expand capacity is seen by industry as key to increasing production from the Marcellus and Utica shale regions. One of the shippers for the Rover Pipeline echoed these sentiments. SWN Energy Services Company ("SES") said that if FERC did not expedite review of the Rover Pipeline, it "could hinder SES' production affiliate's development of its Marcellus and Utica production[.]" See Docket No. CP15-93-000, Accession No. 20151117-5103.

Similarly, Cabot Oil & Gas ("Cabot"), which operates in northeastern Pennsylvania, just south of the Project area, recently stated that it planned to reduce "drilling and completion activity in 2015 and 2016" because of "lower anticipated natural gas price realizations throughout Appalachia as we await the in-service of new takeaway capacity." Cabot, Jefferies 2015 Energy Conference at 10 (Nov. 12, 2015) (Attachment 1). Cabot then states that it "plans to increase activity in the 2H of 2016 to prepare for accelerated production in 2017 assuming a Q4 2016 in-service of Constitution Pipeline and a Q3 2017 in-service of Atlantic Sunrise Pipeline." *Id*. These statements demonstrate that FERC's authorization of infrastructure that increases takeaway capacity induces additional shale gas drilling.

Another case cited by the *Sylvester* court, *Colorado River Indian Tribes v. Marsh*, 605 F.Supp. 1425 (C.D. Cal. 1985), strongly supports the close causal connection between the Projects and gas drilling. In that case, the Corps issued a permit allowing a developer to stabilize a riverbank without considering the indirect and cumulative effects of the stabilization – namely, future residential and commercial development. The court held that the Corps "assess[ed] the project with tunnel vision" that "was tantamount to limiting its assessment to primary impacts." *Colorado River Indian Tribes*, 605 F.Supp. at 1433. The court further noted that:

> The Corps should have analyzed the indirect effects of the bank stabilization on both "on site" and "off site" locations, i.e., the growth-inducing effects related to the changes in the pattern of land use and population growth. It would appear that the Corps failed to consider the cumulative impact associated with the bank stabilization project when it may have been reasonably foreseeable that the placement of ripraps was just a stepping stone to major development in the area.

Id. Like the Corps in *Colorado River Indian Tribes*, FERC assessed the impacts of the Project at issue here with "tunnel vision." Just as the bank stabilization was a "stepping stone" to residential and commercial development, so too is the Project in the context of induced shale gas development in the Marcellus and Utica shale formations. FERC failed to take a hard look at the indirect effects of authorizing the Project on both "on site" and "off site" locations, including the growth-inducing effects related to the changes in the pattern of land use and related effects on air and water and other natural systems, including ecosystems. *Id*. *See also* 40 C.F.R. § 1508.8(b).

FERC's refusal to consider the effects of upstream gas drilling in the Marcellus and Utica shale formations is reminiscent of similar arguments made by the Surface Transportation Board that were rejected by the Eighth Circuit. 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 v. Surface*

Transportation Board, 345 F.3d 520, 549 (8th Cir. 2003). The Eighth Circuit rejected this argument outright:

> . . . the 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. It is similarly illogical for FERC to ignore the impact that the Project has on gas drilling in the Marcellus and Utica shale formations because once the project is constructed and in service and the target market areas are connected to Marcellus and Utica shale gas supplies, it makes drilling in this region much more likely.

The Project and gas drilling in the Marcellus and Utica shale formations are "two links of a single chain." *Sylvester*, 884 F.2d 394, 400 (9th Cir. 1989). Instead of examining the indirect effects of gas drilling, however, FERC assessed the Projects with "tunnel vision" to ignore these effects just as the Corps did in *Colorado River Indian Tribes*. 605 F.Supp. 1425, 1433 (C.D. Cal. 1985). This was arbitrary and capricious and, as a result, the EA cannot support a FONSI. Therefore, FERC should prepare either a revised EA or an EIS for the Project.

b. Induced gas drilling in the Marcellus and Utica shale formations is reasonably foreseeable.

Gas drilling in the Marcellus and Utica shale formations is also reasonably foreseeable. An indirect impact is "reasonably foreseeable" 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, 767 (1st Cir. 1992). "[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*, 345 F.3d at 549 (emphasis in original). *See also Habitat Education Center v. U.S. Forest Service*, 609 F.3d 897,

902 (7th Cir. 2010). Here, it is sufficiently likely to occur that a person of ordinary prudence would take Marcellus and Utica shale gas drilling into account before reaching a decision about whether the Project is a major federal action.

Moreover, as the Ninth Circuit has explained, "speculation is . . . implicit in NEPA[.]" *Northern Plains Resource Council v. Surface Transportation Board*, 668 F.3d 1067, 1078 (9th Cir. 2011). FERC has an obligation to analyze the reasonably foreseeable impacts of shale gas drilling rather than "shirk [its] responsibilities" under NEPA by labeling any and all discussion of future environmental effects as "crystal ball inquiry." *Id.* at 1078-79. There is a clear causal relationship between the Project and shale gas drilling and that drilling is reasonably foreseeable. The EA failed to consider gas drilling in the Marcellus and Utica shale formations as an indirect effect of the Project and, therefore, violates 40 C.F.R. § 1508.8(b). Therefore, FERC cannot rely on the flawed EA for a FONSI. FERC must, at a minimum, prepare a revised EA or an EIS for the Project.

II. FERC failed to consider the cumulative effects of gas drilling in the Marcellus and Utica shale formations.

Even if FERC does not consider Marcellus and Utica shale gas drilling to be an indirect effect of the Project under 40 C.F.R. § 1508.8(b), that drilling must nevertheless be considered a cumulative impact of the Project under 40 C.F.R. § 1508.7. A cumulative impact is the:

> [I]mpact 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 (emphasis added). Unfortunately, just as it often used "tunnel vision" to avoid analyzing shale gas development as an indirect effect, FERC used that same "tunnel vision" to ignore this development as a cumulative impact.

According to the EA, FERC "considered the area within 0.5 mile of the Project aboveground facilities as the [region of influence] in which ground-disturbing impacts have the potential to be cumulative." EA at 104. Because FERC selected such a restrictive analysis area, it completely ignored the impacts of shale gas development just across the border in Pennsylvania. According to FERC:

> [N]atural gas extraction and related activities in the Marcellus shale region are not within the scope of this EA. Further, these activities are outside the Project [region of influence] and thus not discussed here. The nearest land eligible for natural gas drilling is at least 20 miles south of the Project area.

EA at 108.

As the EPA recently stated in another proceeding, "geographic proximity is not in and of itself the standard" for including other actions in a cumulative impact analysis. EPA Comments on Algonquin Gas Transmission's AIM Project at 10 (Docket No. CP14-96-000, Accession No. 20140929-5268). FERC, however, *insists* on using geographic proximity to substantially narrow its review of cumulative impacts. In addition to this Project, FERC used similarly restrictive "regions of influence" in the following proceedings:

- In the EA for Rockies Express Pipeline's ("REX") Zone 3 East-to-West Project, FERC only considered other projects "directly in the vicinity" of the project. Zone 3 East-to-West EA at 29 (emphasis added) (Docket No. CP14-498-000; Accession No. 20141124-4007). In other words, FERC used geographic proximity as a way to substantially narrow the cumulative impact analysis area and exclude consideration of impacts from Marcellus and Utica shale gas drilling even though REX specifically stated that its project was intended to "create an additional takeaway option for Utica and Marcellus Shale Plays and Appalachian producers[.]" Application at 35 of PDF (Accession No. 20140610-5159). FERC recently approved the Zone 3 East-to-West Project. *Rockies Express Pipeline*, 150 FERC ¶ 61,161 (Feb. 27, 2015).
- In the EA for Columbia Gas Transmission's East Side Expansion, FERC used "a 0.5-mile radius as the project area/region of influence for most resources impacted (not including air quality)." East Side Expansion EA at 2-112 (Docket No. CP14-17-000; Accession No. 20140827-4001). Such a small "region of influence" ignored the cumulative impacts of shale gas drilling even though Columbia's application for the East Side Expansion states that the purpose of that project is "to construct facilities to increase its system capacity making it possible for new sources of gas supply to meet emerging market

growth needs." East Side Expansion Application at 12 (Accession No. 20131101-5125). FERC recently approved the East Side Expansion Project. *Columbia Gas Transmission*, 149 FERC ¶ 61,255 (Dec. 18, 2014).

- In the EA for TETCO's Uniontown to Gas City ("U2GC") Project, FERC "limited [its] review to projects directly in the vicinity of [the U2GC Project]." U2GC EA at 26 (Docket No. CP14-104-000; Accession No. 20140821-4005). By limiting its review to projects "directly in the vicinity" of the U2GC Project, FERC ignored the cumulative impacts of shale gas drilling even though TETCO's environmental reports for the U2GC Project explicitly stated that the project "responds to significant interests from customers regarding transportation capacity to accommodate increased production of natural gas from the emerging Marcellus Shale and Utica Shale plays in the supply rich area west of Uniontown, Pennsylvania." U2GC Resource Report 1 at 1-1 (Accession No. 20140311-5175). FERC recently approved the U2GC Project. *Texas Eastern Transmission*, 149 FERC ¶ 61,259 (Dec. 18, 2014).
- In the EA for Columbia Gas Transmission's Smithfield III Expansion, FERC only considered "projects directly in the vicinity of the [Smithfield III Expansion] Project." Smithfield III Expansion EA at 2-37 (Docket No. CP13-477-000; Accession No. 20131029-4012). By limiting its review to projects "directly in the vicinity" of the Smithfield III Expansion, FERC ignored the cumulative impacts of shale gas drilling even though Columbia's application for the Smithfield III Expansion explicitly stated that the purpose of that project was "to construct facilities necessary to transport gas from the Appalachian basin[.]" Smithfield III Expansion Application at 3 (Accession No. 20130510-5082).
- In the EA for Dominion's Clarington Project, FERC only considered other projects "within an area of influence of 5 miles of the proposed [Clarington] Project." Clarington Project EA at 39 (Docket No. CP14-496-000; Accession No. 20150115-4001). By limiting the "area of influence" to within 5 miles of the Clarington Project, FERC ignored the cumulative impacts of shale gas drilling even though Dominion's application stated that the purpose of the project is "to transport Appalachian production" from the "Marcellus and Utica shales." Clarington Project Application at 4 (Accession No. 20140602-5213).
- In the EA for Dominion's Appalachian Gateway Project, FERC only considered "other projects in the general Project area." Appalachian Gateway EA at 2-134 (Docket No. CP10-448-000; Accession No. 20110331-4001). By limiting its review to projects "in the general [Appalachian Gateway] Project area," FERC ignored the cumulative impacts of shale gas drilling even though Dominion's application expressly referenced increasing gas production "in the Appalachian region of West Virginia and Pennsylvania," including conventional and unconventional (coal bed methane and Marcellus shale) production, and stated that its project would "provide Appalachian producers a secure and reliable route to transport their growing gas supplies to high demand markets in the Mid-Atlantic and Northeastern regions." Appalachian Gateway Application at 4 (Accession No. 20100601-5221).
- In the EA for Columbia's Appalachian Expansion Project, FERC only considered other projects "within the area affected by the proposed Project." Appalachian Expansion EA at 26 (Docket No. CP08-85-000; Accession No. 20080818-4003). By limiting its review to only those projects that occurred "within the area affected by the proposed Project,"

FERC ignored the cumulative impacts of shale gas drilling even though Columbia's application said its project was "driven by the need to move additional Appalachian production gas that is currently trapped in the production fields." Appalachian Expansion Project Application at 5 (Accession No. 20080229-4007).

- In the EA for National Fuel's Tuscarora Lateral Project, FERC only "considered other projects within approximately a 0.5-mile radius as the project area/region of influence for most resources affected." Tuscarora Lateral EA at 57 (Docket No. CP14-112-000, Accession No. 20141031-4002). By limiting its review so narrowly, FERC ignored the cumulative impacts of shale gas drilling even though National Fuel said that its project was intended to "provid[e] [New York State Electric & Gas] with [ ] firm access to Marcellus Shale[.]" Tuscarora Lateral Project Application at 22 (Accession No. 20140318-5167).

Now, FERC again insists on using a 0.5 mile "region of influence" for the New Market Project. By using such restrictive geographic parameters in one project after another, FERC has "impermissibly subject[ed] the decisionmaking process contemplated by NEPA to 'the tyranny of small decisions.'" *Kern v. BLM*, 284 F.3d 1062, 1078 (9th Cir. 2002) (*quoting* CEQ, *Considering Cumulative Effects*, at 1).

Interestingly, FERC purports to rely on CEQ's guidance on cumulative impacts to develop its restrictive "region of influence" for this Project. *See* EA at 103. CEQ's guidance on cumulative impacts, however, actually calls for greatly expanding the scope of the analysis area. For example, CEQ states that:

> 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 further 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. *Id*. at 15. In other words, only looking at "other activities directly in the vicinity" or within 0.5 miles of the Project is clearly inconsistent with CEQ's guidance. By limiting the scope of the cumulative impacts analysis area to include only those projects that are within a narrow region of influence, FERC routinely ignores substantial and long-term effects on various resources including wildlife, vegetation, water quality, air quality and recreation caused by shale gas development.

In *Natural Resources Defense Council v. Callaway*, 524 F.2d 79 (2d Cir. 1975), the Second Circuit cautioned agencies from treating projects in isolation when there is persuasive evidence concerning other projects with similar environmental consequences. *Callaway*, 524 F.2d at 88. Indeed, the court noted that to do so would be inconsistent with the intent of Congress in passing NEPA:

> As was recognized by Congress at the time of passage of NEPA, a good deal of our present air and water pollution has resulted from the accumulation of small amounts of pollutants added to the air and water by a great number of individual, unrelated sources.
>
> "Important decisions concerning the use and the shape of man's future environment continue to be made in small but steady increments which perpetuate rather than avoid the recognized mistakes of previous decades." S.Rep.No.91-296, 91 Cong., 1st Sess. 5 (1969). NEPA was, in large measure, an attempt by Congress to instill in the environmental decisionmaking process a more comprehensive approach so that long term and cumulative effects of small and unrelated decisions could be recognized, evaluated and either avoided, mitigated, or accepted as the price to be paid for the major federal action under consideration. The fact that another proposal has not yet been finally approved, adopted, or funded does not foreclose it from consideration, since experience may demonstrate that its adoption and implementation is extremely likely.

Id. By ignoring the vast amount of cumulative impacts of Marcellus and Utica shale gas development, as substantial portion of which is just across the border in northern Pennsylvania, FERC "perpetuate[s] rather than avoid[s] the recognized mistakes of previous decades."

Even if FERC does not know the extent of such drilling activities, it is certainly aware of its nature and may not simply ignore the effect by constructing an arbitrarily narrow cumulative impact analysis area. *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520, 549 (8th Cir. 2003). One of the impacts that FERC largely ignores by virtue of its arbitrary "regions of influence" is the impact that shale gas drilling has on wildlife habitat. According to recent research published in Environmental Science & Technology:

> Potential effects [of shale gas drilling] 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) (Attachment 2). This research further explains the impacts of shale gas drilling:

- 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, for example, refs 55-59 Greater sage-grouse (*Centrocercus urophasianus*) gather at leks where males display in order to attract females. Lek attendance declined in areas with chronic natural gas-associated noise and, experimentally, sage-grouse were shown to experience higher levels of stress when exposed to noise. *Id*. (citations omitted).
- 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) (emphasis added).

- 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*.
- Rare species with limited ranges are always a concern when development occurs. The fact that these species are rare means that any type of disturbance can be very detrimental to them . . . 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.
- Habitat fragmentation, effects on water quality and quantity, and cumulative effects on habitats and species of concern have already been identified as problems and are expected to increase in magnitude as shale resource development continues to expand. Our review suggests that species and habitats most at risk are ones where there is an extensive overlap between a species range or habitat type and one of the shale plays (leading to high vulnerability) coupled with intrinsic characteristics such as limited range, small population size, specialized habitat requirements, and high sensitivity to disturbance. Examples include core forest habitat and forest specialists, sagebrush habitat and specialists, vernal pond inhabitants, and stream biota. *Id*. at 11043.

The Brittingham research demonstrates the substantial impact that shale gas drilling is having and will continue to have on wildlife throughout the Marcellus and Utica shale region, especially if FERC continues facilitating such drilling by authorizing infrastructure projects such as the ones proposed here without analyzing the cumulative impacts on wildlife and disclosing that information to the public.

According to Souther et al. (2014):

> The few studies that consider cumulative impacts suggest that shale-gas development will affect ecosystems on a broad scale . . . As cumulative impacts' methodology and knowledge improve, research should move toward detecting synergies between shale development and other likely drivers of extinction, such as climate change, as site-specific or single variable risk assessments likely underestimate threats to ecological health.

Souther et al. (2014), Biotic impacts of energy development from shale: research priorities and knowledge gaps. Frontiers in Ecology and the Environment 12(6): 334 (Attachment 3). These researchers further state that:

> Using criteria related to the environmental risks and current understanding of these impacts, we suggest that top research priorities are related to probabilistic events that lead to contamination of fresh water, such as equipment failure, illegal activities, accidents, chemical migration, and wastewater escape, *as well as cumulative ecological impacts of shale development*.

Id. at 337. In other words, the very nature of shale gas development (with all of the related road construction, well pads, gathering lines, pipelines, compressor stations and other associated infrastructure) is in and of itself a major cumulative impact that is likely to significantly affect wildlife populations.

The U.S. Fish and Wildlife Service recently expressed concerns about the potential noise impacts of National Fuel's Tuscarora Lateral Project on wildlife:

> Since the project involves the increase of horsepower at one compressor station and the construction of a new station, we recommend the FERC request data on operating noise levels at the compressor stations, and an analysis be completed of how the project noise levels will affect wildlife. Noise levels over background levels can adversely affect wildlife, particularly songbirds, that rely on call identification for successful breeding. If noise levels will exceed background levels, the environmental document should identify mitigation measures that will be employed to reduce noise impacts on wildlife such as vegetation screening or barriers.

U.S. Fish and Wildlife Service January 27, 2015 Letter to FERC (Docket CP14-112-000, Accession No. 20150202-0104). While these comments were specific to the Tuscarora Lateral Project, the same rationale applies for other projects as well, such as the one at issue here where

two new compressor stations would be constructed and other expanded. In addition to the noise impacts from new and expanded compressor stations, the cumulative noise impacts of shale gas development on wildlife must be considered.

For example, it is possible that the dramatic increase in shale gas drilling in northern Pennsylvania has disrupted bobcat populations in northern Pennsylvania. In 2012, the New York Department of Environmental Conservation ("NYDEC") revised its "Bobcat Management Plan" because:

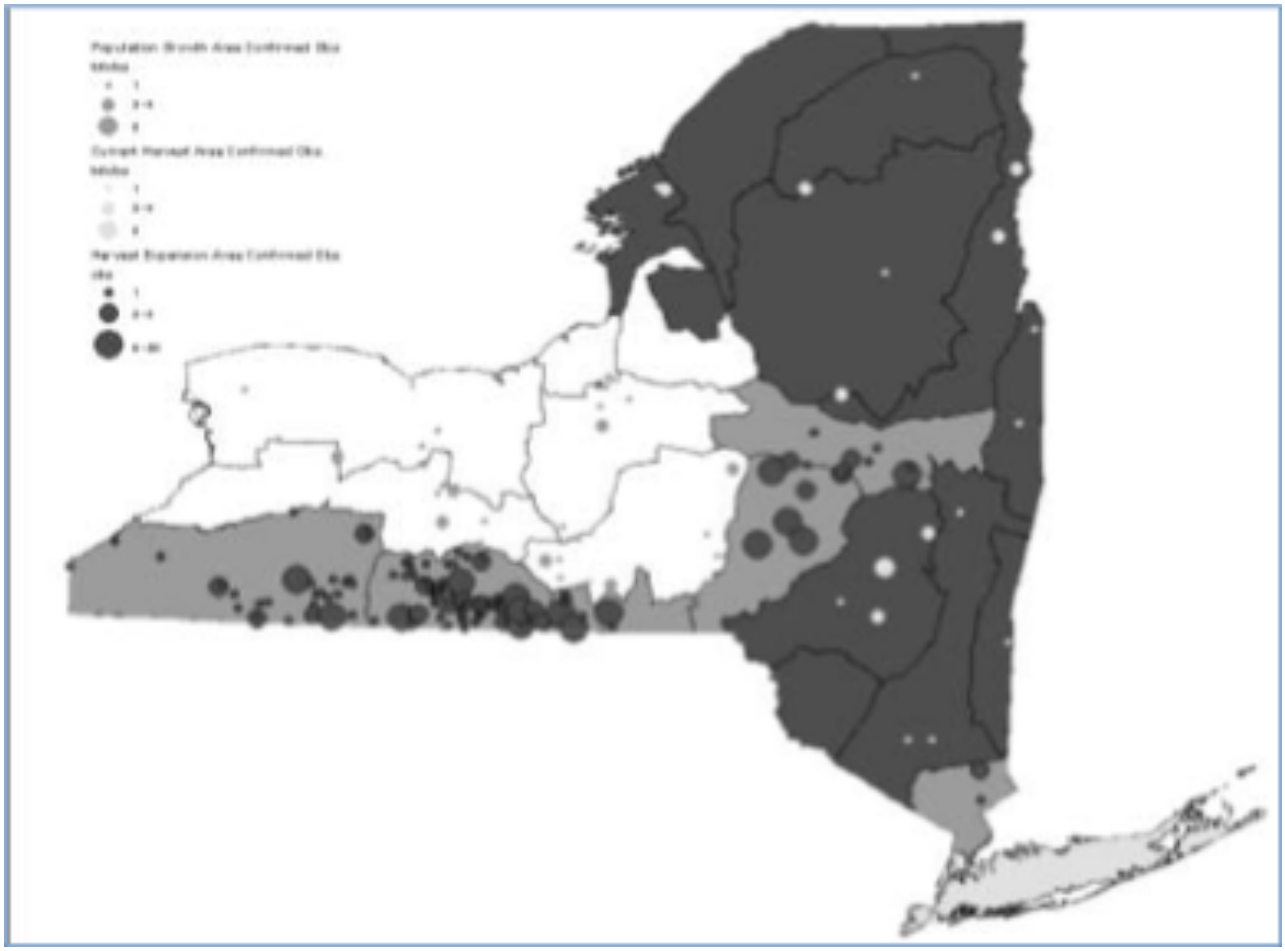
> Observations by hunters and trappers, and reports from the general public suggest that bobcat populations are increasing and expanding throughout New York State outside of their historic core range in the Taconic, Catskill, and Adirondack mountains and into central and western New York. *In addition, emigration of bobcats from Pennsylvania has likely fostered growth of the bobcat population in the southern tier of the state* (Matt Lovallo, Pennsylvania Game Commission, personal communication).

New York Department of Environmental Conservation. Management Plan for Bobcat in New York State 2012-2017. p. 8. 2012 (emphasis added). *available at:* http://www.dec.ny.gov/docs/wildlife_pdf/finalbmp2012.pdf. The plan further stated:

> The presence of bobcat in New York's Southern Tier has *increased dramatically* over the past decade. What began as occasional sightings along the New York/Pennsylvania border has progressed to large numbers of observations, trail camera photos, and incidental captures and releases by trappers. *Over the past five years* there have been 332 bobcat observations documented in the harvest expansion area (Figure 4).

Id. at 17 (emphasis added). The following figure, showing the number confirmed bobcat observations in New York from 2006-2011, reveals a concentration of observations along the Pennsylvania border:

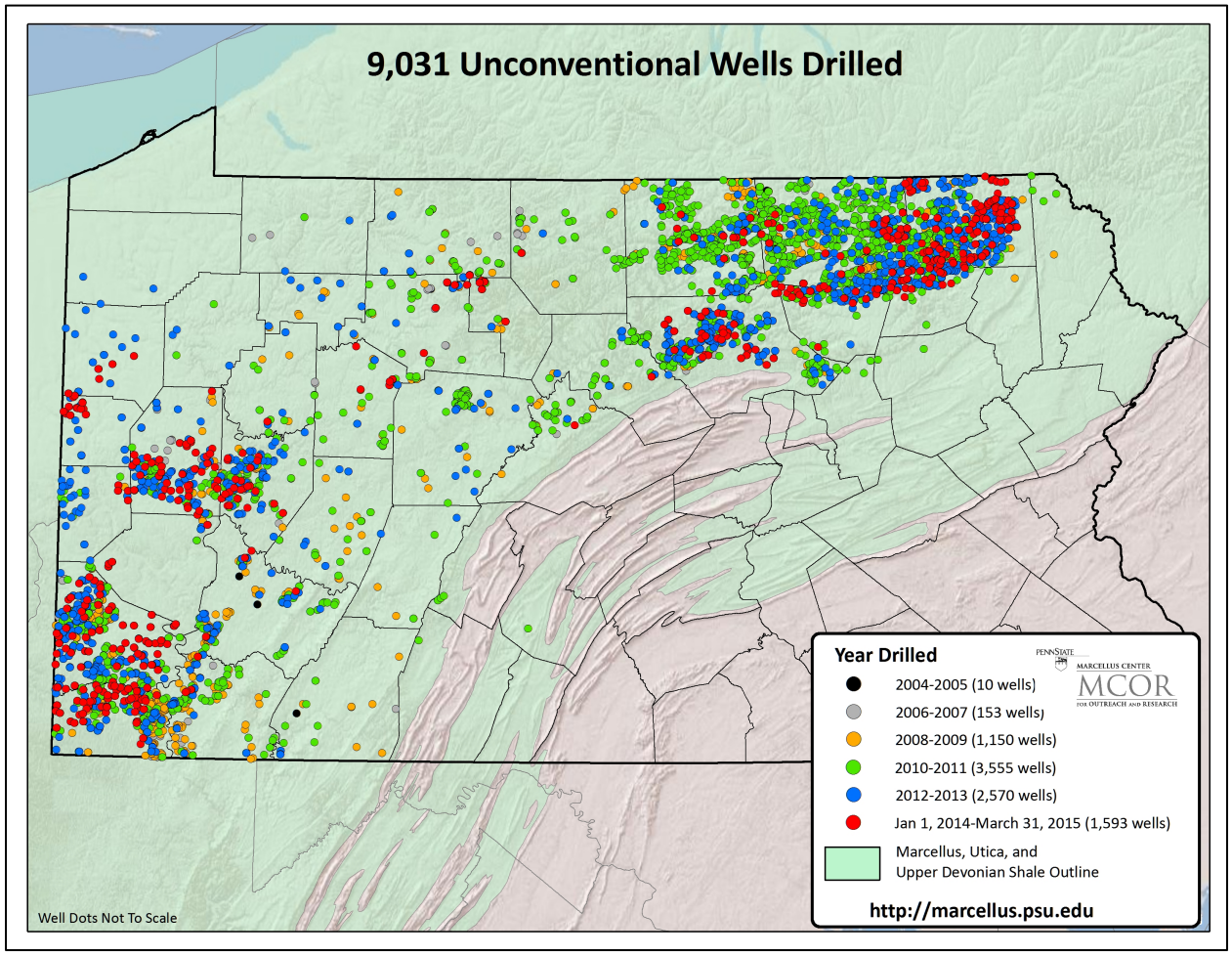
Figure 1: Total Confirmed Bobcat Observations, 2006-2011.



Source: NYDEC Bobcat Management Plan, p. 17.

While NYDEC was documenting an increase in bobcat observations in the southern tier of New York between 2006-2011, the following figure reveals how many shale gas wells were drilled in the northern tier of Pennsylvania throughout that same period:

Figure 2: Unconventional shale gas wells drilled in Pennsylvania (2004 – March 31, 2015).



Source: MCOR, Resources: Maps and Graphs, *available at* http://www.marcellus.psu.edu/images/PA%20Spud%20Map%202014-15%2020150331.jpg.

As this map indicates, between 2006-2011, gas companies drilled at least 4,858 shale gas wells in Pennsylvania. Many of these wells were drilled in Pennsylvania's northern tier. This demonstrates that at the same time the gas industry began and then rapidly escalated gas drilling across the northern tier of Pennsylvania, the bobcat population in the southern tier of New York "increased dramatically." Since there has been no shale gas development in New York throughout this time period due to a moratorium (and now ban) on shale gas development, this

suggests that the rapid increase in shale gas development in Pennsylvania may be causing "emigration of bobcats from Pennsylvania" into southern New York.

National Fuel Gas Company's 2013 Annual Report suggests why this could be happening. For example, National Fuel stated that the drilling operations of its exploration and production subsidiary, Seneca Resources, occur 24-hours a day. *See* National Fuel 2013 Annual Report, p. 3 (emphasis added) (Attachment 4). If Seneca Resources and other shale gas drilling companies are operating in remote, forested areas 24-hours a day, then it is reasonable to assume that those operations are having significant consequences on wildlife that depend on remote, forested habitat for survival. FERC has an obligation to consider these impacts before authorizing more infrastructure projects that induce more drilling in Pennsylvania.

We are also concerned about the cumulative impacts to Pennsylvania's public lands. The northern tier of Pennsylvania contains millions of acres of public lands, including the Allegheny National Forest and Pennsylvania state forests, parks and game lands. By limiting its consideration of cumulative impacts to within 0.5 miles of the Project area, FERC ignored the impacts of past, present and reasonably foreseeable future shale gas drilling impacting Pennsylvania's public lands.

FERC failed to take a hard look at the cumulative effects of the Project, including past, present and reasonably foreseeable gas drilling in the Marcellus and Utica shale regions. The EA is fundamentally flawed because of an impermissibly narrow 0.5 mile "region of influence" that is unsupported by CEQ's guidance on cumulative impacts and only serves to ignore the impacts of shale gas drilling. As such, the EA cannot support a FONSI. FERC must prepare a revised EA or an EIS before it can authorize the Project.

III. FERC must prepare a programmatic EIS for infrastructure projects related to increasing takeaway capacity from the Appalachian Basin.

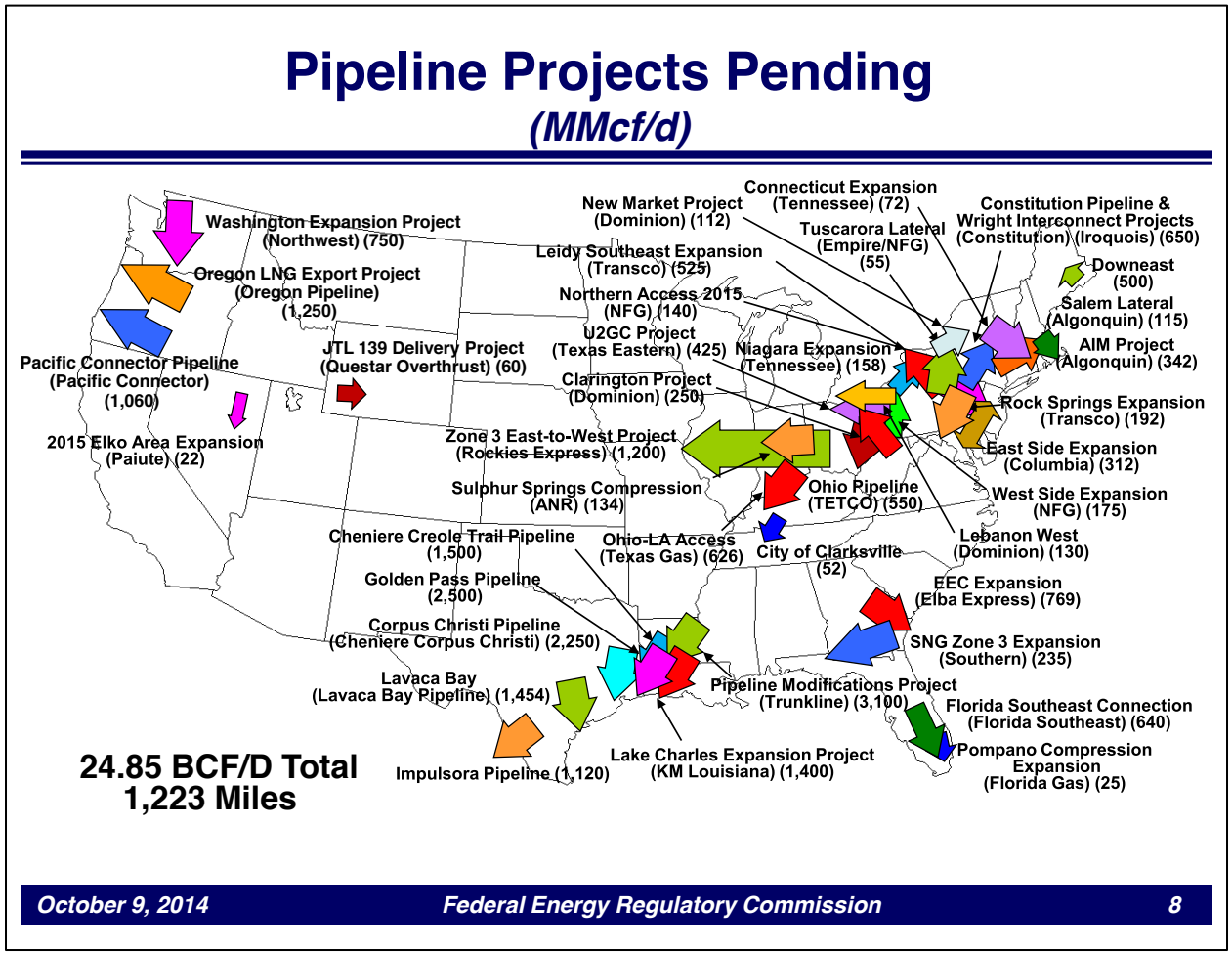
A programmatic EIS is sometimes required for "broad Federal actions." 40 C.F.R. § 1502.4(b). The Supreme Court has recognized that NEPA requires a programmatic EIS "in certain situations where several proposed actions are pending at the same time." *Kleppe v. Sierra Club*, 427 U.S. 390, 409 (1976). The Court further noted that:

> when several proposals . . . that will have cumulative or synergistic environmental impacts upon a region are pending concurrently before an agency, their environmental impacts must be considered together. Only through comprehensive consideration of pending proposals can the agency evaluate different courses of action.

Id. at 410.

Here, FERC is well aware of the fact that there are more than "several proposed actions are pending at the same time . . . that will have cumulative or synergistic environmental impacts upon a region." For example, as of October 2014, FERC was aware of the following pending pipeline proposals:

Figure 3: FERC – Pipeline Projects Pending.



Source: FERC, A View From the Beltway, p. 8 (Oct. 9, 2014) (Attachment 5).

Dominion's New Market Project is included on this map. As the map above indicates, there is a significant amount of infrastructure construction and expansion occurring in the Appalachian Basin region. These projects will have substantial "cumulative or synergistic environmental impacts upon [this] region." *Kleppe*, 427 U.S. at 410. FERC cannot stick its head in the sand and pretend that this massive infrastructure build-out is somehow not actually occurring.

In December 2014, CEQ published new guidance for when agencies should prepare a programmatic EIS. According to CEQ:

> A well-crafted programmatic NEPA review provides the basis for decisions to approve such broad or high-level decisions such as identifying geographically bounded areas within which future proposed activities can be taken or identifying broad mitigation and conservation measures that can be applied to subsequently tiered reviews.

Effective Use of Programmatic NEPA Reviews, p. 10 (2014) (Attachment 6). Additionally:

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

Id. at 11. In other words, just because future gas-related infrastructure projects may be theoretical does not mean that FERC would not be able to "establish parameters for subsequent analyses." In fact, this may assist FERC (and the public) in understanding the broader reasonably foreseeable consequences of jurisdictional and non-jurisdictional projects in the Appalachian Basin.

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

According to CEQ, the benefit of a programmatic EIS is obvious:

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

> that may extend throughout the programmatic and subsequent NEPA reviews and continue during the implementation of the proposed action.

Id. at p. 25 (citations omitted). Furthermore:

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

Id. at 35. All of this supports the need for FERC to prepare a programmatic EIS for gas-related infrastructure projects in the Appalachian Basin so that the public has a chance to see the big picture.

The benefits of preparing a programmatic EIS are demonstrated by a recent example. In July 2012, the Department of Energy and Bureau of Land Management ("BLM") published a final programmatic EIS for Solar Development in southwestern United States. *See* BLM, Final PEIS for Solar Energy Development in Six Southwestern States, *available at* http://solareis.anl.gov/documents/fpeis/index.cfm. According to the Executive Summary:

> This document was prepared by the [BLM] and [DOE] as co-lead agencies (Agencies). The BLM and DOE prepared this document in consultation with cooperating agencies and in accordance with [NEPA], as amended; the [CEQ], DOE, and Department of the Interior regulations implementing NEPA (40 CFR Parts 1500-1508, 10 CFR Part 1021, 43 CFR Part 46); and the Federal Land Policy and Management Act of 1976, as amended.

Solar FPEIS, Executive Summary at Cover Page (Attachment 7). For DOE, the Solar FPEIS "includes the evaluation of developing new guidance to further facilitate utility-scale solar

energy development and *maximize the mitigation of associated environmental impacts*." *Id*. at ES-1 (emphasis added).

This is precisely what FERC should be doing for of gas-related infrastructure that is intended to connect Appalachian Basin shale gas to market areas. By looking at these infrastructure projects at a broader, regional level, FERC would be in a much better position to "maximize the mitigation of associated environmental impacts" than it currently is. It would also provide the public with the "big picture" so "it can provide fresh perspectives and new ideas before determinations are made." Therefore, FERC should prepare a PEIS for natural gas infrastructure projects that are intended to increase takeaway capacity from the Marcellus and Utica shale formations. No further certification should occur until that PEIS is completed.

IV. FERC failed to consider connected, cumulative and similar actions.

Dominion is systematically expanding its pipeline system through projects that are very similar in nature to the New Market Project. In January 2015, we submitted comments raising concerns that Dominion and FERC may be improperly segmenting these projects. *See* Allegheny, January 12, 2015 Comments, Accession No. 20150112-5332. As far as we can tell from the EA, FERC failed to address these concerns. Therefore, we raise these concerns again and request the FERC consider the projects identified in our January 12, 2015 comment letter as connected, cumulative and/or similar actions that should be considered in an EIS. In addition to those projects, Dominion's Leidy South Project (Docket No. CP15-492-000) should be included in this EIS. All of these projects are similar in nature as they are largely focused on Dominion's compressor stations across its pipeline system (either existing or new). Rather than treating each project in isolation, FERC should consider the full scope of Dominion's compressor station expansions.

Thank you for the opportunity to comment.

Dated: November 19, 2014

Respectfully submitted,

/s/ Ryan Talbott
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CERTIFICATE OF SERVICE

Pursuant to Rule 2010 of FERC's Rules of Practice and Procedure, 18 C.F.R. § 385.2010, I, Ryan Talbott, hereby certify that I have this day served the foregoing document upon each person designated on this official list compiled by the Secretary in this proceeding.

Dated: November 19, 2014

Respectfully submitted,

/s/ Ryan Talbott
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