

160 FERC ¶ 61,022  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;  
Cheryl A. LaFleur, and Robert F. Powelson.

NEXUS Gas Transmission, LLC	Docket No. CP16-22-000
Texas Eastern Transmission, LP	Docket No. CP16-23-000
DTE Gas Company	Docket No. CP16-24-000
Vector Pipeline, L.P.	Docket No. CP16-102-000

ORDER ISSUING CERTIFICATES  
AND GRANTING ABANDONMENT

(Issued August 25, 2017)

1. On November 20, 2015, NEXUS Gas Transmission, LLC (NEXUS) filed an application pursuant to section 7(c) of the Natural Gas Act (NGA)<sup>1</sup> and Part 157 of the Commission's regulations<sup>2</sup> for authorization to construct and operate a new interstate pipeline system designed to provide up to 1,500,000 dekatherms (Dth) per day of firm transportation service from supply areas in the Appalachian Basin to consuming markets in northern Ohio, southeastern Michigan, and to the Dawn Hub in Ontario, Canada. As part of the NEXUS Project, NEXUS will construct and operate a new, greenfield pipeline system extending from Kensington, Ohio, to the DTE Gas Company (DTE Gas) system west of Detroit in Ypsilanti Township, Michigan. In addition, NEXUS will lease capacity on third-party pipelines as described below. Specifically, NEXUS seeks authorization to construct approximately 257.5 miles of new natural gas pipeline and authorization to acquire capacity (i) in Pennsylvania, West Virginia, and Ohio by lease from Texas Eastern Transmission, LP (Texas Eastern); (ii) in southeastern Michigan by lease from DTE Gas; and (iii) in southeastern Michigan by lease from Vector Pipeline L.P. (Vector). In conjunction with this project, NEXUS filed a *pro forma* FERC NGA

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<sup>1</sup> 15 U.S.C. §§ 717f(c) (2012).

<sup>2</sup> 18 C.F.R. pt. 157 (2017).

Gas Tariff for Commission approval. Nexus also requests a blanket certificate under Part 157, Subpart F of the Commission's regulations to perform certain routine construction activities and operations, as well as a blanket certificate under Part 284, Subpart G of the Commission's regulations to provide open-access firm and interruptible interstate natural gas transportation services on a self-implementing basis with pre-granted abandonment for such services.

2. On November 20, 2015, Texas Eastern filed an application pursuant to NGA section 7(c) and Part 157 of the Commission's regulations requesting authorization to construct and operate natural gas pipeline facilities to create capacity sufficient for the provision of 950,155 Dth per day of incremental firm transportation service from certain receipt points in Texas Eastern's Market Zone 2 between Berne, Ohio, and Uniontown, Pennsylvania, and on its Line 73 to a proposed interconnection with NEXUS near the existing Kensington Processing Plant in Hanover Township, Columbiana County, Ohio. Texas Eastern also seeks approval under NGA section 7(b) to abandon by lease to NEXUS the capacity created by these new facilities [Texas Eastern Appalachian Lease (TEAL) Project].

3. On November 24, 2015, DTE Gas, a local distribution company, filed an application pursuant to NGA section 7(c) and Part 157 of the Commission's regulations requesting a limited jurisdiction certificate enabling a combination of existing and new capacity<sup>3</sup> on its system to be used by NEXUS, under a capacity lease, to provide firm transportation service in interstate commerce from a new interconnect (Willow Run) between NEXUS and DTE Gas in Ypsilanti Township, Michigan, to (a) the existing Vector-Milford Junction interconnect (Milford Meter Station) between DTE Gas and Vector, (b) the existing Vector-Belle River interconnect between DTE Gas and Vector, and (c) the existing Union-St. Clair interconnect between DTE Gas and Union Gas Limited (Union) at the U.S./Canada border. DTE Gas also asked for a determination that its leasing of capacity to NEXUS will not affect its status as a local distribution company.

4. On March 11, 2016, Vector filed an application pursuant to NGA section 7(b) and Part 157 of the Commission's regulations requesting approval to abandon by lease to NEXUS existing capacity sufficient to provide 455,000 Dth per day of existing firm transportation service on two pipeline segments, extending from interconnections with

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<sup>3</sup> The construction of the facilities necessary to provide the additional capacity on DTE Gas's system which will be leased to NEXUS (i.e., piping, water bath line heaters, water gas heaters, and new gas compression at two existing compressor stations) will be subject to the jurisdiction of the Michigan Public Service Commission, as DTE Gas is a state-regulated gas utility providing limited interstate transportation service pursuant to 18 C.F.R. § 284.224.

DTE Gas in Michigan to the international border with Canada, that will become available upon contract expiration.

5. As discussed below, the Commission will grant the requested authorizations, subject to conditions.

## **I. Background and Proposal**

### **NEXUS**

6. NEXUS, a new company organized under Delaware laws with its principal place of business in Texas, is jointly owned by indirect, wholly-owned subsidiaries of Spectra Energy Partners, LP (Spectra Energy, 50 percent)<sup>4</sup> and DTE Energy Company (DTE Energy, 50 percent). NEXUS will be operated by Spectra Energy NEXUS Management, LLC, an indirect, wholly-owned subsidiary of Spectra Energy. NEXUS does not currently own any pipeline facilities, nor is it engaged in any natural gas transportation operations. Upon commencement of operations proposed in its application, NEXUS will become a natural gas company within the meaning of section 2(6) of the NGA,<sup>5</sup> and, as such, will be subject to the jurisdiction of the Commission.

7. NEXUS proposes to construct and operate:

- new mainline originating at the existing Kensington Processing Plant in Hanover Township, Columbiana County, Ohio, and extending through Ohio and Michigan to connect with DTE Gas in Ypsilanti Township, Washtenaw County, Michigan, including:
  - approximately 209.8 miles of new 36-inch-diameter pipeline in Columbiana, Stark, Summit, Wayne, Medina, Lorain, Huron, Erie, Sandusky, Wood, Lucas, Henry, and Fulton Counties, Ohio; and
  - approximately 46.8 miles of new 36-inch-diameter pipeline in Lenawee, Monroe, Washtenaw, and Wayne Counties, Michigan;
- four compressor stations:

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<sup>4</sup> On February 27, 2017, Spectra Energy became an indirect, wholly-owned subsidiary of Enbridge Inc.

<sup>5</sup> 15 U.S.C. § 717a(6) (2012).

- the new 52,000 horsepower (hp) Hanoverton Compressor Station in Columbiana County, Ohio, consisting of two gas-fired turbine compressor units;
- the new 26,000 hp Wadsworth Compressor Station in Medina County, Ohio, consisting of a single gas-fired turbine compressor unit;
- the new 26,000 hp Clyde Compressor Station in Sandusky County, Ohio, consisting of a single gas-fired turbine compressor unit; and
- the new 26,000 hp Waterville Compressor Station in Lucas County, Ohio, consisting of a single gas-fired turbine compressor unit; and
- interconnecting pipeline to Tennessee Gas Pipeline (Tennessee Gas), consisting of approximately 0.9 miles of new 36-inch-diameter pipeline connecting the proposed metering and regulating (M&R) station at the Tennessee Gas mainline to the NEXUS mainline near the Kensington Processing Plant (Hanover Township).

8. NEXUS estimates that the proposed facilities will cost approximately \$2,095,267,444. NEXUS states that it will also lease capacity from Texas Eastern, DTE Gas, and Vector for 15-year primary terms, with options to extend. NEXUS states that the proposed project, including the three capacity leases, will enable it to provide 1.5 million Dth per day of firm transportation service from the Appalachian Basin to markets in Northern Ohio and Southeastern Michigan, and to the Dawn Hub in Ontario, Canada.

9. Nexus conducted open seasons from October 15 to November 30, 2012, from July 23 to August 21, 2014, and from January 14 to February 12, 2015. As a result, NEXUS executed precedent agreements with the following customers for 885,000 of its 1.5 million Dth per day total available service capability for 15-year terms at negotiated rates:

- Union, a major Canadian natural gas storage, transmission and distribution company serving approximately 1.4 million customers and Enbridge subsidiary, for 150,000 Dth/d of firm transportation service;
- DTE Gas, a Michigan local distribution company serving approximately 1.2 million customers and DTE Energy subsidiary, for 75,000 Dth/d of firm transportation service;

- DTE Electric Company, an electric company serving approximately 2.2 million customers in southeastern Michigan and DTE Energy subsidiary, for 75,000 Dth/d of firm transportation service;
- CNX Gas Company LLC, an independent oil and gas corporation, for 150,000 Dth/d of firm transportation service;
- Noble Energy Inc., an independent oil and natural gas exploration and production company, for 75,000 Dth/d of firm transportation service;
- Chesapeake Energy Marketing, Inc., a provider of oil, natural gas and natural gas liquids marketing services, for 200,000 Dth/d of firm transportation service;
- Columbia Gas of Ohio, Inc., a local distribution company serving approximately 1.4 million customers, for 50,000 Dth/d of firm transportation service; and
- Enbridge Gas Distribution, Inc., a Canadian local distribution company serving approximately 2 million customers and Enbridge subsidiary, for 110,000 Dth/day of firm transportation service.

10. NEXUS will offer firm transportation, limited firm transportation, interruptible transportation, interruptible park and loan, and interruptible aggregation and balancing services under the terms and conditions of its proposed Rate Schedules FT, LFT, IT-1, PAL, and TABS.

11. NEXUS requests a blanket certificate pursuant to Part 284, Subpart G of the Commission's regulations authorizing NEXUS to provide open-access firm and interruptible interstate natural gas transportation services on a self-implementing basis with pre-granted abandonment for such services.<sup>6</sup> NEXUS also requests a blanket certificate pursuant to section 157.204 of the Commission's regulations, authorizing NEXUS to construct, operate, acquire, and abandon certain facilities as described in Part 157, Subpart F.<sup>7</sup>

### **Texas Eastern**

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<sup>6</sup> 18 C.F.R. § 284.221 (2017).

<sup>7</sup> 18 C.F.R. § 157.204 (2017).

12. Texas Eastern, a Texas limited partnership with its principal place of business in Texas, is a natural gas company, as defined by NGA section 2(6),<sup>8</sup> that transports natural gas in interstate commerce. Texas Eastern is an indirect, wholly-owned subsidiary of Spectra Energy. Texas Eastern's natural gas transmission system extends through Texas, Louisiana, the offshore Gulf of Mexico area, Mississippi, Arkansas, Missouri, Tennessee, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, New Jersey, and New York.

13. Texas Eastern proposes to construct and operate its proposed TEAL Project facilities in two phases, Phase One to be completed by November 1, 2017, and Phase Two to be completed by November 1, 2018. The Phase One facilities include:

- approximately 4.4 miles of new 36-inch-diameter pipeline loop extending in an easterly direction from a tie-in with Texas Eastern's existing 30-inch-diameter Line 15 to Texas Eastern's existing 36-inch-diameter Line 30 located northwest of the Village of Clarington in Monroe County, Ohio; in addition, piping to accommodate a temporary (portable) launcher/receiver will be installed at the west end of the loop during construction;
- approximately 1,790 feet of 30-inch-diameter connecting pipeline and a new 30-inch-diameter tee tap to connect Texas Eastern's Line 73 to the NEXUS meter and regulating M&R station to be located in Hanover Township;
- piping modifications to accommodate bi-directional flow at the Colerain Compressor Station, regulation facilities at the tie-in along Line 73 at Texas Eastern's Lines 10 and 15, launcher/receiver facilities along Line 73 at Texas Eastern's Lines 25 and 30, and additional piping modifications to add filter separators at an existing Texas Eastern regulation facility at Lines 10 and 15 and launcher/receiver sites at Lines 25 and 30 near the Village of Clarington, Monroe County, Ohio;
- removal of an existing launcher and associated appurtenances from the east end of the proposed 4.4-mile mainline pipeline loop (at the endpoint of existing Line 30), installation of a tie-in to Line 15, and piping to accommodate a temporary (portable) launcher/receiver will be installed at the west end of the loop during construction; and
- installation of new launcher/receivers at the north and south ends of the proposed 1,790-foot pipeline connecting with NEXUS.

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<sup>8</sup> 15 U.S.C. § 717a(6) (2012).

The Phase Two facilities include:

- a new compressor station, the Salineville Compressor Station, which includes two Taurus gas turbine compressor units (18,800 hp total) along Texas Eastern's 30-inch-diameter Line 73 in Franklin Township, Columbiana County, Ohio;
- an additional Taurus gas turbine compressor unit (9,400 hp) and incremental gas cooling at Texas Eastern's existing Colerain Compressor Station in Colerain Township, Belmont County, Ohio; and
- a communication tower located along the project route at the Salineville Compressor Station site.

14. Texas Eastern states that the proposed project will create capacity necessary to provide 950,155 Dth per day of firm transportation service from the Appalachian Basin to a new interconnection with the NEXUS Project in Columbiana County, Ohio. Texas Eastern estimates that the proposed TEAL Project will cost approximately \$183,519,668.

15. NEXUS and Texas Eastern have entered into a Capacity Lease Agreement that provides that Texas Eastern will construct, own, and operate the TEAL Project facilities and abandon by lease to NEXUS all of the incremental capacity associated with the proposed facilities. In turn, NEXUS proposes to acquire that capacity to provide transportation service under its open-access tariff. The Capacity Lease Agreement is structured as an operating lease under which Texas Eastern will lease capacity sufficient to provide 637,559 Dth per day in 2017, increasing to 950,155 Dth per day in 2018, of firm transportation service from certain receipt points located on the Texas Eastern system to a proposed interconnection with the NEXUS Project facilities. The Capacity Lease Agreement provides for an initial 15-year primary term with an option for NEXUS to extend up to six times, with each extension for a period of up to five years.

16. Section 7.1 of the Capacity Lease Agreement provides that NEXUS will pay a fixed monthly lease charge equal to the lease maximum daily quantity (MDQ) multiplied by the weighted average of (i) \$0.125 Dth per day for the first 75,000 Dth per day of MDQ in effect for such day, and (ii) \$0.15 Dth per day of MDQ in effect for such day above 75,000 Dth per day. Texas Eastern states that the proposed lease payment is lower than the recently approved OPEN Project reservation charge of \$16.915 Dth per month for comparable transportation service on Texas Eastern.<sup>9</sup>

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<sup>9</sup> Texas Eastern Application at 21 (citing *Texas Eastern Transmission, LP*, 149 FERC ¶ 61,198, at P 20 (2014)).

17. Section 7.2 of the Capacity Lease Agreement states that NEXUS will also provide fuel in-kind to Texas Eastern for fuel consumed under the NEXUS Lease, and that the fuel will be tracked and trued-up to ensure that NEXUS is responsible for the fuel use and lost and unaccounted for volumes associated with the lease capacity. The initial fuel rate under the lease is 0.60 percent.

### **DTE Gas**

18. DTE Gas, a Michigan corporation with its principal place of business in Michigan, is a state-regulated gas utility providing limited interstate transportation service pursuant to section 284 of the Commission's regulations.<sup>10</sup> DTE Gas is an indirect, wholly-owned subsidiary of DTE Energy. DTE Energy, which holds a 50 percent ownership interest in NEXUS, has natural gas and electric operations in 24 states.

19. NEXUS and DTE Gas have entered into a Capacity Lease Agreement that provides that NEXUS will lease existing unsubscribed capacity as well as expansion capacity from DTE Gas. NEXUS proposes to use the lease capacity to provide transportation service under its open-access tariff. The Capacity Lease Agreement is structured as an operating lease under which DTE Gas will lease firm capacity sufficient to provide 1,351,829 Dth per day of firm service, exclusive of fuel gas. The Capacity Lease Agreement provides NEXUS the right to increase the lease quantity by either 200,000 Dth per day or 350,000 Dth per day commencing November 1, 2018, and by an additional 100,000 Dth per day, 150,000 Dth per day, or 250,000 Dth per day on April 1, 2020.<sup>11</sup> The Capacity Lease Agreement provides for an initial 15-year primary term with an option for NEXUS to extend up to six times, with each extension for a period of up to five years.

20. DTE Gas will charge NEXUS a lease charge of \$0.076/Dth. DTE Gas states that the lease charge is less than DTE Gas's firm transportation rate for comparable service of \$0.269/Dth.<sup>12</sup> The initial fuel rate under the lease is 1.00 percent. In addition, DTE Gas requests a limited jurisdiction certificate in order to allow for the interstate transportation of gas through DTE Gas's system and a determination that the lease will not affect its status as a local distribution company otherwise exempt from FERC regulation pursuant to section 1(c) of the NGA.

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<sup>10</sup> 18 C.F.R. § 284.224 (2017). *See Michigan Consolidated Gas Co.*, 12 FERC ¶ 61,044 (1980).

<sup>11</sup> DTE Gas Data Request Response October 17, 2016.

<sup>12</sup> DTE Gas Application at 6.



### Vector

21. Vector is a natural gas company, as defined by NGA section 2(6), that transports natural gas in interstate commerce. Vector is a limited partnership organized under Delaware law with its principal place of business in Michigan. Vector is a joint venture between Calgary-based Enbridge, Inc. and Detroit-based DTE Energy. Vector's natural gas transmission system extends through Illinois, Indiana, Michigan, and into Ontario, Canada.

22. NEXUS and Vector have entered into a Capacity Lease Agreement that provides that NEXUS will lease existing firm capacity from Vector. NEXUS proposes to acquire that capacity to provide transportation service under its open-access tariff. The Capacity Lease Agreement is structured as an operating lease under which Vector will lease firm capacity on two segments of its system to NEXUS. Vector will lease capacity sufficient to provide 130,000 Dth per day of firm transportation service on one segment that extends from an interconnection between DTE Gas and Vector near Milford, Michigan (Milford Segment). On the other segment, extending from a second interconnection between DTE Gas and Vector near Belle River, Michigan (Belle River Segment), Vector will lease capacity sufficient to provide 325,000 Dth per day of firm transportation service.<sup>13</sup> Both lease segments terminate at the international border with Canada. Article VI of the Capacity Lease Agreement provides for an initial 15-year primary term with an option for NEXUS to extend up to six times, with each extension for a period of up to five years.

23. Section 7.1 of the Capacity Lease Agreement provides that NEXUS will pay a lease charge of \$0.145 Dth per day during the Primary Term and \$0.12 Dth per day during any Extended Terms for capacity on the Milford Segment and \$0.06 Dth per day for capacity on the Belle River Segment less an adjustment to reflect charges assessed by Vector's affiliate for service in Canada. Vector states that the proposed lease payments for both segments are lower than the maximum recourse rates for comparable transportation service on Vector.<sup>14</sup> Both the Milford Segment and Belle River Segment are located in Zone 2 of Vector's system and the maximum reservation charge for firm transportation service in Zone 2 under Rate Schedule FT-1 is \$0.2557 Dth per day.

24. Section 7.2 of the Capacity Lease Agreement states that NEXUS will also provide fuel in-kind to Vector for fuel consumed under the NEXUS Lease through a fixed fuel reimbursement charge of 0.4 percent per Dth for all nominations utilizing the Lease Capacity.

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<sup>13</sup> Vector Application at 4-5.

<sup>14</sup> Vector Application at FN 7.

## II. Notice, Interventions, Comments, Protests, and Requests for Evidentiary Hearing and Consolidation

25. Notices of NEXUS's, Texas Eastern's, DTE Gas's, and Vector's applications were published in the *Federal Register* on December 11, 2015 (80 Fed. Reg. 76,970), December 11, 2015 (80 Fed. Reg. 76,970), December 7, 2015 (80 Fed. Reg. 76,010), and April 8, 2016 (81 Fed. Reg. 20,630) respectively. Many timely, unopposed motions to intervene were filed.<sup>15</sup>

26. The parties listed in Appendix A to this order filed late motions to intervene. We will grant the late-filed motions to intervene.<sup>16</sup>

27. Many comments supporting or opposing the proposals were filed. Commenters raised numerous issues, including routing, safety, sufficiency of information, and potential economic and environmental impacts of the proposals. NEXUS, Texas Eastern, and DTE Gas filed answers. Although the Commission's Rules of Practice and Procedure do not permit answers, we will accept the responses because they clarify the concerns raised and provide information that has assisted in our decision making.<sup>17</sup> Concerns raised in the comments are addressed below or in the Environmental Impact Statement (EIS).

28. Some interveners and commenters assert that the Commission should hold an evidentiary hearing. An evidentiary, trial-type hearing is necessary only where there are material issues of fact in dispute that cannot be resolved on the basis of the written record.<sup>18</sup> No party has raised a material issue of fact that the Commission cannot resolve on the basis of the written record. As demonstrated by the discussion below, the existing written record provides a sufficient basis to resolve the issues relevant to this proceeding. The Commission has satisfied the hearing requirement by giving interested parties an opportunity to participate through evidentiary submission in written form.<sup>19</sup> Therefore,

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<sup>15</sup> Timely, unopposed motions to intervene are granted by operation of Rule 214 of the Commission's Rules of Practice and Procedures. *See* 18 C.F.R. § 385.214 (2017).

<sup>16</sup> *See id.* § 385.214(c)(2).

<sup>17</sup> *Id.* § 385.213(a)(2).

<sup>18</sup> *See, e.g., Southern Union Gas Co. v. FERC*, 840 F.2d 964, 970 (D.C. Cir. 1988); *Dominion Transmission, Inc.*, 141 FERC ¶ 61,183, at P 15 (2012).

<sup>19</sup> *Moreau v. FERC*, 982 F.2d 556, 568 (D.C. Cir. 1993).

we will deny the request for a trial-type evidentiary hearing.<sup>20</sup> Other commenters asked the Commission to delay the proceedings to resolve issues that were not addressed in the pre-filing process. We will deny the request to delay. The issues in these proceedings can be resolved and have now been resolved in this order based on the record without need for a delay.

29. Sierra Club filed a motion to lodge three orders issued by the Michigan Public Service Commission (Michigan Commission) and testimony in those proceedings, which it appended to its motion. The orders stated that the Michigan Commission will determine whether costs associated with NEXUS should be recoverable through DTE's rates after a full review of contracts between DTE and NEXUS, as well as its other affiliates. Sierra Club argues that the Commission should defer issuing an order in this proceeding until the Michigan Commission has made that determination, asserting that DTE may pull out of the project proposed in this proceeding if the Michigan Commission disallows recovery of DTE's NEXUS-related costs.

30. The documents appended to the Sierra Club's motion to lodge are part of the record in this proceeding. We will deny the request to defer issuing an order. As discussed below, NEXUS must file a written statement affirming that it has executed firm contracts for the capacity levels and terms of service represented in the precedent agreements, including its agreement with DTE, before commencing construction. Moreover, as also discussed below, NEXUS must calculate its recourse rates based on the designed capacity of the pipeline, thereby placing NEXUS at risk for any unsubscribed capacity. Under these circumstances, we find no need to defer issuing an order in this proceeding.

31. Intervenors and commenters assert that the Commission should require the applicants to add more descriptions and labeling to the submissions and organize them differently. We will deny these requests since the applicants' filings have been submitted in accordance with the Commission's requirements.<sup>21</sup>

### **III. Discussion**

32. NEXUS's, Texas Eastern's, DTE Gas's, and Vector's proposals to construct, operate, and/or lease facilities to transport natural gas in interstate commerce subject to

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<sup>20</sup> See e.g., *El Paso Natural Gas Co.*, 136 FERC ¶ 61,180, at P 28 (2011).

<sup>21</sup> See 18 C.F.R. pt. 156 (2017).

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the jurisdiction of the Commission are subject to the requirements of subsections (b), (c), and/or (e) of NGA section 7.<sup>22</sup>

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<sup>22</sup> 15 U.S.C. §§ 717f(b), 717f(c) and 717f(e) (2012).

### A. Application of Certificate Policy Statement

33. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new construction.<sup>23</sup> The Certificate Policy Statement establishes criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explains that in deciding whether to authorize the construction of major new natural gas facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.

34. Under this policy, the threshold requirement for pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from its existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant's existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by the route of the new pipeline. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission proceed to consider the environmental analysis where other interests are addressed.

#### 1. NEXUS Project

35. As discussed above, the threshold requirement for pipelines proposing new projects is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. NEXUS is a new company with no existing shippers. Thus, there is no potential for subsidization on NEXUS's system or degradation of service to existing customers. In addition, there will be no adverse impact on other pipelines in the region or their captive customers because the proposal is not intended to replace service on other pipelines. Also, no pipeline company or their captive customers have protested NEXUS's application.

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<sup>23</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *clarified*, 90 FERC ¶ 61,128, *further clarified*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

36. Interveners and commenters assert that the proposed project will have adverse environmental and economic impacts; e.g. limiting future development of area, lost tax revenue, and depressed property values. As discussed in greater detail below, and in the final EIS, NEXUS's proposed project will disturb approximately 5,010.8 acres of land during construction and 1,696.0 acres during operation, including 132.2 acres for the new compressor stations and M&R stations. In order to minimize impacts on landowners, to the extent practicable NEXUS will construct its proposed facilities on existing rights-of-way and on previously disturbed property. Approximately 45 percent of proposed facilities are sited on such land.

37. While we are mindful that NEXUS has been unable to reach easement agreements with some landowners, we find that for purposes of our consideration under the Certificate Policy Statement, NEXUS has taken sufficient steps to minimize adverse impacts on landowners and surrounding communities. NEXUS participated in the Commission's pre-filing process and has actively worked to address landowner and community concerns and input. Specifically, NEXUS incorporated 259 route variations into its proposed route for various reasons, including landowner requests, avoidance of sensitive resources, or engineering considerations.<sup>24</sup> Further, while we recognize that not all of NEXUS's proposed capacity has been subscribed to date, there is no evidence that downsizing the project to accommodate only the currently-subscribed level of service would result in any significant reductions in the project's impacts on landowners and communities. In fact, construction at this time of 36-inch-diameter pipeline segments as proposed may well avoid impacts on landowners and communities in the future, should the demand projected and anticipated by the project sponsors materialize, and construction of additional pipeline looping be needed to expand the capacity of a down-sized project constructed to accommodate only that service currently subscribed.

38. As noted above, 885,000 Dth per day of firm transportation service has been subscribed on the NEXUS project under precedent agreements for initial terms of 15 years. NEXUS states that it is continuing to market the unsubscribed capacity and that it anticipates that growing demand, including from the electric power sector in the region and for capacity out of the Appalachian Basin, will result in additional contracts for service. NEXUS asserts that many new gas-fired plants are planned,<sup>25</sup> including three

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<sup>24</sup> EIS at ES-17.

<sup>25</sup> Motion for Leave to Answer and Answer of NEXUS and Texas Eastern (January 12, 2016).

that have filed letters of support in this proceeding.<sup>26</sup> NEXUS further notes that there are recent proposals to convert existing natural gas pipelines to crude oil pipelines, which would impact the natural gas supply to the region.<sup>27</sup>

39. While many intervenors and commenters support NEXUS's proposed project, other commenters question the need for the project, suggesting that there is already sufficient natural gas infrastructure and supply in the market area. They also point to the fact that the project is only 59 percent subscribed and that some of the precedent agreements are with NEXUS's affiliates.

40. The final EIS analyzed the availability of capacity on other pipelines to serve as alternatives to the NEXUS project and concluded that sufficient capacity does not exist to provide all of the service contemplated by the NEXUS project.<sup>28</sup> There is also no evidence that available capacity exists on other pipelines to provide the 885,000 Dth per day of service currently subscribed by the NEXUS shippers.<sup>29</sup> Moreover, the Certificate Policy Statement eliminated the requirement that a project's sponsor show that there were precedent agreements in place for any particular percentage of proposed capacity in order to have its application considered by the Commission.<sup>30</sup> In its place, the Certificate Policy Statement (1) established a threshold requirement that the project must be able to proceed without subsidies from existing customers<sup>31</sup> and (2) allowed applicants to determine how best to demonstrate need for their projects.<sup>32</sup> Nonetheless, the

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<sup>26</sup> NRG Power Midwest GP LLC (filed Aug. 17, 2016), Oregon Clean Energy, LLC (filed Aug. 26, 2016), and GDF SUEZ Marketing North American, Inc. (filed Feb. 17, 2016).

<sup>27</sup> NEXUS Application at 17.

<sup>28</sup> Final EIS at 5-17.

<sup>29</sup> Commission staff used publically-available information from NEXUS' application and other pipeline company's electronic bulletin boards to determine that there is no unsubscribed capacity available to serve NEXUS' shippers.

<sup>30</sup> Prior to the Certificate Policy Statement, the Commission required a new pipeline project to have contractual commitments for at least 25 percent of the proposed project's capacity. *See* Certificate Policy Statement, 88 FERC at 61,743. NEXUS, at 59 percent subscribed, would have satisfied this prior requirement.

<sup>31</sup> Certificate Policy Statement, 88 FERC at 61,476 - 77.

<sup>32</sup> *Id.* at 61,748.

Certificate Policy Statement made clear that while applicants no longer need to present precedent agreements, these contracts are still significant evidence of project need or demand.<sup>33</sup>

41. NEXUS has entered into long-term firm precedent agreements with eight customers (including LDCs, an electric utility, and producers), for 885,000 Dth/day of firm transportation service – close to 60 percent of the system’s capacity. While the proposed pipeline has a significant portion of its capacity that remains unsubscribed, on balance, and for the reasons set forth herein, there is sufficient demonstration of need to justify authorization of NEXUS’s proposed project.

42. In arriving at this conclusion, the Commission looked at the potential impacts of two hypothetical projects that could deliver the subscribed capacity volumes. For illustrative purposes only, staff performed an independent hydraulic analysis of two potential facility design scenarios to accommodate the 885,000 Dth/d of firm transportation service currently subscribed on NEXUS, utilizing the pipeline hydraulic models that NEXUS and Texas Eastern provided in support of their respective applications and based upon the same engineering assumptions underlying the NEXUS and TEAL projects. The first design would use the currently proposed 36-inch-diameter pipe and eliminate the proposed Wadsworth, Clyde, and Waterville Compressor Stations. The second would reduce the proposed NEXUS pipeline from 36- to 30-inches in diameter, eliminate the Wadsworth Compressor Station, increase compression at the Clyde Compressor Station from 26,000 hp to 30,500 hp, and reduce compression at the Waterville Compressor Station from 26,000 hp to 2,500 hp.

43. Eliminating the three compressor stations under the first design scenario would reduce the total acres (mostly from agricultural and open land use categories) required for construction and operation of the NEXUS project by about 3 and 5 percent, respectively (or approximately 90 acres).<sup>34</sup> It would also eliminate perceived operational noise impacts and most air pollutant emission sources, except for fugitives and emissions associated with the process heaters.

44. The reduction in pipeline diameter under the second design scenario would have no impact on the acreage needed to construct and operate the pipeline facilities. Under

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<sup>33</sup> *Id.*

<sup>34</sup> While the compression facilities and communication towers at these locations would be eliminated, minor land retention could continue to be needed at these locations for operation of the remaining facility components, such as pig launchers and receivers and process heaters.



standard industry practices<sup>35</sup>, the recommended width of the construction right of way would not change if the proposed 36-inch pipeline were reduced to a 30 inch pipeline because much of the construction equipment is of standard size, and workspace needs do not change significantly for trench excavation and spoil piles, personnel safety, staging of pipe and pipeline appurtenances, and efficient movement of materials and equipment. Likewise, the permanent right-of-way would not change if pipeline diameter is reduced. Therefore, a reduction in pipeline diameter to more closely size the pipeline to the contracted for volumes would likely have no effect on the pipeline route, the operational footprint, or the potential exercise of eminent domain.

45. In addition, under this second design scenario, the elimination of the Wadsworth Compressor Station would reduce the total acres (mostly agricultural land) required for construction and operation of the NEXUS project by about 1 percent (or approximately 20 acres). It would also eliminate a noise source and most air pollutant emissions from that location. However, much of the same infrastructure (operation control buildings, compressor buildings, emergency generators, separators, suction and discharge piping, storage tanks, pig launchers/receivers, process heaters, and communication towers) would likely continue to be required at the revised Clyde and Waterville Compressor Stations; thus, their operational footprints are unlikely to change. Further, staff could not accurately assess the facility changes and impacts potentially associated with an increase in compression at the Clyde Compressor Station from 26,000 hp to 30,500 hp, and a reduction in compression at the Waterville Compressor Station from 26,000 hp to 2,500 hp. The changes in horsepower would likely be accomplished by replacing the currently proposed units with different compressor units. The different units may have similar or entirely different emission profiles, exhaust temperatures, exhaust velocities, and noise profiles, based on manufacturer and emission controls selected. In particular, the reduction in compression at Waterville could be accomplished by replacing the turbine unit with a reciprocating engine unit. Conclusions regarding impacts on air and noise quality from additional compression in some locations and reduced compression in others are not possible without detailed knowledge of the equipment selected for the change in compression. However, in general, air emissions from the changes in compression under the second scenario are likely to continue to meet federal and state air quality standards and operational emissions would not have a significant impact on local or regional air quality, as is the case for the currently proposed compressor stations.

46. We note that numerous comments were received during environmental review of the NEXUS project expressing concern for air quality and noise impacts, particularly at the Wadsworth and Waterville Compressor Stations. However, as is discussed below, the

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<sup>35</sup> INGAA Foundation “Building Interstate Natural Gas Transmission Pipelines: A Primer” January 2013.

final EIS concludes that the NEXUS project as proposed would comply with federal and state air quality standards and operational emissions would not have a significant impact on local or regional air quality. In addition, the final EIS indicates that the sound contribution of the compressor stations, as proposed, would not be audible at the nearby noise sensitive areas. Thus, we do not find the illustrative benefits, or potentially avoided impacts, of the hypothetical down-sized projects sufficient to outweigh the immediate benefits of meeting the demand evidenced by the long-term precedent agreements for 885,000 Dth/d of firm transportation service on the project as filed before us. Moreover, the Commission has recognized that constructing a larger capacity pipeline than immediately necessary in a location where there is potential for future growth in demand for service on the pipeline is appropriate as it will minimize potential environmental and landowner impacts that could occur in the future were a smaller pipeline constructed now.<sup>36</sup>

47. Several commenters contend that agreements with affiliates should not be considered as probative of need as contracts with unaffiliated companies. However, absent evidence of anti-competitive or other inappropriate behavior, the Commission views service agreements with affiliates like those with any other shipper for purposes of assessing the demand for capacity.<sup>37</sup> No evidence suggesting affiliate abuse has been filed in this proceeding.

48. NEXUS has entered into long-term firm precedent agreements for almost 60 percent of its proposed system's capacity. Before being allowed to commence construction, NEXUS must file a written statement affirming that it has executed firm contracts for the capacity levels and terms of service represented in the precedent agreements. As noted above, even if it were not precluded by Commission policy, as a new company, NEXUS has no existing customer from whom it could recover any of the costs associated with the unsubscribed capacity.<sup>38</sup> Moreover, NEXUS's recourse rates

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<sup>36</sup> See *Texas Eastern Transmission, LP*, 129 FERC ¶ 61,151, at P 32 (2009) (approving, in conjunction with Texas Eastern's TEMAX Project, construction of the Marietta Extension while acknowledging that 409,000 Dth per day of the extension's total capacity of 864,000 Dth per day was unsubscribed).

<sup>37</sup> See *Transcontinental Gas Pipe Line Company, LLC*, 141 FERC ¶ 61,091, at P 21 (2012).

<sup>38</sup> Some commenters assert that shipper DTE Gas, an affiliate of NEXUS owner DTE Energy and a state regulated gas utility, will require its captive distribution customers to subsidize its service on NEXUS. Issues related to DTE Gas's ability to recover costs associated with its decision to subscribe to service on NEXUS involve matters to be determined by the Michigan Public Service Commission; those concerns are beyond the scope of the Commission's jurisdiction.

will be based on the design capacity of the constructed pipeline. These factors operate to place all risk for any unsubscribed capacity solely upon NEXUS, assuring the Commission that the project will not go forward unless it is financially viable.<sup>39</sup> Under these circumstances, we find NEXUS has sufficiently demonstrated a need for the project.<sup>40</sup>

49. Interveners and commenters express concerns about easement negotiations and the possible misuse of eminent domain, including a request that the Commission reject the proposed construction schedule, arguing that the time between issuance of the order granting the certificates and commencement of construction is too short to permit eminent domain procedures, thus allowing companies to file emergency motions for immediate possession. In this regard, we note that NEXUS may not start construction without satisfying a number of requirements for obtaining a notice to proceed with construction; a certificate order does not authorize a company to construct at its own schedule. We also note that NEXUS has expressed its commitment to working collaboratively with landowners to acquire necessary property rights. NEXUS reports that it has to date in fact obtained easements for over 93 percent of the project route without the use of eminent domain.<sup>41</sup> The fact that such a large portion of the project route has been acquired without use of eminent domain strongly supports a finding that the applicants' efforts have minimized the potential for adverse impacts on landowners and surrounding communities.

50. In the event remaining affected landowners are unable to reach agreement with NEXUS, NEXUS, pursuant to NGA section 7(h), may acquire the needed property rights through the eminent domain process in state or federal court. In such a proceeding, the court will take into account the fair market value of the necessary property rights in deciding the compensation due. The sufficiency of compensation is a contractual matter or, if agreement is not reached, a matter for a court with appropriate jurisdiction and not an area over which the Commission has jurisdiction. The timing of eminent domain proceedings is likewise a matter for a court with appropriate jurisdiction and not an issue over which the Commission has jurisdiction.

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<sup>39</sup> Certificate Policy Statement, 88 FERC at 61,746; and *Constitution Pipeline Company, LLC, et al.*, 149 FERC ¶ 61,199, at P 28 (2014).

<sup>40</sup> With respect to comments requesting the Commission to assess the market demand for gas to be transported by two other proposed interstate pipeline projects, we note that the Commission will evaluate the proposals in those proceedings in accordance with the criteria established our Certificate Policy Statement.

<sup>41</sup> August 10, 2017 Response to Data Request.

51. As discussed above, NEXUS's proposed project will serve a demonstrated demand for natural gas. Based on the benefits the project will provide and the minimal adverse impacts on existing shippers, other pipelines and their captive customers, and landowners and surrounding communities, we find, consistent with the Certificate Policy Statement and NGA section 7(c), that the public convenience and necessity requires approval of NEXUS's proposal, subject to the conditions discussed below.

## **2. Texas Eastern TEAL Project**

52. As discussed above, the threshold requirement for pipelines proposing new projects is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. Texas Eastern will lease all the incremental capacity created by its project facilities to NEXUS. Texas Eastern proposes to recover all costs associated with the TEAL Project from NEXUS; no project costs will be recovered from existing shippers. Thus, we find that the threshold no-subsidy requirement under the Certificate Policy Statement has been met. There is no evidence that the proposal will degrade service to existing customers. In addition, there will be no adverse impact on other pipelines in the region or their captive customers because the proposal is not intended to replace service on other pipelines. Also, no pipeline company or their captive customers have protested Texas Eastern's application.

53. Interveners and commenters assert that the proposed TEAL Project will have adverse environmental and economic impacts. As discussed in greater detail below, and in the EIS, Texas Eastern's proposed project will disturb approximately 213.0 acres of land during construction and 45.9 acres during operation, including 16.2 acres for the new compressor station and regulation site. In order to minimize impacts on landowners, Texas Eastern will construct approximately 94 percent of the proposed facilities on existing rights-of-way and on previously disturbed property. Accordingly, we find that Texas Eastern has designed the project to minimize adverse impacts on landowners and surrounding communities.

54. Texas Eastern's proposed project will enable NEXUS to serve a growing demand for natural gas, as discussed above. Based on the benefits the projects will provide and the minimal adverse impacts on existing shippers, other pipelines and their captive customers, and landowners and surrounding communities, we find, consistent with the Certificate Policy Statement and NGA section 7(c), that the public convenience and necessity requires approval of Texas Eastern's proposal, subject to the conditions discussed below.

## **B. Lease Agreements**

55. As explained above, NEXUS has entered into Capacity Lease Agreements with Texas Eastern, DTE Gas, and Vector whereby the lessors will lease firm capacity that is either currently available on their systems or that will be made available by the

construction proposed in the applications addressed herein. In turn, NEXUS will use the leased capacity to provide service under the terms of the NEXUS FERC Tariff.

56. Historically, the Commission views lease arrangements differently from transportation services under rate contracts. The Commission views a lease of interstate pipeline capacity as an acquisition of a property interest by the lessee in the capacity of the lessor's pipeline.<sup>42</sup> To enter into a lease agreement, the lessee generally needs to be a natural gas company under the NGA and needs section 7(c) certificate authorization to acquire the capacity. Once acquired, the lessee in essence owns that capacity and the capacity is subject to the lessee's tariff. The leased capacity is allocated for use by the lessee's customers. The lessor, while it may remain the operator of the pipeline system, no longer has any rights to use the leased capacity.<sup>43</sup>

57. The Commission's practice has been to approve a lease if it finds that: (i) there are benefits from using a lease arrangement; (ii) the lease payments are less than, or equal to, the lessor's firm transportation rates for comparable service over the term of the lease; and (iii) the lease arrangement does not adversely affect existing customers.<sup>44</sup> As discussed below, we find that the lease agreements between (i) Texas Eastern and NEXUS, (ii) DTE Gas and NEXUS, and (iii) Vector and NEXUS satisfy these requirements.

### **1. Texas Eastern Lease Agreement**

58. The Commission has found that leases in general have several potential public benefits. Leases can promote efficient use of existing facilities, avoid construction of duplicative facilities, reduce the risk of overbuilding, reduce costs, and minimize environmental impacts.<sup>45</sup> In addition, leases can result in administrative efficiencies for shippers.<sup>46</sup> NEXUS's lease with Texas Eastern provides benefits to shippers by enabling them to acquire transportation service across the Texas Eastern and NEXUS pipeline

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<sup>42</sup> *Texas Eastern Transmission Corp.*, 94 FERC ¶ 61,139, at 61,530 (2001).

<sup>43</sup> *Texas Gas Transmission, LLC*, 113 FERC ¶ 61,185, at P 10 (2005).

<sup>44</sup> *Id.*; *Islander East Pipeline Company, L.L.C.*, 100 FERC ¶ 61,276, at P 69 (2002) (*Islander East*).

<sup>45</sup> *See, e.g., Dominion Transmission, Inc.*, 104 FERC ¶ 61,267, at P 21 (2003); *Islander East*, 100 FERC ¶ 61,276 at P 70.

<sup>46</sup> *Wyoming Interstate Co., Ltd.*, 84 FERC ¶ 61,007, at 61,027 (1998), *reh'g denied*, 87 FERC ¶ 61,011 (1999).

systems without the administrative burdens of having to deal with transportation on multiple pipeline systems. The lease arrangement also provides environmental benefits by allowing NEXUS to largely avoid additional greenfield construction that would duplicate the path from the Appalachian Basin production areas served by Texas Eastern's system to the proposed interconnection between Texas Eastern's Line 73 and the NEXUS Project.

59. As NEXUS and Texas Eastern have explained, NEXUS will be leasing new capacity on Texas Eastern's system, created through the construction of the TEAL Project facilities. The monthly lease payment will recover both capital and operating costs associated with the project during the lease term.

60. The lease of capacity to NEXUS will not adversely affect Texas Eastern's existing customers. The capacity leased to NEXUS is newly created capacity made available by the TEAL Project facilities and does not diminish capacity currently utilized by or available to Texas Eastern's existing customers. Additionally, none of Texas Eastern's transportation customers will bear any of the costs associated with the TEAL Project. Consistent with Commission policy, Texas Eastern will be at risk for the recovery of any costs associated with the lease capacity that are not collected from NEXUS.<sup>47</sup> Because Texas Eastern will not be able to provide jurisdictional service on the lease capacity during the term of the lease with NEXUS, Texas Eastern will not be allowed to reflect in its system rates any of the costs (i.e., the fully-allocated cost of service) associated with the leased capacity.<sup>48</sup> In addition, Texas Eastern will track and true-up the fuel provided by NEXUS under the lease to ensure that NEXUS is fully responsible for the fuel and LAUF associated with flows on the leased capacity.

61. We find that the lease payments are satisfactory, there are benefits, and those benefits outweigh any potential harm to Texas Eastern's customers. Therefore, we find that the proposed lease is required by the public convenience and necessity.

62. The applicants propose to treat the capacity lease as an operating lease for accounting purposes. NEXUS should record the lease payments for the lease in Account 858, Transmission and Compression of Gas by Others. In addition, Texas Eastern should record the monthly receipts for the leases should in Account 489.2, Revenues from

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<sup>47</sup> See, e.g., *Gulf Crossing Pipeline Co. LLC*, 123 FERC ¶ 61,100, at P 123 (2008); *Gulf South Pipeline Co.. LP*, 120 FERC ¶ 61,291, at P 42 (2007).

<sup>48</sup> See, e.g., *Columbia Gas Transmission, LLC*, 145 FERC ¶ 61,028, at P 20 (2013) (*Columbia Gas*).

Transportation of Gas of Others through Transmission Facilities. We have previously authorized similar accounting treatment for transportation capacity lease agreements.<sup>49</sup>

63. Consistent with Commission policy, we will require Texas Eastern to file with the Commission a notification in this docket, within 10 days of the date of abandonment of the capacity leased to NEXUS, providing the effective date of the abandonment.<sup>50</sup> We also remind the applicants that when the lease terminates, NEXUS is required to obtain authority to abandon the lease capacity, and Texas Eastern is required to obtain certificate authorization to reacquire that capacity.<sup>51</sup>

## 2. DTE Gas Lease Agreement

64. NEXUS's lease with DTE Gas avoids the environmental impacts which would be associated with construction by NEXUS of duplicative and unnecessary facilities in Michigan that would otherwise be necessary but for NEXUS's ability to lease capacity from DTE Gas. Moreover, the DTE Capacity Lease promotes the efficient use of existing infrastructure by utilizing existing unsubscribed capacity on DTE Gas.

65. With regard to DTE Gas, the lease charge of \$0.076/Dth under the DTE Gas Lease Agreement is less than the firm transportation rate of \$0.269/Dth for comparable service on the DTE Gas pipeline system. Therefore, NEXUS is paying a lower rate under the Capacity Lease.

66. The lease with DTE Gas will not adversely affect existing customers on DTE Gas's system. The lease utilizes currently unsubscribed or incremental capacity to be installed through facility expansion. Further, DTE Gas states that it will not pass on any costs associated with the Capacity Lease to its existing customers.<sup>52</sup> Consistent with past Commission precedent on leases from intrastate pipelines that provide interstate service, we condition our approval of the lease on DTE Gas not shifting any costs associated with the leased capacity to its other interstate customers.<sup>53</sup>

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<sup>49</sup> See, e.g., *Columbia Gas*, 145 FERC ¶ 61,028 at P 24 (citing *Gulf South Pipeline Co., LP*, 119 FERC ¶ 61,281, at P 42 (2007); *Millennium Pipeline Co., L.P.*, 97 FERC ¶ 61,292, at 62,331 (2001)).

<sup>50</sup> See, e.g., *Columbia Gas*, 145 FERC ¶ 61,028 at ordering para. (D).

<sup>51</sup> See, e.g., *Islander East Pipeline Co.*, 102 FERC ¶ 61,054, at P 35 (2003).

<sup>52</sup> DTE Gas Application at 7.

<sup>53</sup> *Midcontinent Express Pipeline LLC*, 124 FERC ¶ 61,089, at P 33 (2008).

67. We find that the lease payments are satisfactory, there are benefits, and those benefits outweigh any potential harm to DTE Gas's customers. Therefore, we find that the proposed lease is required by the public convenience and necessity.

68. To enable DTE Gas to carry out its responsibilities under the lease agreement, we will issue DTE Gas a limited jurisdiction certificate. The Commission looks closely at proposals that would create dual jurisdiction facilities, i.e., facilities that would be subject to both state and federal jurisdiction, in order to avoid duplicative and/or potentially inconsistent regulatory schemes over the same facilities. However, in this case, although federal regulation of DTE Gas will be "limited," DTE Gas and NEXUS will both be subject to exclusive federal regulation regarding the lease of up to 1,151,829 Dth per day of capacity on the DTE Gas system and any issues that may arise thereunder. The limited jurisdiction certificate will enable DTE Gas to operate the leased capacity being used for NGA jurisdictional services subject to the terms of the lease and subject to NEXUS's open-access tariff. The limited jurisdiction certificate will require DTE Gas to operate the leased capacity in a manner that ensures NEXUS's ability to provide services, including interruptible transportation, using the leased capacity on an open-access, non-discriminatory basis. We have approved similar leases in the past involving intrastate pipelines and local distribution companies.<sup>54</sup> Our finding that DTE Gas is NGA-jurisdictional is limited to its role as lessor-operator of capacity used by NEXUS to provide NEXUS's interstate services. DTE Gas will remain non-jurisdictional as to its intrastate activities and may continue to provide Natural Gas Policy Act (NGPA) section 311 transportation services on its system.

69. The applicants propose to treat the capacity lease as an operating lease for accounting purposes. NEXUS should record the lease payments for the lease in Account 858, Transmission and Compression of Gas by Others. In addition, DTE Gas should record the monthly receipts for the lease in Account 489.2, Revenues from Transportation of Gas of Others Through Transmission Facilities. We have previously authorized similar accounting treatment for transportation capacity lease agreements.<sup>55</sup>

70. We will require NEXUS to file with the Commission a notification in this docket, within 10 days of the date of acquisition of the capacity leased from DTE, providing the

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<sup>54</sup> *The East Ohio Gas Co. and Dominion Transmission, Inc.*, 133 FERC ¶ 61,076 (2010); *Midcontinent Express Pipeline LLC*, 124 FERC ¶ 61,089 (2008).

<sup>55</sup> *See, e.g., Columbia*, 145 FERC ¶ 61,028 at P 24 (citing *Gulf South Pipeline Co., LP*, 119 FERC ¶ 61,281, at P 42 (2007); *Millennium Pipeline Co., L.P.*, 97 FERC ¶ 61,292, at 62,331 (2001)).



effective date of the acquisition. We also remind the applicants that when the lease terminates, NEXUS is required to obtain authority to abandon the lease capacity.<sup>56</sup>

### 3. Vector Lease Agreement

71. The lease with Vector also benefits the environment and reduces costs by enabling NEXUS to use existing unsubscribed capacity on Vector, eliminating the need for it to construct greenfield facilities that would generally duplicate Vector's existing facilities. The Capacity Lease on Vector will also provide NEXUS's customers with seamless access, under a single firm transportation contract, from production areas to multiple markets.

72. Vector's lease charges are less than the maximum recourse rate for comparable service under Vector's tariff. Section 7.1 of the Capacity Lease Agreement provides that NEXUS will pay a fixed negotiated monthly lease rate that will be lower than the comparable service in Zone 2 of Vector's system.

73. The lease arrangement will not adversely affect Vector's existing customers. The capacity subject to the lease is existing capacity on the Vector system that is scheduled to become available due to the expiration and non-renewal of long-term firm contractual entitlements. The lease arrangement will facilitate an efficient utilization of this expiring capacity without the termination of service to any of Vector's shippers, and without requiring any rate or other subsidies from Vector's shippers. Consistent with Commission policy, Vector will be at risk for the recovery of any costs associated with the lease capacity that are not collected from NEXUS.<sup>57</sup> Because Vector will not be able to provide jurisdictional service on the lease capacity, during the term of the lease with NEXUS, Vector will not be allowed to reflect in its system rates any of the costs (i.e., the fully-allocated cost of service) associated with the leased capacity.<sup>58</sup>

74. As more fully discussed above, we find that the lease payments are satisfactory, there are benefits, and those benefits outweigh any potential harm to Vector's customers. Therefore, we find that the proposed leases are required by the public convenience and necessity.

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<sup>56</sup> See, e.g., *Islander East Pipeline Co.*, 102 FERC ¶ 61,054 at P 35.

<sup>57</sup> See, e.g., *Gulf Crossing Pipeline Co. LLC*, 123 FERC ¶ 61,100, at P 123 (2008); *Gulf South Pipeline Co., LP*, 120 FERC ¶ 61,291, at P 42 (2007).

<sup>58</sup> See, e.g., *Columbia Gas*, 145 FERC ¶ 61,028 at P 20.

75. The applicants propose to treat the capacity lease as an operating lease for accounting purposes. NEXUS should record the lease payments for the lease in Account 858, Transmission and Compression of Gas by Others. In addition, Vector should record the monthly receipts for the lease in Account 489.2, Revenues from Transportation of Gas of Others Through Transmission Facilities. We have previously authorized similar accounting treatment for transportation capacity lease agreements.<sup>59</sup>

76. Consistent with Commission policy, we will require Vector to file with the Commission a notification in this docket, within 10 days of the date of abandonment of the capacity leased to NEXUS, providing the effective date of the abandonment.<sup>60</sup> We also remind the applicants that when the leases terminate, NEXUS is required to obtain authority to abandon the lease capacity, and Vector is required to obtain certificate authorization to reacquire that capacity.<sup>61</sup>

### C. Blanket Certificates

77. NEXUS requests a Part 284, Subpart G blanket certificate in order to provide open-access transportation services. Under a Part 284 blanket certificate, NEXUS will not require individual authorizations to provide transportation services to particular customers. NEXUS filed a *pro forma* Part 284 tariff to provide open-access transportation services. Since a Part 284 blanket certificate is required for NEXUS to offer these services, we will grant NEXUS a Part 284 blanket certificate, subject to the conditions imposed herein.

78. NEXUS has also applied for a Part 157, Subpart F blanket certificate. The Part 157 blanket certificate gives an interstate pipeline NGA section 7 authority to automatically, or after prior notice, perform certain activities related to the construction, acquisition, abandonment, and replacement and operation of pipeline facilities. Since a Part 157 blanket certificate is required for NEXUS to offer these services, we will grant NEXUS a Part 157 blanket certificate, subject to the conditions imposed herein.

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<sup>59</sup> See, e.g., *Columbia Gas*, 145 FERC ¶ 61,028 at P 24 (citing *Gulf South Pipeline Co., LP*, 119 FERC ¶ 61,281 at P 42; *Millennium Pipeline Co., L.P.*, 97 FERC at 62,331).

<sup>60</sup> See, e.g., *Columbia Gas*, 145 FERC ¶ 61,028 at ordering para. (D).

<sup>61</sup> See, e.g., *Islander East Pipeline Co.*, 102 FERC ¶ 61,054 at P 35.

#### **D. Initial Rates for NEXUS**

79. NEXUS proposes to offer firm and limited firm<sup>62</sup> transportation service (under Rate Schedules FT-1 and LFT-1 respectively) and interruptible (Rate Schedules IT-1 and PAL) open-access transportation services at cost-based rates on a nondiscriminatory basis under Part 284 of the Commission's regulations. The cost of service underlying NEXUS's proposed incremental recourse reservation rates reflects NEXUS's construction costs, the costs for the three capacity leases, and a 10.70 percent overall rate of return. NEXUS has designed its initial recourse rates using a straight fixed-variable rate design methodology and three zones. NEXUS has assigned its cost of service among the three rate zones in the following manner: 1) Supply Zone – cost of the leased capacity under the Texas Eastern Lease; 2) Market Zone 1 – cost of service for the NEXUS-owned pipeline facilities, plus an allocation of the cost of the leased capacity on DTE Gas necessary for gas deliveries to the DTE Gas Milford Junction Station; and 3) Market Zone 2 – an allocation of the costs of the leased capacity on DTE Gas necessary for gas deliveries downstream of the DTE Gas Milford Junction Station, plus the cost of the Vector Lease.<sup>63</sup> NEXUS will offer negotiated rates as an option pursuant to section 22 of the General Terms and Conditions (GT&C) of its *pro forma* tariff.

##### **1. Cost of Service for NEXUS's Greenfield Facilities**

80. NEXUS proposes an overall rate of return of 10.7 percent, based on NEXUS's expected 40 percent debt and 60 percent equity capital structure with a debt cost of 5.75 percent and a return on equity (ROE) of 14 percent. NEXUS states that its weighted average cost of capital of 10.7 percent reflects the regulatory, contractual and

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<sup>62</sup> NEXUS' limited firm transportation service is designed for shippers that generally require firm service but can accommodate periodic interruption of service. Under the LFT-1 service, the pipeline and shipper may agree on a number of days (or other periods of time) in which the pipeline may decline to schedule the shipper. In such cases the shipper gets a rate credit. In all other respects LFT-1 service is firm.

<sup>63</sup> The derivation and support for the initial recourse rates are detailed in Exhibit P of NEXUS's application.

construction risks inherent in a new greenfield pipeline and is consistent with the range that the Commission has found acceptable for new greenfield pipelines.<sup>64</sup>

81. NEXUS's combined ROE and capital structure proposal does not reflect current Commission policy. For new pipelines, the Commission has approved equity returns of 14 percent, but only where the equity component of the capitalization is no more than 50 percent.<sup>65</sup> In *Sabal Trail Transmission*, the Commission approved a greenfield pipeline's proposed 14 percent return on equity but rejected its capital structure of 60 percent equity and 40 percent debt. The Commission found that imputing a capitalization containing such a large equity ratio is more costly to ratepayers, because equity financing is typically more costly than debt financing and the interest incurred on debt is tax deductible.<sup>66</sup> Consequently, the Commission required that the pipeline design its cost-based rates on a capital structure that included at least 50 percent debt,<sup>67</sup> and will require NEXUS to do the same. Accordingly, while the Commission will approve NEXUS's proposed 14 percent return on equity, the Commission will require that NEXUS design its cost-based rates on a capital structure that includes at least 50 percent debt. NEXUS is directed to recalculate its rates in its compliance filing. In our discussion of NEXUS' rate design for its proposed Market Zone 1 rates that follows, we will use NEXUS' costs and rates as reflected in its application with the understanding that when the costs are changed to reflect the discussion above, the resulting compliance initial rates will also change.

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<sup>64</sup> NEXUS cites, e.g., *ETC Tiger Pipeline, LLC*, 131 FERC ¶ 61,010, at P 26 (2010) (approving a weighted average cost of capital of 11.375 percent based on an ROE of 14 percent and an assumed cost of debt of 8.75 percent based on 50 percent debt and 50 percent equity); *Bison Pipeline LLC*, 131 FERC ¶ 61,013, at P 29 (2010) (approving a weighted average cost of capital of 11 percent based on an ROE of 14 percent and an assumed cost of debt of 8 percent based on 50 percent debt and 50 percent equity); *Ruby Pipeline, LLC*, 128 FERC ¶ 61,224, at P 52 (2009) (approving a weighted average cost of capital of 11.18 percent based on an ROE of 14 percent and assumed cost of debt of 9.3 percent based on 60 percent debt and 40 percent equity).

<sup>65</sup> *Sabal Trail Transmission*, 154 FERC ¶ 61,080 (2016); *MarkWest Pioneer, L.L.C.*, 125 FERC ¶ 61,165 (2008).

<sup>66</sup> *Id.* P 117.

<sup>67</sup> *Id.* P 118.

## 2. Zones

### a. Supply Zone Rates

82. NEXUS's Supply Zone rates are based on the Texas Eastern Lease and will be phased-in based on the timing of the construction of facilities by Texas Eastern (and the corresponding increase in leased capacity under the Texas Eastern Lease). When Phase I of Texas Eastern's TEAL Project goes into service, the proposed monthly firm reservation recourse rate for NEXUS Supply Zone service will be \$4.555 per Dth. When the TEAL Project Phase II facilities are placed into service, the monthly firm reserved recourse rate for NEXUS Supply Zone service will increase to \$4.585 per Dth. The proposed maximum interruptible transportation rate for Phase I is \$0.1498 per Dth and for Phase II \$0.1507 per Dth calculated as a 100 percent load factor daily derivative of the proposed Supply Zone firm recourse rate.

83. Both NEXUS and Texas Eastern's applications state the lease quantities are 637,559 Dth/day increasing to 950,155 Dth/day. NEXUS, however, calculated its Supply Zone rates using quantities of 626,051 Dth/day and 933,005 Dth per day.<sup>68</sup> When NEXUS submits its compliance filing to establish its initial recourse rates it must recalculate the Supply Zone rates based on the correct lease quantities.

### b. Market Zone 1 Rates

84. NEXUS's Market Zone 1 initial recourse rates are based on the \$477,326,670 cost of service for the NEXUS-owned greenfield pipeline facilities, plus an allocation of \$10,375,486 from the DTE Gas Lease reflecting the capacity necessary for gas deliveries to the DTE Gas Milford Junction Station. The rates are designed using annual firm reservation billing determinants of 18,000,000 Dths, based on the full design capacity of the greenfield pipeline facilities. NEXUS proposes to allocate \$5,000,000 of costs to interruptible services under Rate Schedules IT-1 and PAL. NEXUS calculates the initial monthly firm reservation rate in Market Zone 1 to be \$26.696 per Dth, with a usage rate of \$0.0057 per Dth. Both the proposed maximum interruptible rate and the PAL rate are proposed to be \$0.8833 per Dth calculated as a 100 percent load factor daily derivative of the proposed Market Zone 1 firm recourse rate.

85. As directed above, NEXUS must redesign its rates intended to recover its greenfield facilities using a capital structure that includes at least 50 percent debt. NEXUS must file its recalculated Market Zone 1 rates in its compliance filing.

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<sup>68</sup> See Exhibit P, Schedules 2 and 3.

**c. Market Zone 2 Rates**

86. NEXUS's Market Zone 2 rates are based on an allocation of \$25,425,171 of the DTE Gas Lease costs for gas deliveries downstream of the DTE Gas Milford Junction Station, plus the \$13,997,750 cost of the Vector Lease, for a total annual cost of service of \$39,422,921. NEXUS calculates the maximum initial monthly firm reservation rate for Market Zone 2 to be \$5.430 per Dth. The proposed maximum interruptible rate is \$0.1785 per Dth calculated as a 100 percent load factor daily derivative of the proposed Market Zone 2 firm recourse rate.

**d. Commission Determination**

87. The Commission has reviewed NEXUS's proposed cost of service and initial rates for each of the three zones and generally finds them reasonable for a new pipeline entity such as NEXUS, subject to recalculation to address the concerns discussed above.

**3. Usage-2 Charges**

88. NEXUS proposes Usage-2 charges for service under Rate Schedules FT-1 and LFT-1. Usage-2 charges are applied against any volumes that are delivered which are in excess of 110 percent of scheduled service levels for a given day. The Commission has held that during non-critical periods, a scheduling penalty equal to the interruptible rate is an appropriate incentive for shippers to stay within their scheduled quantities.<sup>69</sup> However, NEXUS's Usage-2 charges for each zone are designed based on the assumption that all deliveries in the Market Zones are sourced in the Supply Zone. This is not necessarily the case. Therefore, NEXUS is directed to revise its Usage-2 rates either to reflect only the interruptible rate for that zone or to use a zone matrix similar to its other rates. In addition, it does not appear NEXUS has provided for the crediting of these penalty revenues as required by the Commission's regulations.<sup>70</sup> NEXUS is directed to revise its tariff to provide that scheduling penalty revenues (net of costs) will be refunded to non-offending shippers.

**4. Park and Loan Rates**

89. NEXUS establishes the rate for PAL service as equal to the IT-1 rate for Market Zone 1 to Market Zone 1 service. The Commission has consistently approved the use of interruptible transportation rates to design newly proposed interruptible park and loan

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<sup>69</sup> *Sabal Trail Transmission, LLC*, 154 FERC ¶ 61,080 at P 154; *MIGC, Inc.*, 96 FERC ¶ 61,042, at 61,107 (2001).

<sup>70</sup> 18 C.F.R. § 284.12(b)(2)(v) (2017).

rates.<sup>71</sup> However, where a system has zoned interruptible rates, there is a question of which interruptible rate is appropriate for use as the reference rate.<sup>72</sup> NEXUS proposes to offer its new park and loan service system-wide, but has different interruptible transportation rates for each of its three rate zones. We find that it is more appropriate to base the park and loan service rate for each rate zone on the interruptible rate for the zone in which the gas is parked or loaned (i.e., the zone in which the park or loan service is provided), rather than to use the highest interruptible rate on the system.<sup>73</sup> For example, if NEXUS provides a park or loan service in the Supply Zone, then that zone's interruptible rate should be the rate charged for the service. Therefore, NEXUS is directed to revise its PAL rates in order to provide that the applicable PAL service rate will be equal to the interruptible rate in effect in the zone in which the gas is parked or loaned.

## 5. Fuel

90. NEXUS's Applicable Shrinkage Adjustment Percentage (ASA Percentage) will include the fuel required by the NEXUS-owned facilities, as well as NEXUS's fuel gas responsibility pursuant to the capacity leases. The ASA Percentage to be retained will be based on the following fuel areas and percentages: (1) the Supply Fuel Area, which includes those facilities located south of, but not in, Columbiana County, Ohio (0.6 percent, pursuant to the Texas Eastern lease); (2) the Market Fuel Area 1a, which includes those facilities located in, and immediately north of, Columbiana County, Ohio, and the facilities located in, and immediately south of, Ypsilanti Township in Washtenaw County, Michigan (1.32 percent, NEXUS greenfield facilities); (3) the Market Fuel Area 1b, which includes those facilities located immediately north of, but not in, Ypsilanti Township, Washtenaw County, Michigan, and the facilities located in, and immediately south of, DTE's Milford Junction Station located in Milford Township in Oakland County, Michigan (1.0 percent, pursuant to the DTE lease); and (4) the Market Fuel Area 2, which includes those facilities located in, and north of, the Vector Milford Junction

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<sup>71</sup> *Mojave Pipeline Company*, 73 FERC ¶ 61,390 (1995), *order following technical conference*, 75 FERC ¶ 61,180 (1996), *order on remand*, 79 FERC ¶ 61,347 (1997); *Florida Gas Transmission Company*, 81 FERC ¶ 61,265 (1997); *ANR Pipeline Company*, 83 FERC ¶ 61,087 (1998) and 83 FERC ¶ 61,064 (1998); *Tennessee Gas Pipeline Company*, 87 FERC ¶ 61,375 (1999).

<sup>72</sup> *Natural Gas Pipeline Company of America*, 97 FERC ¶ 61,112 (2001).

<sup>73</sup> *Columbia Gulf Transmission Co.*, 97 FERC ¶ 61,244 (2001).

Station located in Oakland County, Michigan (1.4 percent, pursuant to the DTE and Vector leases). NEXUS proposes to recover its fuel use through an annual tracker mechanism and to make a filing each year pursuant to section 4 of the NGA to reflect revised Applicable Shrinkage Percentages and to true-up any differences between the fuel retained from shippers and the actual fuel consumed. NEXUS's proposed initial ASA Percentages are approved.

### **E. Three-Year Filing Requirement**

91. Consistent with Commission precedent, NEXUS is required to file a cost and revenue study at the end of its first three years of actual operation to justify its existing cost-based firm and interruptible recourse rates.<sup>74</sup> In its filing, the projected units of service should be no lower than those upon which NEXUS's approved initial rates are based. The filing must include a cost and revenue study in the form specified in section 154.313 of the Commission's regulations to update cost of service data.<sup>75</sup> After reviewing the data, the Commission will determine whether to exercise its authority under NGA section 5 to investigate whether the rates remain just and reasonable rates. In the alternative, in lieu of this filing, NEXUS may make an NGA section 4 filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

### **F. Negotiated Rate Agreements**

92. NEXUS states that it will provide service to the project shippers under negotiated rate agreements. NEXUS must file either its negotiated rate agreements or tariff records setting forth the essential terms of the agreements associated with the project, in accordance with the Alternative Rate Policy Statement<sup>76</sup> and the Commission's negotiated rate policies.<sup>77</sup> NEXUS must file the negotiated rate agreements or tariff

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<sup>74</sup> See, e.g., *Bison Pipeline LLC*, 131 FERC ¶ 61,013 at P 29.

<sup>75</sup> 18 C.F.R. § 154.313 (2017).

<sup>76</sup> *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines; Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076, clarification granted, 74 FERC ¶ 61,194 (1996).

<sup>77</sup> *Natural Gas Pipelines Negotiated Rate Policies and Practices; Modification of Negotiated Rate Policy*, 104 FERC ¶ 61,134 (2003), order on reh'g and clarification, 114 FERC ¶ 61,042, reh'g dismissed and clarification denied, 114 FERC ¶ 61,304 (2006).



records at least 30 days, but not more than 60 days, before the proposed effective date for such rates.<sup>78</sup>

### **G. Pro Forma Tariff Issues**

93. NEXUS requests blanket transportation certificate authority pursuant to Part 284, Subpart G of the commission's regulations. As part of its request, it filed a pro forma open access tariff for the Commission's approval. NEXUS's proposed tariff generally conforms to the Commission's requirements. We will approve the tariff, as conditioned below.

#### **1. Section 3 – Contracting for service**

94. NEXUS proposes provisions for the sale of future available capacity in section 3.4(E) of its GT&C. Section 3.4(E)(1) provides that, among other things, "Customer may request available capacity for service to commence at a future date only within the following timelines . . . (c) For service with a primary term of one (1) year or longer, the requested service shall commence no later than six (6) months from the date the capacity is awarded." Further, section 3.4(F) of NEXUS's GT&C provides that, for any sale of future capacity, the right of first refusal (ROFR) will not apply to any resulting interim capacity that NEXUS sells.

95. The Commission acknowledges that permitting a pipeline to sell capacity for service to commence in the future has efficiency benefits, and will aid shippers that require long lead times who do not presently need capacity, but need assurance that they can get capacity in the future. As set forth in *Gas Transmission Northwest Corp.*<sup>79</sup> and *Northern Natural Gas Co.*,<sup>80</sup> however, the Commission requires certain conditions for the sale of future capacity to allow the pipeline to waive its ROFR for the sale of any resulting interim capacity. First, the Commission requires pipelines to post any sales of future capacity as part of an open season immediately upon a shipper requesting the future capacity. This open season bidding process is to take place even if the capacity already has been subject to an open season and is currently posted as available. Any shipper wishing to purchase that capacity, whether for service commencing immediately or in the future, could then participate in the open season.

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<sup>78</sup> Pipelines are required to file any service agreement containing non-conforming provisions and to disclose and identify any transportation term or agreement in a precedent agreement that survives the execution of the service agreement.

<sup>79</sup> 109 FERC ¶ 61,141 (2004).

<sup>80</sup> 109 FERC ¶ 61,388 (2004).

96. Second, the Commission requires the pipeline to evaluate all such bids for the capacity on a net present value basis. In calculating the net present value, the current value of the future bid would be reduced by the time value of the delay in the pipeline receiving that revenue. This bidding process is designed to ensure that, at the time of the request for future capacity, there is no other shipper wishing to purchase the capacity either immediately or in the future that would place a higher value on that capacity. Once future capacity is awarded to the shipper that places the highest value on the capacity, then any interim long-term capacity could be made available without a ROFR, and without concerns of preferential treatment and the exercise of market power by the pipeline.

97. Accordingly, we accept NEXUS's proposed provisions for the sale of future capacity as set forth in section 3.4(E) of its GT&C. However, we direct NEXUS to incorporate into its tariff the two conditions discussed above that the Commission requires for future capacity sales where the pipeline desires to waive the ROFR for the sale of any corresponding interim capacity.

## 2. Section 4 – Credit Evaluation

98. Section 4 of the GT&C of NEXUS's tariff provides the credit evaluation procedures under which NEXUS will determine whether a shipper is creditworthy. The Commission's Creditworthiness Policy Statement states that pipelines must establish and use objective criteria for determining creditworthiness.<sup>81</sup> NEXUS's tariff contains no reference to the objective criteria it will use to determine creditworthiness, other than to state it will "apply, on a non-discriminatory basis, consistent financial evaluation standards to determine the acceptability of Customer's overall financial condition." These references are impermissibly vague, and NEXUS is directed to revise its tariff section 4.1 accordingly.<sup>82</sup>

99. In addition, the Creditworthiness Policy Statement requires a pipeline to provide its shippers with the opportunity to earn interest on collateral either by paying the interest itself, or giving the shipper the option to designate an interest-bearing escrow account to which the pipeline may gain access to payments for services provided, if needed.<sup>83</sup>

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<sup>81</sup> *Creditworthiness Standards for Interstate Natural Gas Pipelines*, 111 FERC ¶ 61,412, at P 10 (2005).

<sup>82</sup> *See, e.g., Tennessee Gas Pipeline Co.*, 102 FERC ¶ 61,075, at P 41 (2003), *order on reh'g*, 103 FERC ¶ 61,275, at PP 40-41 (2003).

<sup>83</sup> *Creditworthiness Standards for Interstate Natural Gas Pipelines*, 111 FERC ¶ 61,412 at P 22.

NEXUS's tariff does not appear to comply with this requirement. Therefore, we will require NEXUS to revise its tariff to allow shippers the opportunity to earn interest on collateral.

### **3. Section 13 - Curtailment**

100. Curtailment can only occur for transportation service that has been scheduled. Scheduling is a daily event.<sup>84</sup> NEXUS sets forth its proposed curtailment provisions in section 13 of its GT&C. Section 13.1 provides that: "Pipeline will have the right to curtail, interrupt or discontinue service in whole or in part on all or a portion of its system from time to time and at any time.....(2) to perform routine maintenance, repairs, and regulatory compliance activity as provided in Section 15 of its General Terms and Conditions."

101. The Commission finds NEXUS's proposal to include routine maintenance as part of its curtailment provisions to be unjust and unreasonable. The Commission only permits pipelines to "curtail" service in an emergency situation or when an unexpected capacity loss occurs after the pipeline has scheduled service, and the pipeline is therefore unable to perform the service which it has scheduled.<sup>85</sup> Further, the Commission has held that "...routine repair and maintenance is not an emergency situation or an unexpected loss of capacity. Therefore, it should be planned through scheduling and should not disrupt confirmed service."<sup>86</sup> Accordingly, we direct NEXUS to remove from section 13.1 of its GT&C the provision that would allow NEXUS to curtail service in cases of routine maintenance, where there are no emergency circumstances or any unexpected capacity loss.

### **4. Section 18 – Operational Balancing Agreements**

102. Section 18.4 of NEXUS's GT&C states that it is NEXUS's intent to negotiate and execute operational balancing agreements (OBAs) on a non-discriminatory basis. However, section 18.4 lists four conditions under which NEXUS would have no

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<sup>84</sup> *CenterPoint Energy Gas Transmission Co., LLC*, 144 FERC ¶ 61,195, at P 75 (2013); *Ryckman Creek Res., LLC*, 136 FERC ¶ 61,061, at P 68 (2011); *Portland Natural Gas Transmission Sys.*, 76 FERC ¶ 61,123, at 61,663 (1996).

<sup>85</sup> *Ryckman Creek Res., LLC*, 136 FERC ¶ 61,061 at P 68; *Cameron Interstate Pipeline LLC*, 153 FERC ¶ 61,363, at P 17 (2015).

<sup>86</sup> *Algonquin LNG, Inc.*, 64 FERC ¶ 61,173, at 62,528 (1993), cited in *Avoca Natural Gas Storage*, 68 FERC ¶ 61,045, at 61,155 n.38 (1994).

obligation to negotiate and execute OBAs with a party. In Order No. 587-G,<sup>87</sup> the Commission adopted section 284.12(b)(2)(i) of its regulations requiring each interstate pipeline to enter OBAs at all points of interconnection between its system and the system of another interstate or intrastate pipeline. NEXUS is required to comply fully with this regulation once in service and is directed to revise section 18.4 of its GT&C accordingly.

## 5. Section 27 – NAESB

103. NEXUS proposes to adopt Version 2.0 of the Business Practices and Electronic Communications Standards of NAESB's Wholesale Gas Quadrant (WGQ) in section 27 of its GT&C. NEXUS incorporates certain of the standards by reference, and for the remainder, specifies where each standard can be found in its tariff. In the time since NEXUS filed tariff records in this proceeding, the Commission adopted the new NAESB WGQ Version 3.0 standards.<sup>88</sup> When NEXUS files its actual tariff, the Commission directs NEXUS to revise its tariff to implement the latest version of the business practice standards adopted by the WGQ of NAESB applicable to interstate natural gas pipelines.

### A. Environmental Analysis

#### 1. Pre-filing and Application Review

104. Commission staff began a pre-filing environmental review of the NEXUS and TEAL projects on January 9 and 26, 2015, respectively. On April 8, 2015, Commission staff issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Planned NEXUS Gas Transmission Project and Texas Eastern Appalachian Lease Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings* (NOI). This notice was published in the *Federal Register* on April 15, 2015,<sup>89</sup> and sent to more than 4,300 interested parties, including representatives of federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners; concerned citizens; and local libraries and newspapers. The NOI briefly described the NEXUS and TEAL projects and the

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<sup>87</sup> *Standards For Business Practices Of Interstate Natural Gas Pipelines*, Order No. 587-G, FERC Stats. and Regs. ¶ 31,062 (1998), *order on reh'g*, Order No. 587-I, FERC Stats. and Regs. ¶ 31,067 (1998).

<sup>88</sup> *Standards for Business Practices of Interstate Natural Gas Pipelines; Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, Order No. 587-W, 80 Fed. Reg. 67,302 (Nov. 2, 2015), FERC Stats. & Regs. ¶ 31,373 (2015); *order on reh'g*, 154 FERC ¶ 61,207 (2016).

<sup>89</sup> 80 Fed. Reg. 20,219 (2015).

environmental impact statement (EIS) process, provided a preliminary list of issues our environmental staff identified, invited written comments, listed the dates and locations of six public scoping meetings,<sup>90</sup> and established a May 22, 2015 deadline for submitting comments.

105. At the public scoping meetings, 334 speakers made oral comments. In addition, more than 6,100 commenters filed written comments.<sup>91</sup> The pre-filing review ended on November 20, 2015, when NEXUS and Texas Eastern filed applications seeking authorization to construct and operate the NEXUS and TEAL projects.

106. To satisfy the requirements of the National Environmental Policy Act (NEPA), Commission staff prepared a draft EIS. The U.S. Environmental Protection Agency (EPA) and U.S. Fish and Wildlife Service (FWS) participated in the preparation of the draft EIS as cooperating agencies. On July 8, 2016, Commission staff issued the draft EIS, which addressed the issues raised during the scoping period and included staff's independent analysis.

107. Notice of the draft EIS was published in the *Federal Register* on July 14, 2016, establishing a 45-day public comment period that ended on August 29, 2016.<sup>92</sup> The draft EIS was mailed to our environmental staff's mailing list, which included the parties that were mailed the NOI and additional interested parties. Commission staff held six public comment sessions between August 10 to 18, 2016, to receive comments on the draft EIS.<sup>93</sup> Approximately 248 speakers made oral comments at these meetings, and 1,986 individuals filed written comments responding to the draft EIS before the comment period closed on August 29, 2016. Our environmental staff also continued to review comments submitted after August 29, 2016. The transcripts of the public comment meetings and all written comments on the draft EIS are part of the public record in these proceedings.

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<sup>90</sup> Commission staff held the public scoping meetings between April 28 and May 7, 2015, in Grafton, Wadsworth, Louisville, Swanton and Fremont, Ohio and Tecumseh, Michigan.

<sup>91</sup> Table 1.3-1 of the final EIS provides a detailed and comprehensive list of issues raised during scoping.

<sup>92</sup> 81 Fed. Reg. 45,471 (2016).

<sup>93</sup> Commission staff held draft EIS comment sessions in Swanton, Fremont, Elyria, Wadsworth, and Green, Ohio and Tecumseh, Michigan.

108. The final EIS for the NEXUS and TEAL projects was issued on November 30, 2016, and noticed in the *Federal Register* on December 6, 2016.<sup>94</sup> The final EIS addresses comments on the draft EIS.<sup>95</sup> The final EIS was mailed to the same parties as the draft EIS, as well as additional parties.<sup>96</sup> In addition to the EPA and FWS, the U.S. Army Corps of Engineers (Army Corps) participated in preparing the final EIS as a cooperating agency. The final EIS addresses geology; soils; water resources; wetlands; vegetation; wildlife and fisheries; special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; cumulative impacts; and alternatives. The final EIS concludes that if NEXUS and Texas Eastern construct and operate the proposed projects in accordance with applicable laws and regulations, the projects would have some adverse environmental impacts. However, these impacts would be reduced to less-than-significant levels by implementing the applicants' proposed, and the Commission's environmental staff's recommended, impact avoidance, minimization, and mitigation measures.

109. Eighty-four commenters responded to the final EIS, including the EPA, state and local agencies, non-government organizations, and 48 individuals. Major issues identified throughout the environmental review process including in comments on the final EIS are: construction impacts on karst geology and the Bowling Green Fault; agricultural drain tiles; groundwater, waterbodies, and wetlands; threatened, endangered, and special status species; air quality and noise; and climate change. Other issues raised include pipeline safety, decrease in property values, and alternatives. The major issues addressed in the final EIS and the comments on the final EIS are summarized below.

## **2. Major Environmental Issues addressed in the Final EIS**

### **a. Bowling Green Fault and Karst Geology**

110. The final EIS analyzes the potential for seismic activity, active faults, or karst geology to adversely affect the proposed projects and finds the risks are minimal; the final EIS also finds the construction and operation of the proposed projects would not materially alter existing geologic conditions in the area.<sup>97</sup> Mayor Richard Edwards of

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<sup>94</sup> 81 Fed. Reg. 87,918 (2016).

<sup>95</sup> Appendix R to the final EIS includes responses to comments on the draft EIS received through November 7, 2016. This order addresses comments received after November 7, 2016.

<sup>96</sup> The distribution list is in Appendix A to the final EIS.

<sup>97</sup> See final EIS at 4-9 through 4-22.

Bowling Green, Ohio (Mayor Edwards) and United Communities for Protecting Our Water and Elevating Rights (UC4POWER) disagree and raise issues regarding earthquakes and karst features. Based on the conclusions set forth in the EIS, we find that the risks that seismic activity or karst geology could adversely affect the proposed projects are low. We also find that risks that the construction and operation of the proposed projects would alter geologic conditions thus triggering seismic activity are similarly minimal.

111. The NEXUS Project would cross the Bowling Green Fault's projected surface trace<sup>98</sup> at milepost (MP) 180.8 near Waterville, Ohio, at which point the pipeline would be installed in a shallow (less than 10 feet deep) trench within unconsolidated deposits, above the bedrock fault. These unconsolidated deposits are not affected by displacement along the fault. Mayor Edwards and UC4POWER criticize the final EIS for stating the Bowling Green Fault is not visible in surficial geology, stating evidence of the fault is visible in bedrock exposed in Hanson's Aggregate quarry and the adjacent Farnsworth Metropark on the north side of the Maumee River, approximately one half mile north of the HDD location. The commenters are correct, the fault is visible at these locations.<sup>99</sup> However, the unconsolidated deposits that overlie bedrock at MP 180.8 are about 67 feet thick and are not affected by the Bowling Green Fault.

112. The commenters also assert the NEXUS Project will "intersect" the Bowling Green Fault; however, this is incorrect. The HDD of the Maumee River would intersect bedrock at MP 181.3, at a site on the south side of the Maumee River approximately

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<sup>98</sup> Not all faults extend to the surface. The "projected surface trace" is the inferred line formed by the intersection of the land surface and a fault plane if the fault plane was to extend to the land surface. The identified location of the projected surface trace of the Bowling Green Fault is based on the location of the Bowling Green Fault within the Farnsworth Metropark and is similar to the location indicated on mapping provided by the commenters which depict the fault trace to the east of the HDD entry point. See attachments to UC4POWER's Motion to Intervene (Feb. 7, 2017).

<sup>99</sup> The Bowling Green Fault is evident in Silurian-Period (about 420 million years ago) dolomite and siltstone bedrock exposed in the Hanson's Aggregate quarry, where the fault is described as a 30- to 110-meter-wide fracture zone trending 340 to 350 degrees. Charles M. Onasch, *Structural Evolution of the Bowling Green Fault*, Ohio Geological Society Third Annual Technical Symposium – Structural Influences on Oil and Gas Reservoirs (Oct. 25, 1995). As described in the final EIS at 4-10 and 4-18, the Bowling Green Fault was last active between 443 and 416 million years ago, and no other faults near the proposed NEXUS Project facilities have been active in the last 1.6 million years.

900 feet southwest of the projected surface trace of the Bowling Green Fault and extend northwesterly beneath the river to an exit point at MP 181.9 on the north side approximately 4,000 feet from the fault's projected surface trace. Therefore, we affirm the finding in the final EIS that the NEXUS pipeline would not intersect any known, mapped, or inferred active faults.<sup>100</sup>

113. UC4POWER acknowledges the Bowling Green Fault is not active, but maintains it might be reactivated if drilling, hydraulic fracturing, deep-well injection, and HDD activities take place over or near the fault zone. UC4POWER likens the HDD process to deep fluid injection, which has been associated with increased seismic activity in some areas of the U.S. UC4POWER claims that if drilling fluid is lost during the HDD, the fluid could cause an increase in pore pressure in geologic materials within the Bowling Green Fault and induce an earthquake. We reject this scenario and disagree with the assumptions UC4POWER employs to associate project activities with seismic events. For example, in estimating the magnitude of seismicity due to drilling fluid loss, UC4POWER relies on equations based on deep fluid injection at depths consistent with hydraulic fracturing of shale formation source rocks for natural gas extraction, wastewater disposal injection, and enhanced geothermal systems.<sup>101</sup> However, these activities, which typically employ a borehole thousands of feet deep, are not comparable to HDD activities, which typically take place at depths of less than 100 feet.

114. UC4POWER contends the final EIS failed to adequately consider the consequences of the loss of all of the HDD drilling fluid and is concerned that lost drilling fluid may migrate down through existing fractures and serve to lubricate the Bowling Green Fault. While we accept that there may be drilling fluid loss during normal HDD operations, the loss of all fluids is unlikely. The HDD geotechnical design report and the geotechnical soil borings find that the unconsolidated clay, sand, and gravel deposits near the HDD crossing are underlain by highly fractured sedimentary bedrock.<sup>102</sup> We recognize that this existing permeability, including fractures, may serve as conduits for drilling fluid to escape. As described in NEXUS's *HDD Design Report and HDD Monitoring and Inadvertent Return Contingency Plan*, the drilling contractor will continuously monitor pressure for indications of drilling fluid loss and if losses are discovered or suspected, implement measures such as increasing the drilling fluid's viscosity to seal any zone where loss is occurring to restore circulation. In addition, we

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<sup>100</sup> See final EIS at 4-10.

<sup>101</sup> A. McGarr, *Maximum magnitude earthquakes induced by fluid injection*, *Journal of Geophysical Research: Solid Earth*, 119, at pp. 1008-1019 (2014), <http://onlinelibrary.wiley.com/doi/10.1002/2013JB010597/full>.

<sup>102</sup> *Id.*



are requiring additional measures to further reduce the potential for significant inadvertent releases to occur. Environmental Condition 38 a in Appendix B to this order require NEXUS to revise its *HDD Monitoring and Inadvertent Return Contingency Plan* with more specificity in regards to pressure monitoring, visual inspection, documentation, drilling fluids and additives usage. Additionally, Environmental Condition 39 in Appendix B requires a specific adjustment to the design of the HDD at the Tuscarawas River. In our experience, HDD drilling contractors that follow best industry practices are able to establish circulation over the majority of the length of HDDs, including HDDs in difficult geotechnical settings. Further, as shown on potentiometric surface maps for unconsolidated and consolidated (bedrock) aquifers in Lucas County,<sup>103</sup> groundwater discharges from both the unconsolidated and the bedrock aquifers to the Maumee River. Therefore, any inadvertent drilling fluid release would discharge to the surface, river, and/or surficial aquifers, and not result in a significant downward flow of drilling fluids into the bedrock aquifer.

115. UC4POWER further asserts that, even if all drilling fluids are recovered, the HDD borehole could provide a conduit for surface water to enter the subsurface, increase pore pressure, and trigger an earthquake on the Bowling Green Fault. The HDD entry and exit points are located in upland areas approximately 1,000 feet from the Maumee River, and the drill path beneath the Maumee River would be entirely within the saturated zone.<sup>104</sup> Because groundwater discharges from both the unconsolidated and bedrock aquifers to the Maumee River, the river is a gaining waterbody where the HDD would cross. An HDD borehole would not temporarily or permanently alter these natural flow conditions, and could not create a conduit that could transmit surface water vertically from the river to deeper aquifer system(s). Lastly, in terms of increasing the hydraulic head in the shallow aquifer system due to the HDD process or the long-term presence of the pipeline, given that a pipeline is negligible in size relative to the larger aquifer system through which it traverses, the presence of a pipeline would have no influence on groundwater elevation or the water's potential energy associated with pressure heads. Therefore, a pipeline or HDD borehole would not influence the hydraulic head in an aquifer.

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<sup>103</sup> Ohio Division of Natural Resources, *Potentiometric Surface of the Unconsolidated Aquifers in Lucas County* (2015), <http://water.ohiodnr.gov/portals/soilwater/pdf/maps/surface/SurfLucSG.PDF>; and Ohio Division of Natural Resources, *Potentiometric Surface of the Consolidated Aquifers in Lucas County* (2015), <http://water.ohiodnr.gov/portals/soilwater/pdf/maps/surface/SurfLucBed.pdf>.

<sup>104</sup> The saturated zone is the area in an aquifer, below the water table, in which relatively all pores and fractures are saturated with water.

116. UC4POWER suggests that some of the load exerted on the pipeline during HDD pullback could be transferred to the Bowling Green Fault and trigger an earthquake. The loads referenced by UC4POWER, and calculated in the *HDD Design Report* submitted by NEXUS,<sup>105</sup> will occur on the product pipeline as the pipeline is pulled through the HDD borehole. Reaming and swabbing the completed borehole prior to pull back is necessary to create the required annular space to pass the pipeline through and will smooth and condition the borehole, which will reduce friction and minimizing stress on the pipe and surrounding geologic materials during pull back. In addition, as noted above, the HDD borehole would not intersect the Bowling Green Fault, but be approximately 900 to 4,000 feet from the fault. Because the HDD drill path will traverse unconsolidated sediments and fractured sedimentary bedrock, which is less effective at transmitting stress in comparison to solid competent bedrock, the physical stress conveyed to the immediate surrounding geologic materials will be localized to the area surrounding the borehole and will not be conveyed materially to the Bowling Green Fault. Finally, the load imposed by the weight of the HDD pipeline segment after installation will be similar to the load imposed by the geologic materials and interstitial groundwater replaced by the pipeline, and be insignificant when compared to the load imposed by the geologic materials on either side of the Bowling Green Fault. For these reasons, we conclude that physical stresses associated with the HDD installation process would not increase the current low probability of significant earthquakes occurring in the area.

117. Commenters contend that (1) the potential impact of an earthquake is increased by the Bowling Green Water Treatment Plant impoundment 1,700 feet upstream of the proposed HDD Maumee River crossing, and (2) the potential for the HDD to initiate an earthquake is increased by the operation of the Hanson's Aggregate quarry. For the reasons discussed above, we do not believe the HDD would alter the existing low probability of an earthquake, and thus would not contribute to an increased risk of earthquakes that could be associated with the Bowling Green municipal water impoundment, or the Hanson's Aggregate quarry. Furthermore, commenters use examples of seismicity associated with surface-water impoundments that involve some of the largest manmade reservoirs in the world, containing three to nearly five orders of magnitude more water than the Bowling Green impoundment. Thus, they are not comparable. In addition, if the municipal water impoundment acted as a source of increased hydraulic head (mounding) on the aquifer, so as to increase activity along the Bowling Green Fault, this activity would have been recorded in the seismic record monitored and recorded by federal and state geologic surveys. We are unaware of any such recorded activity along the Bowling Green Fault due to the Bowling Green

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<sup>105</sup> See final EIS, Appendix E-4.

municipal water supply impoundment. Similarly, we are also unaware of any recorded seismic activity attributable to mining at the Hanson's Aggregate quarry.

118. Mayor Edwards is concerned that seismic activity could damage the pipeline, and as a result adversely affect the Bowling Green Water Treatment Plant. Federal pipeline safety regulations in Title 49, Code of Federal Regulations, Part 192 require companies to design pipelines to withstand the anticipated external pressures and loads that will be imposed on the pipeline after installation, including pressures and loads from anticipated seismic activity. As discussed above and in the final EIS, although the proposed NEXUS Project would cross the Bowling Green Fault's projected surface trace at MP 180.8 near the Maumee River,<sup>106</sup> there are no mapped faults near the NEXUS Project known to generate seismic events of magnitude six or greater. Only large, abrupt ground displacements have seriously affected pipeline facilities. The final EIS concludes, and we concur, that due to the low level of seismic activity in the region and the use of modern materials in conformity with current industry standards in the construction of the NEXUS Project, the potential for seismic hazards to affect the project is low.<sup>107</sup>

119. Mayor Edwards and UC4POWER are concerned about the potential presence of karst geology near the Maumee River crossing and the Bowling Green Water Treatment Plant, asserting that in karst-sensitive areas the sudden development of a sinkhole could affect the pipeline and aboveground facilities. The final EIS identifies areas along the NEXUS Project where a karst hazard may be present. NEXUS has sited its facilities to avoid known sinkholes. NEXUS will train construction staff and all inspectors to understand the potential for, and consequences of, construction-initiated sinkhole formation, and to recognize the signs of sinkhole formation. If previously unidentified solution cavities or sinkholes are found during trenching, NEXUS will make minor reroutes to avoid them where possible, or will mitigate impacts using common sinkhole mitigation techniques. To further minimize risk, the final EIS recommends, and we require in Environmental Condition 15 in Appendix B to this order, that NEXUS file the results of geophysical surveys conducted to detect previously unidentified karst features before commencing construction. If previously unidentified karst features are found, NEXUS must file its plans to avoid or mitigate the features before commencing construction. The final EIS concludes, and we concur, that the potential for karst conditions to affect the NEXUS Project has been adequately minimized.<sup>108</sup>

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<sup>106</sup> See final EIS at 4-10.

<sup>107</sup> *Id.* at 4-18.

<sup>108</sup> *Id.* at 4-19 to 4-20.

**b. Agriculture and Drain Tiles**

120. The NEXUS Project would cross agricultural fields that contain a network of subsurface drain tile systems. The final EIS acknowledges that construction activities, like trenching, could damage these systems.<sup>109</sup> NEXUS's Drain Tile Management Plan, however, requires it to try to avoid cutting or damaging these systems, and to work with individual landowners before commencing construction to identify and mark drain tile systems. If NEXUS damages such systems during construction, it will perform temporary repairs until the pipe is lowered into the trench and NEXUS can complete permanent repairs and restore hydrology. NEXUS will also compensate landowners for costs landowners incur repairing damaged drain tiles. Given the amount of drain tile expected to be found in agricultural construction areas at depths typically between 3 to 4 feet, however, the final EIS recommends, and we require in Environmental Condition 30 in Appendix B to this order, that before commencing construction, NEXUS file a revised Drain Tile Management Plan that requires it to bury the pipeline four feet deep in cultivated or rotated croplands if the landowner so requests.<sup>110</sup>

121. The law firm Goldman & Braunstein, LLP comments on the final EIS on behalf of more than 90 landowners, expressing concerns regarding timelines related to agreements for compensation for drain tile damage and repair. Issues related to easement negotiation and landowner compensation are not within the scope of this proceeding. We note, however, that NEXUS must repair drain tile damages that result from construction related activities and compensate landowners if its construction schedule affects the landowners' ability to grow crops during that season. We concur with the final EIS's conclusion that impacts on agricultural soils and drain tiles have been adequately minimized and will be appropriately mitigated and monitored following construction.

**c. Groundwater**

122. The final EIS identifies the groundwater wells and springs in the project area and evaluates the potential impacts on these resources. As discussed in the final EIS, an inadvertent release of fuel, lubricants, and other substances during construction could affect groundwater quality, with potentially greater affects in areas with shallow groundwater. To minimize and mitigate impacts, the applicants provided project-specific spill prevention, control, and countermeasure plans that specify procedures for training contractors, using environmental inspectors, refueling construction equipment, storing and using hazardous materials safely, and taking remedial actions during pipeline construction. We further note that to address concerns regarding impacts on wellhead

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<sup>109</sup> See final EIS at 4-31 and 4-136.

<sup>110</sup> See final EIS at 4-136 to 4-138.

protection areas, the final EIS recommends, and Environmental Condition 21 in Appendix B to this order requires, that NEXUS consult with water suppliers in the wellhead protection areas that the project crosses and file any water supplier mitigation NEXUS will implement during construction. The final EIS concludes, and we concur, that these measures will sufficiently protect groundwater resources during project construction.

123. After the final EIS was issued, a commenter expressed concerns about the possibility of benzene and other heavy hydrocarbons from natural gas liquids getting into groundwater aquifers. Specifically, the commenter asserts that southeast Michigan contains many sinkholes, caves, and springs, which increases the risk of hydrocarbon contamination of groundwater drinking water supplies. Although natural gas the NEXUS Project receives will be processed to remove natural gas liquids (NGL), small amounts of residual NGLs may still be present in the gas. Mitigation measures would minimize the risk of release of residual NGLs that may accumulate in the pipeline as a result of normal natural gas pipeline operations, including construction design and operations procedures, monitoring of the pipeline to ensure gas quality parameters are met at the receipt point, installing filter separators at receipt points and compressor stations, and pigging the pipeline to remove fluids from the pipeline in a controlled manner. Additionally, in the unlikely event of an inadvertent NGL release, NEXUS will implement its spill prevention, control, and countermeasure plans, and will have trained employees and contractors available to ensure that compliance and safety requirements are met during any spill/release cleanup process. With these measures in place, we conclude that NGLs would not pose a significant threat to groundwater resources.

**d. Waterbodies**

124. The proposed projects would cross 478 waterbodies, 12 surface water protection areas, and five waterbodies with surface water intakes within three miles downstream of project areas. Pipeline construction across rivers and streams, including clearing and grading of adjacent land, in-stream trenching, trench dewatering, and backfilling, could temporarily increase sedimentation and turbidity rates, decrease dissolved oxygen concentrations, destroy or change aquatic habitat, and increase the potential for the introduction of fuels and oils from accidental spills. As stated in the final EIS, however, proper construction techniques and timing can ensure that impacts are temporary and minor.<sup>111</sup>

125. Mayor Edwards expresses concern about the NEXUS route's proximity to, and impacts on, the Bowling Green Water Treatment Plant during construction. The Bowling Green Water Treatment Plant, however, is about 1,700 feet *upstream* of the proposed

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<sup>111</sup> See final EIS at 4-42 to 4-58.

pipeline crossing of the Maumee River. An inadvertent release of fuel, drilling fluid, or other potential contaminate into the Maumee River from pipeline construction or operation would not affect the water treatment plant because the river does not flow toward the water treatment plant from the point the proposed pipeline would cross the river.

126. A commenter asks whether the NEXUS Project would cross under Ford Lake. As indicated in the EIS, the NEXUS Project would cross the Huron River to the east of Ford Lake, but would not cross the lake itself.<sup>112</sup> Another commenter asserts that the final EIS fails to discuss the NEXUS Project's proximity to, and potential impacts on, two Class I dams: the Comet Lake Dam, located about 550 feet south of the pipeline, and the Nimisila Reservoir Dam, located about 830 feet north of the pipeline. NEXUS will use an HDD to cross the Nimisila Reservoir to avoid direct impacts on the reservoir.<sup>113</sup> Neither the pipeline's construction nor operation, however, will affect the dams because both dams are outside the project area.

127. A commenter expresses concern about potential damage to drinking water sources from surface waters. The final EIS describes the surface water intakes located within three miles downstream of the NEXUS Project.<sup>114</sup> The final EIS indicates that NEXUS will use HDD or boring methods to cross any rivers with water intakes less than three river miles downstream of the crossing to avoid direct impacts on the river and surface water intakes. Therefore, the final EIS concludes, and we concur, that neither the project's construction nor operation will affect surface water intakes.<sup>115</sup>

**e. Wetlands**

128. The projects' construction would temporarily affect 199.7 acres of wetlands and permanently convert about 41.1 acres from forested or scrub-shrub wetlands to emergent wetlands. The EPA and the City of Oberlin, Ohio, express concern that the final EIS does not include the proposed wetland and stream mitigation plans. In consultation with the Army Corps and applicable state agencies, the applicants propose purchasing wetland credits from established wetland mitigation banks to mitigate unavoidable wetland impacts. The final EIS recommends, and we require in Environmental Condition 23 in

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<sup>112</sup> Appendix B-1 to the final EIS contains project route maps, and the area in question is depicted on pages B-1-133 and B-1-134.

<sup>113</sup> See final EIS at 4-51.

<sup>114</sup> See final EIS at 4-45.

<sup>115</sup> See final EIS at 4-54.

Appendix B to this order, that the applicants file copies of the final mitigation plans and documentation of the Army Corps' approval before commencing construction.<sup>116</sup>

129. A commenter asserts that, since the Singer Lake Bog is fed by groundwater, and that the area's hydrology is important to the bog ecosystem's continued existence, the final EIS should include a site-specific study of the hydrology and groundwater flow around the Singer Lake Preserve. Although Singer Lake Bog is within 450 feet of the NEXUS Project area, the pipeline route does not cross Singer Lake Bog. Therefore, project construction will not directly affect Singer Lake Bog. The NEXUS Project route, however, would cross several wetlands that may be associated with Singer Lake Bog. The final EIS concludes, and we concur, that implementing special construction techniques described in NEXUS's Erosion and Sediment Control Plan (e.g., installing trench plugs and restoring wetland soils, vegetation, and contours after construction), and complying with the Army Corps' Section 404 and state permit requirements, including purchasing wetland mitigation credits and using in-lieu fee programs, will sufficiently minimize impacts on wetlands, including those that may be associated with Singer Lake Bog.<sup>117</sup>

f. **Threatened, Endangered, and Other Special Status Species**

130. The final EIS indicated that our consultation with the FWS required by the Endangered Species Act was ongoing and, accordingly recommended that NEXUS not begin construction until staff receives comments from and completes consultation with the FWS.<sup>118</sup> On October 4, 2016, the FWS confirmed that consultation under the Endangered Species Act has been completed for the TEAL Project. Regarding the NEXUS Project, the final EIS noted that 10 federally-listed species and one species proposed for listing potentially occur in the project area. The final EIS concluded that project construction and operation will have no effect on eight of those species and is not likely to adversely affect one of them. On December 14, 2016, the FWS issued a Biological Opinion for the two remaining species, the Indiana bat and northern long-eared bat, and Incidental Take Statement for the Indiana bat for the NEXUS Project. Therefore, section 7 consultation under the Endangered Species Act for this project is complete, and the final EIS recommendation is removed from this order.

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<sup>116</sup> See final EIS at 4-58 to 4-68.

<sup>117</sup> See final EIS at 4-66 to 4-68.

<sup>118</sup> See final EIS at 4-97 to 4-112.

131. The EPA states that the final EIS did not include the signed and dated Memorandum of Understanding between NEXUS and the FWS regarding mitigating loss of forest habitat of migratory birds and species listed under the Endangered Species Act. We note that NEXUS filed that memorandum on November 8, 2016. Further, on January 30, 2017, the FWS filed comments stating that, due to the applicants' minimization of direct impacts on migratory birds via seasonal clearing and their mitigation of unavoidable habitat impacts via compensatory mitigation, the FWS considers both projects' impacts on migratory birds to be fully mitigated. Accordingly, we believe the EPA's concern is resolved.

**g. Property Values**

132. Numerous stakeholders expressed concerns that the NEXUS and TEAL Projects would have negative impacts on property values, potentially decreasing values from 25 percent to 100 percent, and that local governments would lose tax revenue because of decreased property values. Although the applicants would acquire new temporary and permanent easements, they would install most of the pipeline segments, about 44 percent, next to an existing utility right-of-way.<sup>119</sup> Where new easements on private property are required, the final EIS notes that the applicants will compensate landowners for the easements, temporary loss of land use, and any damages. The final EIS discusses easement agreements and explains that the effect that a pipeline easement may have on property values is a damage-related issue between the applicants and affected property owners.<sup>120</sup> As stated in the final EIS, there is no conclusive evidence indicating that natural gas easements would have a negative impact on property values.<sup>121</sup> Accordingly, we conclude here, as we have in other cases, that the proposed projects are not likely to significantly impact property values in the project area.<sup>122</sup>

**h. Air Quality and Noise**

133. During the NEPA review process, numerous commenters expressed concerns about the proposed compressor stations' impacts on air quality and health. The final EIS includes the results of detailed air modeling analyses for all new or modified compressor

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<sup>119</sup> See final EIS at 4-118.

<sup>120</sup> See final EIS at 4-123.

<sup>121</sup> See final EIS at 4-191 to 4-193.

<sup>122</sup> See, e.g., *Transcontinental Gas Pipe Line Company, LLC*, 158 FERC ¶ 61,125, at P 106 (2017); *Central New York Oil & Gas Co, LLC*, 116 FERC ¶ 61,277, at P 44 (2006).



stations, including site-specific considerations for facility emissions, terrain, and meteorology. Potential emissions from new and modified compressor stations are not likely to cause or significantly contribute to exceeding National Ambient Air Quality Standards (NAAQS), which are established to be protective of human health, including children, the elderly, and sensitive populations. As stated in the final EIS, adherence to applicable federal and state air quality regulations will minimize impacts on air quality. The final EIS concludes, and we concur, that operating the new Hanoverton, Wadsworth, Clyde, Waterville, Salineville, and modified Colerain Compressor Stations, and the new metering and regulation stations, will not significantly affect regional air quality.<sup>123</sup>

134. During scoping, many commenters expressed concerns about noise impacts near compressor stations. The final EIS includes a review of noise impact analyses for all new or modified compressor stations. These analyses estimate that operational noise would be below our 55 dBA (decibels on the A-weighted scale) day-night sound level criterion, as well as comply with applicable state and local noise regulations. The final EIS recommends, and Environmental Conditions 36, 37, and 38 in Appendix B to this order require, that the applicants conduct noise studies after the new and modified equipment are placed into service to ensure these facilities comply with the applicable noise requirements. Under these circumstances, the final EIS concludes, and we concur, that the projects will not significantly affect noise in project areas.<sup>124</sup>

**i. Greenhouse Gas Emissions and Climate Change**

135. The EPA asks us to remove several sentences from the final EIS's climate change discussion.<sup>125</sup> Specifically, EPA asserts that comparing project-related greenhouse gas (GHG) emissions to state-wide GHG inventories does not contribute to a climate change analysis. EPA also states that the statement "Currently, there is no scientifically-accepted methodology available to correlate specific amounts of GHG emissions to discrete changes in average temperature rise, annual precipitation fluctuations, surface water temperature changes, or other physical effects on the environment in the Midwest region" should be removed from the final EIS because agencies can compare GHG emissions estimates of different alternatives.

136. The EPA provides no compelling reason to change or supplement the final EIS. The final EIS specifically notes that comparing project-related GHG emissions to state-wide GHG inventories provides a frame of reference for understanding the magnitude of

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<sup>123</sup> See final EIS at 4-217 to 4-227.

<sup>124</sup> See final EIS at 4-229 to 4-237.

<sup>125</sup> EPA January 18, 2017 Comments at 4.

GHG emissions in general, but that it does not indicate significance.<sup>126</sup> That agencies may consider GHG emissions from various alternatives as part of climate change analyses does not refute the statement that discrete changes cannot be correlated to specific GHG emissions. The final EIS appropriately discusses climate change, quantifies project-related GHG emissions, identifies emission reduction and mitigation measures and programs, and notes the projects' consistency with climate goals in the Midwest region.<sup>127</sup> We find the analysis of GHG emissions and climate change in the final EIS to be appropriate.

**j. Pipeline Safety**

137. As described in the final EIS, NEXUS and Texas Eastern will design, construct, operate, and maintain the proposed facilities to meet or exceed the U.S. Department of Transportation's (DOT) Minimum Federal Safety Standards set forth in Title 49 Code of Federal Regulations Part 192. DOT's Pipeline and Hazardous Materials Safety Administration's (PHMSA) Office of Pipeline Safety administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline.<sup>128</sup> In general, the Commission appropriately relies on PHMSA to monitor the pipeline's construction and operation of natural gas facilities to determine compliance with its design and safety standards.<sup>129</sup>

138. Three commenters assert that the final EIS did not adequately address safety concerns regarding several elementary schools within 1,000 feet of the proposed pipeline. DOT's applicable safety standards include provisions for more stringent design and inspection criteria (e.g., thicker walled pipeline, closer mainline valve spacing, and integrity management programs) in areas with schools near a pipeline. Section 4.13 of

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<sup>126</sup> See final EIS at 4-277.

<sup>127</sup> See final EIS at 4-275 to 4-279.

<sup>128</sup> Final EIS at 4-238; *see also* 49 U.S.C. § 60112 (authorizing the Department of Transportation to determine that a pipeline facility is hazardous and order the operator of the facility to take corrective action).

<sup>129</sup> Final EIS at 4-238; *see also* *EarthReports, Inc. v. FERC*, 828 F.3d 949, 959 (D.C. Cir. 2016) (the "opinions and standards of – and [LNG operator's] future coordination with – federal and local authorities" were a reasonable component of the Commission's public safety evaluation); *City of Pittsburgh v. Fed. Power Comm'n*, 237 F.2d 741, 754 (D.C. Cir.1956) (explaining that the Commission "would ... do well to respect the views of ... other agencies as to those problems" for which those other agencies "are more directly responsible and more competent than this Commission").

the final EIS identifies the potential impact radius if an incident occurs, example design requirements for areas near schools, and the likelihood of an incident to occur based on nationwide historic incident data. We find that the final EIS adequately addresses pipeline safety near schools.

139. Mayor Edwards and UC4POWER contend that the final EIS should more fully analyze whether constructing through the karst geology near the Bowling Green Water Treatment Plant would seriously threaten public health and safety. As noted in the final EIS, the pipeline and associated aboveground facilities must be designed, constructed, operated, and maintained in accordance with the DOT's Minimum Federal Standards, which include specifications for material selection and qualification; minimum design requirements; and pipeline protection measures to prevent internal, external, and atmospheric corrosion. In the unlikely event a pipeline ruptures, the water treatment plant would be outside the proposed pipeline's potential impact radius of 943 feet,<sup>130</sup> and therefore, is not expected to affect public health and safety associated with the Bowling Green Water Treatment Plant.

140. In expressing concerns about pipeline safety, many commenters cite DOT - PHMSA incident statistics for oil pipelines and natural gas distribution pipelines, as well as natural gas transmission pipelines. We note that oil pipelines are subject to different DOT safety requirements than natural gas transmission pipelines, and any incidents could have different impacts. The final EIS also explains that natural gas distribution pipelines are generally smaller diameter pipes and/or plastic pipes, do not have large rights-of-way and pipeline markers common to Commission-regulated interstate natural gas transmission pipelines, and are more susceptible to damage. Therefore, comparisons of oil or natural gas distribution pipeline incident data are inappropriate when considering natural gas transmission pipelines. In any event, as presented in the final EIS, incident data demonstrates that natural gas transmission pipelines continue to be a safe, reliable means of energy transportation.

#### **k. Alternatives**

141. Since initiating pre-filing, NEXUS incorporated 239 route alternatives and variations into its route for various reasons, including landowner requests, avoidance of sensitive resources, or engineering constraints – changing about a 91 percent change of

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<sup>130</sup> See final EIS at 4-243.

NEXUS's original route design.<sup>131</sup> Commission staff reviewed the route alternatives and variations and agreed with their incorporation into the proposed route.

142. The final EIS evaluates a wide range of alternatives to provide the full range of services contemplated to be provided by the NEXUS and TEAL project components, including the no-action alternative, system alternatives, major route alternatives,<sup>132</sup> minor route variations, and aboveground facility site alternatives, to determine whether they meet the projects' stated purpose, are technically and economically feasible, and offer a significant environmental advantage compared to the facilities as proposed.<sup>133</sup>

143. A commenter suggests using renewable energy sources as an alternative to the proposed projects. As noted in the final EIS, electric generation from renewable energy sources is a reasonable alternative for reviewing generating facilities powered by fossil fuels. It is the states, however, not this Commission, that regulate generating facilities. Authorizations related to how markets would meet demands for electricity are not part of the applications before the Commission. Because the proposed projects' purpose is to transport natural gas, and electric generation from renewable energy resources is not a natural gas transportation alternative, it was not considered in the EIS.<sup>134</sup>

144. The final EIS evaluated 15 major route alternatives, including three versions of the City of Green Route Alternative. As explained in the final EIS, none of these would offer a major environmental advantage.<sup>135</sup> Numerous stakeholders commented that the pipeline should be routed through less populated areas further south of the NEXUS Project to minimize the risk of a pipeline incident on the public. In this regard, we note that pipelines must be designed, constructed, operated, and maintained in accordance with DOT safety standards intended to ensure adequate protection of the public, including more the stringent design requirements in increasingly populated areas, and the final EIS demonstrates that the likelihood of an incident is very low at any given location,

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<sup>131</sup> Most of the changes were minor adjustments to the route within the same property to accommodate the landowner. *See* Appendix F-3 of the final EIS for the variations incorporated into the proposed route.

<sup>132</sup> The final EIS evaluated no major route alternatives to the TEAL Project pipeline route because nearly all the pipeline is loop pipeline, adjacent to existing pipelines, and no commenters proposed alternatives to the loop pipeline route.

<sup>133</sup> *See* final EIS at 4-1 to 4-7.

<sup>134</sup> *See* final EIS at 3-4.

<sup>135</sup> *See* final EIS at 3-7 to 3-67.

regardless of population density. A more material issue to consider in analyzing alternatives is residential land use impacts, which the final EIS considered in analyzing alternatives.

145. Commenters assert that the final EIS did not sufficiently consider the benefits of co-locating parts of the proposed NEXUS pipeline route along the Rover pipeline route<sup>136</sup> rights-of-way in evaluating the City of Green and Rover Route Alternatives. In this regard, we note that the final EIS states that an alternative's total length, as well as the length of greenfield construction, provide a baseline for evaluating anticipated impacts of construction and operation, and that a longer route or one with more greenfield construction suggests a greater amount and intensity of impacts.<sup>137</sup> Co-location allows a pipeline to be installed adjacent to another pipeline, but does not necessarily lessen the amount of workspace or the width of the construction right-of-way needed to install the pipeline. While co-location can lessen the impacts on certain resources, like forested areas, impacts on other resources associated with clearing and trenching would not be reduced simply by co-location.

146. The final EIS recognizes that the City of Green Route Alternative's co-location with part of the Rover pipeline<sup>138</sup> would reduce greenfield construction by 21.2 miles, with attendant environmental advantages.<sup>139</sup> The final EIS details the relative impacts on multiple resources, including wetlands, waterbody crossings, forest land, and proximity to residences of each of the three City of Green Route Alternative variations and the proposed route. The final EIS concludes, and we concur, that while all three variations of the City of Green Route Alternative, having both advantages and disadvantages, are environmentally acceptable, they do not provide a significant environmental advantage over the proposed route.<sup>140</sup> Where, as here, the Commission has fully considered an

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<sup>136</sup> The route of the relevant segment of the pipeline being constructed by Rover Pipeline LLC runs somewhat parallel to NEXUS's proposed route, about 15-30 miles west and south.

<sup>137</sup> Final EIS at 3-1.

<sup>138</sup> On March 3, 2017, Commission Staff issued a notice to proceed for most of the construction activities. Rover anticipates Phase 1 of its project to be in service in July 2017 and Phase 2 to be in service in November 2017.

<sup>139</sup> Final EIS at 3-33.

<sup>140</sup> See final EIS at 3-23 to 3-46.

alternative, the Commission is not required to reject the environmentally acceptable route NEXUS proposed.<sup>141</sup>

147. Commenters also suggest that the co-location along the City of Green Route Alternative could serve toward the establishment of an energy corridor. As noted in the final EIS, however, the Commission does not direct development of the gas industry's infrastructure, neither on a broad regional basis through the establishment of energy corridors, nor on a more local scale in the design of specific projects.<sup>142</sup>

148. With respect to the Rover Route Alternative, the final EIS notes that NEXUS would have to re-site four compressor stations and construct about 137 miles of additional lateral pipeline to serve four of its delivery points in order to accommodate the Rover Route Alternative's co-location with the Rover pipeline, in concluding that that alternative provides no significant environmental advantage. The commenters also claim that the final EIS's analysis of the Rover Route Alternative failed to consider how to minimize environmental impacts by combining parts of the Rover and NEXUS projects into a single pipeline. In this regard, the final EIS explains that building one main pipeline in this area to serve both NEXUS and Rover customers is not possible because the Rover project already requires two 42-inch-diameter pipelines through much of the shared area and a single 42-inch-diameter pipeline in the remaining shared area. That size pipeline – 42-inch-diameter pipe – is near the current technological and economical limits for steel natural gas pipeline, making it infeasible for the NEXUS project to share a pipeline with Rover. This, and the fact that the Rover pipeline is nearly fully subscribed, indicates that another pipeline would be required to accommodate the volumes needed to serve NEXUS's customers, incurring incremental environmental impacts. The applicants for both the NEXUS and Rover pipelines have separate needs, customers, and delivery points for their respective projects.<sup>143</sup>

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<sup>141</sup> See *Minisink Residents for Environmental Preservation and Safety v. FERC*, 762 F.3d 97, 111 (D.C. Cir. 2014) (finding that FERC enjoys broad discretion in weighing project alternatives); *Midcoast Interstate Transmission v. FERC*, 198 F.3d 960, 967-68 (D.C. Cir. 2000) (FERC must carefully consider alternatives, but even in the face of a preferable alternative, FERC may reasonably find that the proposed project is in the public convenience and necessity); *City of Grapevine, Tex. v. Dep't of Transp.*, 17 F.3d 1502, 1506 (D.C. Cir. 1994) (recognizing that where the reviewing agency is not the project sponsor, its "consideration of alternatives may accord substantial weight to the preferences of the project applicant . . . in the siting and design of the project.").

<sup>142</sup> Final EIS at 3-2.

<sup>143</sup> See final EIS at 3-11 to 3-12.

149. The final EIS evaluated 27 minor route variations, including four versions of the Chippewa Lake Route Variation, the Kennedy Road Route Variation, two versions of the Butler Road Route Variation, two versions of the Luckey Road Route Variation, and two versions of the Wadsworth Road Route Variation. As stated in the final EIS, 25 of these minor route variations offer no environmental advantages over the proposed pipeline route and were eliminated from further consideration.<sup>144</sup> As discussed below, the final EIS recommends that NEXUS (1) make certain minor modifications and (2) incorporate the Chippewa Lake D Route Variation.

150. The final EIS found that minor centerline adjustments and workspace modifications at various locations along the route that NEXUS proposed to respond to landowner requests, reduce environmental impacts, and/or address engineering constraints are environmentally acceptable. Accordingly, the final EIS recommends, and we require in Environmental Condition 13 in Appendix B to this order, that NEXUS make these modifications.<sup>145</sup>

151. Between November 8 and 16, 2016, five landowners along the proposed Chippewa Lake D Route Variation filed letters expressing concern about impacts associated with this route and ask the Commission to impose a 180-day freeze on the review timeline so landowners can consult appraisers and legal counsel. As stated in the final EIS, notice that the Commission was evaluating that route alternative was issued and sent to all newly-identified potentially affected landowners along the Chippewa Lake D Route Variation, on October 6, 2016. As further noted in the final EIS, since these parties had only recently been identified as potentially affected, the Commission provided a special comment period ending November 7, 2016. As noted below, the final EIS took these five landowners' comments into consideration in evaluating the Chippewa Lake D Route Variation; thus their request for a "freeze" is moot.

152. The final EIS evaluated the Chippewa Lake D Route Variation to see if it would offer beneficial resolutions of landowner concerns or environmental issues, compared to other alternatives, and concluded that the Chippewa Lake D Route Variation will have an environmental advantage. The comments regarding the Chippewa Lake D Route Variation did not provide new information that would compel a different conclusion regarding the environmental advantages of the Chippewa Lake D Route Variation. Accordingly, the final EIS recommends, and we require in Environmental Condition 13

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<sup>144</sup> See final EIS at 3-68 to 3-128.

<sup>145</sup> See final EIS at 3-112 to 3-125.

in Appendix B to this order, that NEXUS incorporate the Chippewa Lake D Route Variation into its route.<sup>146</sup>

153. The final EIS found that the Kennedy Road Route Variation would shift impacts from one group of landowners to another, and would not provide an environmental advantage to the subject segment of the proposed route.<sup>147</sup> A commenter suggests further modifications to the Kennedy Road Route Variation, in order to minimize impacts on a stream and wetlands on his property. Our environmental staff reviewed the commenter's suggested modifications and found that, even if it were so modified, the route variation still would not provide a significant environmental advantage. We note, however, that landowners may suggest minor route realignments on their properties to further minimize impacts during easement negotiations with the applicants. Such realignments would be subject to the approval process outlined in Environmental Condition 5 in Appendix B to this order.

154. NEXUS proposes to construct four new compressor stations, and Texas Eastern proposes to construct one new compressor station. The final EIS analyzed two or more alternative sites for each new compressor station and found no substantial environmental advantage over the proposed sites.<sup>148</sup> Commenters suggested that some of the compressor stations should be relocated to less populated areas due to concerns about air and noise pollution; as discussed above, however, the final EIS concludes that the compressor stations at the proposed sites will have a less than significant impact on air quality or noise.

155. The final EIS does recommend and we require in Environmental Condition 14 in Appendix B to this order, that NEXUS incorporate an alternative metering and regulation station site into the NEXUS Project plans to minimize the agricultural land permanently taken out of production.<sup>149</sup>

### **I. Programmatic Environmental Impact Statement**

156. Several interveners and commenters, including the City of Oberlin, the Coalition to Reroute NEXUS, and Sierra Club, contend that the Commission should prepare a programmatic EIS for natural gas infrastructure projects in the Marcellus and Utica Shale

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<sup>146</sup> See final EIS at 3-88 to 3-95.

<sup>147</sup> See final EIS at 3-95.

<sup>148</sup> See final EIS at 3-129 to 3-140.

<sup>149</sup> See final EIS at 3-141 to 3-142.



formations. Sierra Club argues that the Council on Environmental Quality (CEQ) recommends the use of a programmatic EIS in circumstances like the those surrounding the NEXUS where “several energy development programs proposed in the same region of the country have similar proposed methods of implementation and similar best practices and mitigation measures that can be analyzed in the same document.”<sup>150</sup> The Coalition to Reroute NEXUS argues that reviewing individual applications in isolation masks regional impacts. It notes that other agencies, including the Army Corps, EPA, FWS, the U.S. Department of Energy, and the Bureau of Land Management, have used a programmatic EIS to address energy development issues on a regional basis.<sup>151</sup>

157. CEQ regulations do not require broad or “programmatic” NEPA reviews. CEQ’s guidance provides that such a review may be appropriate where an agency is: (1) adopting official policy; (2) adopting a formal plan; (3) adopting an agency program; or (4) proceeding with multiple projects that are temporally and spatially connected.<sup>152</sup> The Supreme Court has held that a NEPA review covering an entire region (that is, a programmatic review) is required only if there has been a report or recommendation on a proposal for major federal action with respect to the region.<sup>153</sup> Moreover there is no requirement for a programmatic EIS where the agency cannot identify projects that may be sited within a region because individual permit applications will be filed later.<sup>154</sup>

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<sup>150</sup> Sierra Club August 29, 2016 Comments at 29.

<sup>151</sup> Coalition to Reroute NEXUS May 15, 2016 Comments at 4-5.

<sup>152</sup> Memorandum from CEQ to Heads of Federal Departments and Agencies, *Effective Use of Programmatic NEPA Reviews* 13-15 (Dec. 24, 2014) (citing 40 C.F.R. § 1508.18(b)), [https://www.whitehouse.gov/sites/default/files/docs/effective\\_use\\_of\\_programmatic\\_nepa\\_reviews\\_18dec2014.pdf](https://www.whitehouse.gov/sites/default/files/docs/effective_use_of_programmatic_nepa_reviews_18dec2014.pdf). We refer to the memorandum as 2014 Programmatic Guidance.

<sup>153</sup> *Kleppe v. Sierra Club*, 427 U.S. 390 (1976) (holding that a broad-based environmental document is not required regarding decisions by federal agencies to allow future private activity within a region).

<sup>154</sup> See *Piedmont Environmental Council v. FERC*, 558 F.3d 304, 316-17 (4th Cir. 2009).

158. We have explained that there is no Commission plan, policy, or program for the development of natural gas infrastructure.<sup>155</sup> Rather, the Commission acts on individual applications filed by entities proposing to construct interstate natural gas pipelines. Under NGA section 7, the Commission is obligated to authorize a project if it finds that the construction and operation of the proposed facilities “is or will be required by the present or future public convenience and necessity.”<sup>156</sup> What is required by NEPA, and what the Commission provides, is a thorough examination of the potential impacts of specific projects. As to projects that have a clear physical, functional, and temporal nexus such that they are connected or cumulative actions,<sup>157</sup> the Commission will prepare a multiple-project environmental document.<sup>158</sup>

159. The Commission is not engaged in regional planning. Rather, the Commission processes individual pipeline applications in carrying out its statutory responsibilities under the NGA. That there currently are a number of planned, proposed, or approved infrastructure projects to increase infrastructure capacity to transport natural gas from the Marcellus and Utica Shale does not establish that the Commission is engaged in regional development or planning.<sup>159</sup> Instead, this confirms that pipeline projects to transport

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<sup>155</sup> See, e.g., *National Fuel Gas Supply Corp.*, 158 FERC ¶ 61,145, at PP 82-88 (2017); *National Fuel Gas Supply Corp.*, 154 FERC ¶ 61,180, at P 13 (2016); *Texas Eastern Transmission, LP*, 149 FERC ¶ 61,259, at PP 38-47 (2014); *Columbia Gas Transmission, LLC*, 149 FERC ¶ 61,255 (2014).

<sup>156</sup> 15 U.S.C. § 717f(e) (2012).

<sup>157</sup> 40 C.F.R. § 1508.25(a)(1)-(2) (2016) (defining connected and cumulative actions).

<sup>158</sup> See, e.g., EA for the Monroe to Cornwell Project and the Utica Access Project, Docket Nos. CP15-7-000 & CP15-87-000 (filed Aug. 19, 2015); Final Multi-Project Environmental Impact Statement for Hydropower Licenses: Susquehanna River Hydroelectric Projects, Project Nos. 1888-030, 2355-018, and 405-106 (filed Mar. 11, 2015).

<sup>159</sup> See, e.g., *Sierra Club v. FERC*, 827 F.3d 36, 50 (D.C. Cir. 2016) (*Freeport LNG*) (rejecting claim that NEPA requires FERC to undertake a nationwide analysis of all applications for liquefied natural gas export facilities); cf. *Myersville Citizens for a Rural Cmty., Inc. v. FERC*, 783 F.3d 1301, 1326-27 (D.C. Cir. 2015) (*Myersville*) (upholding FERC determination that, although a Dominion Transmission Inc.-owned pipeline project’s excess capacity may be used to move gas to the Cove Point terminal for export, the projects are “unrelated” for purposes of NEPA).

Marcellus and Utica Shale gas are initiated solely by a number of different companies in private industry. As we have noted previously a programmatic EIS is not required to evaluate the regional development of a resource by private industry if the development is not part of, or responsive to, a federal plan or program in that region.<sup>160</sup>

160. The Commission's siting decisions regarding pending and future natural gas pipeline facilities respond to proposals by private industry, and the Commission has no way to accurately predict the scale, timing, and location of projects, much less the kind of facilities that will be proposed.<sup>161</sup> Any broad, regional environmental analysis would "be little more than a study . . . containing estimates of potential development and attendant environmental consequences,"<sup>162</sup> and could not present "a credible forward look" that would be "a useful tool for basic program planning."<sup>163</sup> In these circumstances, the Commission's longstanding practice to conduct an environmental review for each proposed project, or a number of proposed projects that are interdependent or otherwise interrelated or connected, "facilitate[s], not impede[s], adequate environmental assessment."<sup>164</sup> Thus, the Commission's environmental review of NEXUS's and Texas Eastern's proposed interdependent projects together in a single EIS is appropriate under NEPA.

161. In sum, CEQ states that a programmatic EIS can "add value and efficiency to the decision-making process when they inform the scope of decisions," "facilitate decisions on agency actions that precede site- or project-specific decisions and actions," or "provide information and analyses that can be incorporated by reference in future NEPA reviews."<sup>165</sup> The Commission does not believe these benefits can be realized by a programmatic review of natural gas infrastructure projects because the projects subject to

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<sup>160</sup> See *Kleppe*, 427 U.S. at 401-02.

<sup>161</sup> Lack of jurisdiction over an action does not necessarily preclude an agency from considering the potential impacts. As explained in the indirect and cumulative impact sections of this order, however, it reinforces our finding that because states, and not the Commission, have jurisdiction over natural gas production and associated development (including siting and permitting), the location, scale, timing, and potential impacts from such development are even more speculative.

<sup>162</sup> *Kleppe*, 427 U.S. at 402.

<sup>163</sup> *Piedmont Environmental Council*, 558 F.3d at 316.

<sup>164</sup> *Id.*

<sup>165</sup> 2014 Programmatic Guidance at 13.

our jurisdiction do not share sufficient elements in common to narrow future alternatives or expedite the current detailed assessment of each particular project. Thus we find a programmatic EIS is neither required nor useful under the circumstances here.

**m. Indirect Impacts of Natural Gas Production**

162. Interveners and commenters broadly criticize the EIS for failing to consider the project's indirect effects, particularly regarding impacts of induced upstream production of natural gas from the Marcellus and Utica Shale, some specifically noting concerns regarding impacts of upstream production, as well as downstream end-use, of natural gas on greenhouse gases and climate change.

163. CEQ's regulations direct federal agencies to examine the direct, indirect, and cumulative impacts of proposed actions.<sup>166</sup> Indirect impacts are defined as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."<sup>167</sup> Further, 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."<sup>168</sup> Accordingly, to determine whether an impact should be studied as an indirect impact, the Commission must determine whether it is both (1) caused by the proposed action; and (2) reasonably foreseeable.

164. With respect to causation, "NEPA requires 'a reasonably close causal relationship' between the environmental effect and the alleged cause"<sup>169</sup> in order "to make an agency responsible for a particular effect under NEPA."<sup>170</sup> As the Supreme Court explained, "a 'but for' causal relationship is insufficient [to establish cause for purposes of NEPA]."<sup>171</sup>

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<sup>166</sup> 40 C.F.R. § 1508.25(c) (2016).

<sup>167</sup> *Id.* § 1508.8(b).

<sup>168</sup> *Id.* § 1508.8(b).

<sup>169</sup> *U.S. Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, at 767 (2004) (quoting *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, at 774 (1983)).

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*; see also *Freeport LNG*, 827 F.3d at 46 (FERC need not examine everything that could conceivably be a but-for cause of the project at issue); *Sierra Club v. FERC*, 827 F.3d 59, 68 (D.C. Cir. 2016) (*Sabine Pass LNG*) (FERC order authorizing

Thus, “[s]ome effects that are ‘caused by’ a change in the physical environment in the sense of ‘but for’ causation,” will not fall within NEPA if the causal chain is too attenuated.<sup>172</sup> Further, the Court has stated that “where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant ‘cause’ of the effect.”<sup>173</sup>

165. An effect 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.”<sup>174</sup> NEPA requires “reasonable forecasting,” but an agency is not required “to engage in speculative analysis” or “to do the impractical, if not enough information is available to permit meaningful consideration.”<sup>175</sup>

166. Interveners and commenters state that the Commission should consider the project’s indirect impacts, in particular induced upstream production of natural gas from the Marcellus and Utica Shale. Some argue that, because the project is overbuilt and affords access to export markets, it will induce increased production, and specifically assert that the EIS must quantify and evaluate impacts of greenhouse gases on climate change.

#### i. Causation

167. As we have previously concluded in natural gas infrastructure proceedings, the environmental effects resulting from natural gas production are generally neither caused by a proposed pipeline (or other natural gas infrastructure) project nor are they reasonably foreseeable consequences of our approval of an infrastructure project, as

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construction of liquefied natural gas export facilities is not the legally relevant cause of increased production of natural gas).

<sup>172</sup> *Metro. Edison Co.*, 460 U.S. at 774.

<sup>173</sup> *Pub. Citizen*, 541 U.S. at 770; *see also Freeport LNG*, 827 F.3d at 49 (affirming that *Public Citizen* is explicit that FERC, in authorizing liquefied natural gas facilities, need not consider effects, including induced production, that could only occur after intervening action by the DOE); *Sabine Pass LNG*, 827 F.3d at 68 (same); *EarthReports, Inc. v. FERC*, 828 F.3d 949, 955-56 (D.C. Cir. 2016) (same).

<sup>174</sup> *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992). *See also City of Shoreacres v. Waterworth*, 420 F.3d 440, 453 (5th Cir. 2005).

<sup>175</sup> *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1078 (9th Cir. 2011).

contemplated by CEQ regulations.<sup>176</sup> A causal relationship sufficient to warrant Commission analysis of the non-pipeline activity as an indirect impact would only exist if the proposed pipeline would transport new production from a specified production area and that production would not occur in the absence of the proposed pipeline (i.e., there will be no other way to move the gas).<sup>177</sup> To date, the Commission has not been presented with a proposed pipeline project that the record shows will cause the predictable development of gas reserves. In fact, the opposite causal relationship is more likely, i.e., once production begins in an area, shippers or end users will support the development of a pipeline to move the produced gas.

## ii. Reasonable Foreseeability

168. Even accepting, *arguendo*, that a specific pipeline project will cause natural gas production, we have found that the potential environmental impacts resulting from such production are not reasonably foreseeable. As we have explained, the Commission generally does not have sufficient information to determine the origin of the gas that will be transported on a pipeline. It is the states, rather than the Commission, that have jurisdiction over the production of natural gas and thus would be most likely to have the information necessary to reasonably foresee future production. There are no forecasts in the record which would enable the Commission to meaningfully predict production-related impacts, many of which are highly localized. Thus, even if the Commission knows the general source area of gas likely to be transported on a given pipeline, a meaningful analysis of production impacts would require more detailed information regarding the number, location, and timing of wells, roads, gathering lines, and other appurtenant facilities, as well as details about production methods, which can vary per producer and depending on the applicable regulations in the various states. Accordingly, the impacts of natural gas production are not reasonably foreseeable because they are “so

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<sup>176</sup> See, e.g., *Central New York Oil and Gas Co., LLC*, 137 FERC ¶ 61,121, at PP 81-101 (2011), *order on reh'g*, 138 FERC ¶ 61,104, at PP 33-49 (2012), *petition for review dismissed sub nom. Coal. for Responsible Growth v. FERC*, 485 Fed. Appx. 472, 474-75 (2012) (unpublished opinion).

<sup>177</sup> See *cf. Sylvester v. U.S. Army Corps of Engineers*, 884 F.2d 394, 400 (9th Cir. 1989) (upholding the environmental review of a golf course that excluded the impacts of an adjoining resort complex project). See also *Morongo Band of Mission Indians v. FAA*, 161 F.3d 569, 580 (9th Cir. 1998) (concluding that increased air traffic resulting from airport plan was not an indirect, “growth-inducing” impact); *City of Carmel-by-the-Sea v. U.S. Dep’t of Transportation.*, 123 F.3d 1142, 1162 (9th Cir. 1997) (acknowledging that existing development led to planned freeway, rather than the reverse, notwithstanding the project’s potential to induce additional development).

nebulous” that we “cannot forecast [their] likely effects” in the context of an environmental analysis of the impacts related to a proposed interstate natural gas pipeline.<sup>178</sup>

169. Nonetheless, we note that, although not required by NEPA, the Department of Energy has examined the potential environmental issues associated with unconventional natural gas production in order to provide the public with a more complete understanding of the potential impacts.<sup>179</sup> The Department of Energy has concluded that such production, when conforming to regulatory requirements, implementing best management practices, and administering pollution prevention concepts, may have temporary, minor impacts to water resources.<sup>180</sup> With respect to air quality, the Department of Energy found that natural gas development leads to both short- and long-term increases in local and regional air emissions.<sup>181</sup> It also found that such emissions may contribute to climate change.<sup>182</sup> But to the extent that natural gas production

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<sup>178</sup> *Habitat Education Center v. U.S. Forest Service*, 609 F.3d 897, 902 (7th Cir. 2010) (finding that impacts that cannot be described with enough specificity to make their consideration meaningful need not be included in the environmental analysis). *See also Sierra Club v. U.S. Department of Energy*, D.C. Cir. No. 15-1489, slip op. at 16-18 (August 15, 2017) (accepting DOE’s “reasoned explanation” as to why the indirect effects pertaining to induced natural gas production were not reasonably foreseeable where DOE noted the difficulty of predicting both the incremental quantity of natural gas that might be produced and where at the local level such production might occur, and that an economic model estimating localized impacts would be far too speculative to be useful).

<sup>179</sup> U.S. Department of Energy, *Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States*, 79 Fed. Reg. 48,132 (Aug. 15, 2014) (DOE Addendum), <http://energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf>. The U.S. Court of Appeals for the D.C. Circuit upheld DOE’s reliance on the DOE Addendum to supplement its environmental review of the proposed export of LNG. *See Sierra Club v. U.S. Department of Energy*, D.C. Cir. No. 15-1489, slip op. at 12, 19.

<sup>180</sup> DOE Addendum at 19; *see also Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands*, 80 Fed. Reg. 16,128, 16,130 (Mar. 26, 2015) (Bureau of Land Management promulgated regulations for hydraulic fracturing on federal and Indian lands to “provide significant benefits to all Americans by avoiding potential damages to water quality, the environment, and public health”).

<sup>181</sup> DOE Addendum at 32.

<sup>182</sup> *Id.* at 44.

replaces the use of other carbon-based energy sources, the U.S. Department of Energy found that there may be a net positive impact in terms of climate change.<sup>183</sup> We find the information provided in the DOE Addendum to be helpful to generally inform the public regarding potential impacts of increased natural gas production and therefore consider the DOE Addendum to be supplemental material to our environmental review.

170. The record in this proceeding does not demonstrate the requisite reasonably close causal relationship between the impacts of future natural gas production and the proposed projects that would necessitate further analysis. The fact that natural gas production and transportation facilities are all components of the general supply chain required to bring domestic natural gas to market is not in dispute. We have acknowledged that the pipeline projects are designed to move gas supplies from the Appalachian Basin to markets in Ohio, Michigan, and Canada. This does not mean, however, that approving these particular projects will induce further shale gas production. Rather, as we have explained in other proceedings, a number of factors, such as domestic natural gas prices and production costs drive new drilling.<sup>184</sup> If the projects were not constructed, it is reasonable to assume that any new production spurred by such factors would reach intended markets through alternate pipelines or other modes of transportation.<sup>185</sup> Again,

any such production would take place pursuant to the regulatory authority of state and local governments.<sup>186</sup>

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<sup>183</sup> *Id.*

<sup>184</sup> *Rockies Express Pipeline LLC*, 150 FERC ¶ 61,161, at P 39 (2015). *See also Sierra Club v. Clinton*, 746 F. Supp. 2d 1025, 1045 (D. Minn. 2010) (holding that the U.S. Department of State, in its environmental analysis for an oil pipeline permit, properly decided not to assess the transboundary impacts associated with oil production because, among other things, oil production is driven by oil prices, concerns surrounding the global supply of oil, market potential, and cost of production); *Florida Wildlife Fed'n v. Goldschmidt*, 506 F. Supp. 350, 375 (S.D. Fla. 1981) (ruling that an agency properly considered indirect impacts when market demand, not a highway, would induce development).

<sup>185</sup> *Rockies Express Pipeline LLC*, 150 FERC ¶ 61,161 at P 39.

<sup>186</sup> We acknowledge that NEPA may obligate an agency to evaluate the environmental impacts of non-jurisdictional activities. That states, however, not the



171. Moreover, even if a causal relationship between our action here and additional production were presumed, the scope of the impacts from any induced production is not reasonably foreseeable. That there may be incentives for producers to locate wells close to pipeline infrastructure does not change the fact that the location, scale, and timing of any additional wells are matters of speculation, particularly regarding their relationship to the proposed projects. As we have previously explained, a broad analysis, based on generalized assumptions rather than reasonably specific information, will not provide meaningful assistance to the Commission in its decision making, e.g., evaluating potential alternatives to a specific proposal.<sup>187</sup>

172. With respect to impacts from GHGs, the final EIS discusses the direct GHG impacts from construction and operation of the projects and other projects that were considered in the Cumulative Impacts analysis, the climate change impacts in the region, and the regulatory structure for GHGs under the Clean Air Act. The final EIS also quantifies GHG emissions from the projects' construction (90,033.5 metric tons, CO<sub>2</sub>-equivalent [metric tons per year (tpy) CO<sub>2e</sub>]) and operation (827,407 metric tpy CO<sub>2e</sub>).<sup>188</sup> The final EIS does not include upstream emissions; however, we have conservatively estimated the upstream GHG emissions from extraction as 1.2 million metric tpy CO<sub>2e</sub>, and from processing as 2.4 million metric tpy CO<sub>2e</sub>, and conservatively estimated both upstream and downstream GHG emissions from the non-project pipelines as 370,000 metric tpy CO<sub>2e</sub>.<sup>189</sup>

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Commission, have jurisdiction over natural gas production and associated development (including siting and permitting) supports the conclusion that information about the scale, timing, and location of such development and potential environmental impacts are even more speculative. *See Sierra Club v. U.S. Department of Energy*, D.C. Cir. No. 15-1489, slip op. at 18 (DOE's obligation under NEPA to "drill down into increasingly speculative projections about regional environmental impacts [of induced natural gas production] is also limited by the fact that it lacks any authority to control the locale or amount of export-induced gas production, much less any of its harmful effects") (citing *Pub. Citizen*, 541 U.S. at 768).

<sup>187</sup> *Rockies Express Pipeline LLC*, 150 FERC ¶ 61,161 at P 40. *See also Sierra Club v. U.S. Department of Energy*, No. 15-1489, slip op. at 14 (D.C. Cir. August 15, 2017) (holding that the dividing line between what is reasonable forecasting and speculation is the "usefulness of any new potential information to the decision-making process").

<sup>188</sup> *See* final EIS at 4-217 to 4-227.

<sup>189</sup> The upstream GHG emissions were estimated using the May 29, 2014 Life Cycle Analysis of Natural Gas Extraction and Power Generation May 29, 2014

173. With respect to downstream GHG emissions, Commission staff used an EPA-developed methodology<sup>190</sup> to estimate the downstream GHG emissions from these projects.<sup>191</sup> The final EIS includes a conservative estimate of downstream GHG

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DOE/NETL-2014/1646. Generally, Commission staff used the average leak and emission rates identified in the NETL analysis for each segment of extraction, processing, and transport. The method is outlined in Section 2 of the NETL report, and the background data used for the model is outlined in Section 3.1. Staff used the results identified in Tables 4.3, 4.4, and 4.5 to look at each segment and grossly estimate GHG emission. To be conservative, staff did not account for the New Source Performance Standards Oil & Gas rule changes, or other GHG mitigation. Additionally, staff made a conservative estimate of the length of non-jurisdictional pipeline prior to the gas reaching Project components, as well as the length of downstream pipeline to the delivery point. *See Sierra Club v. U.S. Department of Energy*, D.C. Cir. No. 15-1489, slip op. at 21-22 (finding sufficient DOE's estimate of potential GHG emissions from producing, transporting and exporting LNG reported in a 2014 Life Cycle Report on Exporting LNG).

<sup>190</sup> Estimated using EPA's GHG Equivalencies Calculator - Calculations and References <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references>.

<sup>191</sup> The Commission's environmental review of the NEXUS project is distinguishable from its environmental review of the project at issue in *Sierra Club v. FERC*, D.C. No. 16-1329 (Aug. 22, 2017)(Sabal Trail). In Sabal Trail, the court determined that the Commission should have examined the GHG impacts of burning the natural gas to be delivered by that project. In this case, as discussed above, the Commission has estimated the GHG emissions associated with burning the gas to be transported by NEXUS, consistent with the quantification that the Sabal Trail court required. The methodology used here is similar to that in a number of recent cases. *See National Fuel Gas Supply Corp.*, 158 FERC ¶ 61,145, at PP 189-190 (Northern Access 2016 Project); *Dominion Carolina Gas Transmission, LLC*, 158 FERC ¶ 61,126, at P 81 (Transco to Charleston Project); *Transcontinental Gas Pipe Line Co., LLC*, 158 FERC ¶ 61,125, at P 143 (Atlantic Sunrise Project); *Tennessee Gas Pipeline Co.*, 158 FERC ¶ 61,110, at P 104 (Orion Project); and *Rover Pipeline, LLC*, 158 FERC ¶ 61,109, at P 274 (Rover Pipeline Project). Further, Sabal Trail and this case are factually distinct, in that the record in Sabal Trail showed that the natural gas to be transported on the new project would be delivered to specific destinations – power plants in Florida – such that the court concluded that the burning of the gas in those plants was reasonably foreseeable and the impacts of that activity warranted environmental examination. In contrast, the gas to be transported by NEXUS will be delivered into the interstate natural pipeline grid, and its end use is not predictable. .

emissions as 17.9 million metric tpy CO<sub>2e</sub> from end-use combustion.<sup>192</sup> We note that this estimate represents an upper bound for the amount of end-use combustion that could result from the gas transported by these projects. This is because some of the gas may displace other fuels, which could actually lower total CO<sub>2e</sub> emissions. It may also displace gas that otherwise would be transported via different means, resulting in no change in CO<sub>2e</sub> emissions.

174. Our Commission staff also estimated the impacts on land use and water consumption associated with the production wells that would be required to provide 100 percent of the volume of natural gas to be transported by the NEXUS Project for the life of the project<sup>193</sup> from the Marcellus and Utica Shale basin.

175. Each natural gas well pad and associated infrastructure (road infrastructure, water impoundments, and pipelines) requires about 1.48 acres of land.<sup>194</sup> Based on the NEXUS Project volume and the expected estimated ultimate recovery of Marcellus/Utica Shale wells,<sup>195</sup> our Commission staff estimates that between 3,200 and 6,300 wells would be required to provide the gas over the estimated 30-year project lifespan. Therefore, on a normalized basis,<sup>196</sup> drilling wells may affect between 160 and 310 acres a year.<sup>197</sup> Previous research<sup>198</sup> indicates that, within the Marcellus and Utica Shale areas, about

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<sup>192</sup> All of the TEAL Project volumes would be delivered to the NEXUS Project and some of the NEXUS Project volumes would utilize existing available capacity on other transmission system. Therefore, avoiding the double counting of volumes, the Projects combined can deliver up to 925,000 Dth/d of new volumes.

<sup>193</sup> Our environmental staff assumed a 30 year life of the project.

<sup>194</sup> Life Cycle Analysis of Natural Gas Extraction and Power Generation August 30, 2016 DOE/NETL-2015/1714; page 22, Table 3-6.

<sup>195</sup> <http://www.eia.gov/conference/2015/pdf/presentations/staub.pdf>, and Environmental Impacts of Unconventional Natural Gas Development and Production May 29, 2014 DOE/NETL-2014/1651.

<sup>196</sup> 30 year impacts averaged on a per year basis.

<sup>197</sup> Life Cycle Analysis of Natural Gas Extraction and Power Generation August 30, 2016 DOE/NETL-2015/1714, page 22, table 3-6

<sup>198</sup> Life Cycle Analysis of Natural Gas Extraction and Power Generation August 30, 2016 DOE/NETL-2015/1714, pg 24, table 3-8.

72.3% of the land affected by natural gas production is forest, about 22.4% is agricultural, and about 5.3% is grass or open lands.

176. Recent estimates<sup>199</sup> show that drilling and developing an average Marcellus Shale well requires between 3.88 and 5.69 million gallons of water, depending on whether the producer uses a recycling process. Therefore, producing wells required to supply the project could require the normalized consumptive use of as much as 420 million to 1.2 billion gallons of water per year over the 30-year project life.

**n. Cumulative Impacts**

177. The cumulative effects analysis in the final EIS comports with CEQ guidance.<sup>200</sup> Commission staff identified areas proximate to the proposed projects as its geographic scope for purposes of the cumulative effects. The geographic scope of the cumulative impact analysis was appropriate as it encompasses the area where project impacts will be felt.<sup>201</sup>

178. CEQ defines “cumulative impact” as “the impact on the environment which results from the incremental impact of the action [being studied] when added to other past, present, and reasonably foreseeable future actions . . . .”<sup>202</sup> The requirement that an impact must be “reasonably foreseeable” to be considered in a NEPA analysis applies to both indirect and cumulative impacts.

179. The “determination of the extent and effect of [cumulative impacts], and particularly identification of the geographic area within which they may occur, is a task assigned to the special competency of the appropriate agencies.”<sup>203</sup> CEQ has explained

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<sup>199</sup> Environmental Impacts of Unconventional Natural Gas Development and Production May 29, 2014 DOE/NETL-2014/1651; page 76, exhibit 4-1.

<sup>200</sup> See final EIS at 4-253 – 4-256. We also note that the 1997 Cumulative Effects Guidance at 15 states that the “applicable geographic scope needs to be defined case-by-case.”

<sup>201</sup> *Kleppe*, 427 U.S. at 413 (The “determination of the extent and effect of [cumulative impacts], and particularly identification of the geographic area within which they may occur, is a task assigned to the special competency of the appropriate agencies.”).

<sup>202</sup> 40 C.F.R. § 1508.7 (2016).

<sup>203</sup> *Kleppe*, 427 U.S. at 413.

that “it is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.”<sup>204</sup> Further, a cumulative impact analysis need only include “such information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well-nigh impossible.”<sup>205</sup> An agency’s analysis should be proportional to the magnitude of the environmental impacts of a proposed action; actions that will have no significant direct and indirect impacts usually require only a limited cumulative impacts analysis.<sup>206</sup>

180. Interveners and commenters argue that the cumulative impacts analysis should address upstream extraction in the Marcellus/Utica Shale plays, not just downstream transportation and combustion, and should consider broad impacts of the numerous projects emanating from that region, instead of limiting consideration only to segments of projects within 10 miles of the proposed facilities, particularly regarding impacts of GHG emissions.

181. In considering cumulative impacts, CEQ advises that an agency first identify the significant cumulative effects issues associated with the proposed action.<sup>207</sup> The agency should then establish the geographic scope for analysis. Next, the agency should establish the time frame for analysis.<sup>208</sup> Finally, the agency should identify other actions that potentially affect the same resources, ecosystems, and human communities that are affected by the proposed action.<sup>209</sup> As noted above, CEQ advises that an agency should relate the scope of its analysis to the magnitude of the environmental impacts of the proposed action.<sup>210</sup>

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<sup>204</sup> CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* at 8 (January 1997) (1997 Cumulative Effects Guidance).

<sup>205</sup> *Id.*

<sup>206</sup> See CEQ, *Memorandum on Guidance on Consideration of Past Actions in Cumulative Effects Analysis* at 2-3 (June 24, 2005).

<sup>207</sup> 1997 Cumulative Effects Guidance at 11.

<sup>208</sup> *Id.*

<sup>209</sup> *Id.*

<sup>210</sup> CEQ, *Memorandum on Guidance on Consideration of Past Actions in Cumulative Effects Analysis* at 2 (June 24, 2005).

182. Based on the identified geographic scope, the final EIS identified 77 other projects, including natural gas development<sup>211</sup> whose impacts, when added to the impacts of the proposed actions, could result in cumulative impacts.<sup>212</sup> The final EIS considered the potential cumulative impacts associated with the proposed projects and these other projects pertaining to each potentially affected resource, including: geology and soils; water resources; vegetation; wildlife; special status species; land use and visual resources; socioeconomics; cultural resources; reliability and safety; and noise and air quality,<sup>213</sup> specifically discussing climate change<sup>214</sup> and GHG emissions from Marcellus and Utica drilling activities.<sup>215</sup> The final EIS concluded that the majority of cumulative impacts would be temporary and minor however, some long-term cumulative impacts would occur on wetland and upland forested vegetation and associated wildlife habitats. Short-term cumulative benefits would also be realized through jobs and wages and purchases of goods and materials. There is also potential for contributing to a cumulative improvement in regional air quality if a portion of the natural gas associated with the projects displaces the use of other more polluting fossil fuels.<sup>216</sup> We note that the Second Circuit Court of Appeals has found that the Commission's cumulative impacts analysis regarding Marcellus Shale gas development was sufficient.<sup>217</sup> The Commission likewise finds that the final EIS in this proceeding sufficiently considered the cumulative impacts of natural gas production from Marcellus Shale.

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<sup>211</sup> See final EIS at 4-256 to 4-258.

<sup>212</sup> See final EIS at Appendix N.

<sup>213</sup> *Id.* at 4-263-480.

<sup>214</sup> See final EIS at 4-275 to 4-279.

<sup>215</sup> See final EIS at 4-275.

<sup>216</sup> *Id.* at 4-280.

<sup>217</sup> See *Coalition for Responsible Growth v. FERC*, 485 Fed. Appx. 472 (2d Cir. 2012). See also *Sierra Club v. U.S. Department of Energy*, D.C. Cir. No. 15-1489, slip op. at 20 (holding that DOE's generalized discussion of the impacts associated with non-conventional natural gas production fulfill its obligations under NEPA; DOE need not make specific projections about environmental impacts stemming from specific levels of export-induced gas production.).

### 3. Environmental Analysis Conclusion

183. We have reviewed the information and analysis in the final EIS regarding the proposed projects' potential environmental effects. Based on our consideration of this information and the discussion above, we agree with the final EIS's conclusions and find that the projects, if constructed and operated as the final EIS describes, are environmentally acceptable actions. We are accepting the final EIS's environmental recommendations as modified herein, and are including them as conditions in Appendix B to this order.

184. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. We encourage cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.<sup>218</sup>

185. The Commission on its own motion received and made a part of the record in this proceeding all evidence, including the application, and exhibits thereto, and all comments and upon consideration of the record,

#### The Commission orders:

(A) A certificate of public convenience and necessity is issued to NEXUS in Docket No. CP16-22-000 authorizing it to construct and operate the proposed facilities and to lease capacity in Texas Eastern's, DTE Gas's, and Vector's pipeline systems, as described and conditioned herein, and as more fully described in the application. NEXUS is also issued blanket construction and transportation certificates under Subpart F of Part 157 and Subpart G of Part 284 of the Commission's regulations.

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<sup>218</sup> See 15 U.S.C. § 717r(d) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); see also *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 310 (1988) (state regulation that interferes with FERC's regulatory authority over the transportation of natural gas is preempted) and *Dominion Transmission, Inc. v. Summers*, 723 F.3d 238, 245 (D.C. Cir. 2013) (noting that state and local regulation is preempted by the NGA to the extent it conflicts with federal regulation, or would delay the construction and operation of facilities approved by the Commission).

(B) The certificate authority granted in Ordering Paragraph (A) is conditioned on NEXUS's:

- (1) completion of construction of the proposed facilities and making them available for service within two years of the issuance of this order pursuant to section 157.20(b) of the Commission's regulations;
- (2) compliance with all applicable Commission regulations under the NGA including, but not limited to Parts 154, 157, and 284, and paragraphs (a), (c), (e), and (f) of section 157.20 of the Commission's regulations;
- (3) compliance with the environmental conditions in Appendix B to this order; and
- (4) prior to commencement of construction, filing a written statement affirming that it has executed firm contracts for the volumes and service terms equivalent to those in its precedent agreements.

(C) NEXUS's initial rates and tariff are approved, as conditioned and modified herein in the body of this order.

(D) In accordance with section 154.207 of the Commission's regulations, NEXUS must file actual tariff records that comply with the requirements contained in the body of this order no less than 30 days and no more than 60 days prior to the commencement of interstate service.

(E) NEXUS is directed to file its negotiated rate agreements no less than 30 days or more than 60 days before service commences.

(F) Within three years after its in-service date, as discussed herein, NEXUS must make a filing to justify its existing cost-based firm and interruptible recourse rates. In the alternative, in lieu of such filing, NEXUS may make an NGA section 4 filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

(G) NEXUS shall notify the Commission's environmental staff by telephone, e-mail, and/or facsimile of any environmental noncompliance identified by other federal, state or local agencies on the same day that such agency notifies NEXUS. NEXUS shall file written confirmation of such notification with the Secretary of the Commission (Secretary) within 24 hours.



(H) A certificate of public convenience and necessity is issued to Texas Eastern in Docket No. CP16-23-000 authorizing it to construct and operate the proposed facilities as described and conditioned herein, and as more fully described in the application.

(I) The certificate authority granted in Ordering Paragraph (H) is conditioned on Texas Eastern's:

(1) completion of construction of the proposed facilities and making them available for service within two years of the issuance of this order pursuant to section 157.20(b) of the Commission's regulations;

(2) compliance with all applicable Commission regulations under the NGA including, but not limited to Parts 154, 157, and 284, and paragraphs (a), (c), (e), and (f) of section 157.20 of the Commission's regulations; and

(3) compliance with the environmental conditions in Appendix B to this order.

(J) Authorization is granted to Texas Eastern in Docket No. CP16-23-000 to abandon by lease to NEXUS capacity on the proposed facilities, as more fully described in the body of this order and in the application.

(K) Texas Eastern shall notify the Commission's environmental staff by telephone, e-mail, and/or facsimile of any environmental noncompliance identified by other federal, state or local agencies on the same day that such agency notifies Texas Eastern. Texas Eastern shall file written confirmation of such notification with the Secretary of the Commission (Secretary) within 24 hours.

(L) A limited-jurisdiction certificate of public convenience and necessity is issued to DTE Gas in Docket No. CP16-24-000 as discussed herein.

(M) Authorization is granted to Vector in Docket No. CP16-102-000 to abandon by lease to NEXUS capacity on the facilities described in the body of this order and in the application.

(N) Texas Eastern and Vector shall notify the Commission within 10 days of the date of abandonment of the capacity leased to NEXUS.

(O) The late motions to intervene are granted.

By the Commission.

( S E A L )

Docket No. CP16-22-000, et al.

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Nathaniel J. Davis, Sr.,  
Deputy Secretary.

**Appendix A  
Late Motions to Intervene**

Shawn Cahill  
Cindy Celusta  
Chippewa Lake Families for Property Rights  
Cleveland Museum of Natural History  
Communities for Safe and Sustainable Energy  
Kim Cowgill  
Tim & Melissa Dunder  
Erie MetroParks  
Green Pipeline Initiative  
Kyle Hubbard  
Sandra J. Jakubec  
Erin Kovacs  
Marlene J. Lindeman  
Janice A. Lower  
NCT Development Corporation  
North Canton Transfer, LLC  
Ohio State University  
Rice Energy Marketing LLC  
John W. Rozic  
Sierra Club  
Swan creek Township  
Union Gas Limited  
United Communities for Protecting Our Water and Elevating Rights  
Vectren Energy Delivery of Ohio Inc.  
Western Reserve Land Conservancy

**Appendix B**  
**Environmental Conditions for the NEXUS Gas Transmission (NEXUS) Project and Texas Eastern Appalachian Lease (TEAL) Project**

As recommended in the final environmental impact statement (EIS) and otherwise amended herein, this authorization includes the following conditions. The section number in parentheses at the end of a condition corresponds to the section number in which the measure and related resource impact analysis appears in the final EIS.

1. NEXUS Gas Transmission, LLC (NEXUS) and Texas Eastern Transmission, LP (Texas Eastern) shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by this order. NEXUS and Texas Eastern must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**
2. The Director of OEP, or the Director's designee, has delegated authority to (1) issue (or deny) any approvals or authorizations necessary to carry out the conditions of this order, and (2) take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Projects, which may include:
  - a. the modification of conditions of this order; and
  - b. the imposition of additional measures, **including stop work authority**, deemed necessary to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Projects construction (and operation).
3. **Prior to any construction**, NEXUS and Texas Eastern shall file an affirmative statement with the Secretary, certified by senior company officials, that all company personnel, environmental inspectors (EI), and contractor personnel would be informed of the EIs' authority and have been or would be trained on the

implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility location(s) shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include the FERC staff's recommended route variations and facility site changes as identified in sections 3.4.11, 3.4.20, and 3.5.4.1 of the final EIS. **As soon as they are available, and before the start of construction**, NEXUS and Texas Eastern shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by this order. All requests for modifications of environmental conditions of this order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

NEXUS' and Texas Eastern's exercise of eminent domain authority granted under the Natural Gas Act (NGA) Section 7(h) in any condemnation proceedings related to this order must be consistent with these authorized facilities and locations. NEXUS' and Texas Eastern's right of eminent domain granted under NGA Section 7(h) does not authorize them to increase the size of their natural gas facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. NEXUS and Texas Eastern shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations; staging areas; pipe storage yards; new access roads; and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally-listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

This requirement does not apply to extra workspace allowed by FERC's Erosion Control, Revegetation, and Maintenance Plan and/or minor field realignments per landowner needs and requirements that do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;

- b. implementation of endangered, threatened, or special concern species mitigation measures;
  - c. recommendations by state regulatory authorities; and
  - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
6. **Within 60 days of the acceptance of the Certificate and before construction begins**, NEXUS and Texas Eastern shall file their respective Implementation Plans with the Secretary for review and written approval by the Director of OEP. NEXUS and Texas Eastern must file revisions to their plans as schedules change. The plans shall identify:
- a. how NEXUS and Texas Eastern would implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by this order;
  - b. how NEXUS and Texas Eastern would incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to on-site construction and inspection personnel;
  - c. the number of EIs assigned per spread and how the company would ensure that sufficient personnel are available to implement the environmental mitigation;
  - d. the number of company personnel, including EIs and contractors, who would receive copies of the appropriate material;
  - e. the location and dates of the environmental compliance training and instructions NEXUS and Texas Eastern would give to all personnel involved with construction and restoration (initial and refresher training as the Projects progress and personnel change), with the opportunity for OEP staff to participate in the training session(s);
  - f. the company personnel (if known) and specific portion of NEXUS and Texas Eastern's organization having responsibility for compliance;
  - g. the procedures (including use of contract penalties) NEXUS and Texas Eastern would follow if noncompliance occurs; and

- h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram) and dates for:
    - i. the completion of all required surveys and reports;
    - ii. the environmental compliance training of on-site personnel;
    - iii. the start of construction; and
    - iv. the start and completion of restoration.
7. NEXUS and Texas Eastern shall employ a team of EIs (i.e., two or more or as may be established by the Director of OEP) per construction spread. The EIs shall be:
  - a. responsible for monitoring and ensuring compliance with all mitigation measures required by this order and other grants, permits, certificates, or other authorizing documents;
  - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
  - c. empowered to order correction of acts that violate the environmental conditions of this order, and any other authorizing document;
  - d. a full-time position, separate from all other activity inspectors;
  - e. responsible for documenting compliance with the environmental conditions of this order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
  - f. responsible for maintaining status reports.
8. **Beginning with the filing of the Implementation Plans**, NEXUS and Texas Eastern shall each file updated status reports with the Secretary on a weekly basis until all construction and restoration activities are complete. On request, these status reports would also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
  - a. an update on NEXUS and Texas Eastern's efforts to obtain the necessary federal authorizations;
  - b. the construction status of each spread, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;

- c. a listing of all problems encountered and each instance of noncompliance observed by the EIs during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
  - e. the effectiveness of all corrective actions implemented;
  - f. a description of any landowner/resident complaints that may relate to compliance with the requirements of this order, and the measures taken to satisfy their concerns; and
  - g. copies of any correspondence received by NEXUS and Texas Eastern from other federal, state, or local permitting agencies concerning instances of noncompliance, and NEXUS and Texas Eastern's response.
9. NEXUS and Texas Eastern shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Projects and restoration of the right-of-way. **Prior to construction**, NEXUS and Texas Eastern shall each mail the complaint procedures to each landowner whose property would be crossed by the Projects.
- a. In its letter to affected landowners, NEXUS and Texas Eastern shall:
    - i. provide a local contact that the landowners should call first with their concerns; the letter shall indicate how soon a landowner should expect a response;
    - ii. instruct the landowners that if they are not satisfied with the response, they should call NEXUS' and Texas Eastern's Hotline; the letter shall indicate how soon to expect a response; and
    - iii. instruct the landowners that if they are still not satisfied with the response from NEXUS' and Texas Eastern's Hotline, they should contact the Commission's Landowner Helpline at 877-337-2237 or at [LandownerHelp@ferc.gov](mailto:LandownerHelp@ferc.gov).
  - b. In addition, NEXUS and Texas Eastern shall include in their weekly status report a copy of a table that contains the following information for each problem/concern:
    - i. the identity of the caller and date of the call;



- ii. the location by milepost and identification number from the authorized alignment sheet(s) of the affected property;
  - iii. a description of the problem/concern; and
  - iv. an explanation of how and when the problem was resolved, would be resolved, or why it has not been resolved.
10. NEXUS and Texas Eastern must receive written authorization from the Director of OEP **before commencing construction of any project facilities**. To obtain such authorization, NEXUS and Texas Eastern must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof). The Director of OEP will not issue a notice to proceed with construction of the Texas Eastern project facilities until NEXUS obtains a notice to proceed.
11. NEXUS and Texas Eastern must receive written authorization from the Director of OEP **before placing its respective Project into service**. Such authorization would only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.
12. **Within 30 days of placing the authorized facilities in service**, NEXUS and Texas Eastern shall file an affirmative statement with the Secretary, certified by a senior company official:
  - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or
  - b. identifying which of the Certificate conditions the applicant has complied with or would comply with. This statement shall also identify any areas affected by their respective Projects where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
13. **Prior to construction**, NEXUS shall incorporate into its plans the proposed centerline adjustments and workspace modifications identified in Attachment 4 – Response 14a-2 of its August 26, 2016 filing to the Commission (see FERC accession number 20160826-5230). (*Sections 3.4.11 and 3.4.20*)
14. **Prior to construction**, NEXUS shall re-site the metering and regulating station at milepost 159.7 (MR06) as depicted on figure 3.5.4-1 of the final EIS. NEXUS shall, in consultation with the landowner, redesign the permanent access road to MR06 either by extending the currently proposed road or by designing a new road

- that would abut the adjacent railroad easement. NEXUS shall file for review and written approval of the Director of the OEP updated site plans incorporating these minor design changes. (*Section 3.5.4.1*)
15. **Prior to construction**, NEXUS shall file with the Secretary the results of its geophysical surveys to detect previously unidentified karst features. If previously unidentified karst features are found, NEXUS shall also file for review and written approval of the Director of the OEP its plans to avoid or mitigate the features. (*Section 4.1.5.5*)
  16. **Prior to construction**, NEXUS shall conduct a geophysical investigation at Summit County parcel number 2400603 and file a report with the Secretary for review and written approval of the Director of the OEP. The report shall identify, as necessary, measures that NEXUS will implement to avoid or mitigate subsidence areas. (*Section 4.1.5.6*)
  17. **Prior to construction**, NEXUS shall file with the Secretary an *Agricultural Impact Mitigation Plan (AIMP)* detailing construction and restoration measures Nexus will implement on the NEXUS Project to address agricultural issues unique to Ohio and Michigan. Specifically, the *AIMP* shall address plans for segregating topsoil in areas where the depth of topsoil is greater than 12 inches; triple stripping topsoil, subsoil, and substratum; and ensuring that excess spoil removed from the right-of-way during backfilling consists of substratum, and then, if needed, subsoil. For construction and restoration measures in Ohio, NEXUS shall consult with the Ohio Department of Agriculture (ODA) on construction procedures it will use in agricultural land in Ohio and shall file with the Secretary any measures that result from coordination with the ODA. NEXUS shall file any comments received from ODA with the Secretary. (*Section 4.2.2*)
  18. **Prior to construction**, NEXUS shall file with the Secretary a 5-year post-construction monitoring program to evaluate crop productivity in areas impacted by the construction of the Project. NEXUS shall include in the program a commitment to file with the Secretary quarterly reports for a period of 5 years following construction documenting any crop-related problems and describing any corrective action taken to remedy those problems. The program shall stipulate that if any landowner agrees that revegetation and crop productivity are successful prior to the 5-year requirement, NEXUS shall provide documentation in its quarterly reports indicating which landowners have agreed that monitoring is no longer necessary. This documentation shall include the landowner name, tract number, and the date of agreement. (*Section 4.2.2*)
  19. NEXUS shall repair or replace the water supply of any springs that are damaged by construction, or otherwise compensate the owner of the spring. NEXUS shall file a report with the Secretary **within 30 days** of placing the facilities in service,

- discussing whether any complaints were received concerning spring yield or water quality and how each was resolved. (*Section 4.3.1.2*)
20. Texas Eastern shall offer to conduct pre- and post-construction testing of water quality and yield at all springs within 150 feet of the TEAL construction workspace, and repair or replace the water supply of any springs that are damaged, or otherwise compensate the owner of the spring. Texas Eastern shall file a report with the Secretary **within 30 days** of placing the facilities in service, discussing whether any complaints were received concerning spring yield or water quality and how each was resolved. (*Section 4.3.1.2*)
  21. **Prior to construction**, NEXUS shall consult with water suppliers in the Wellhead Protection Areas crossed by the Project and file with the Secretary, for review and written approval by the Director of OEP, any water supplier recommended mitigation that NEXUS will implement during construction. Where recommended mitigation is not implemented, NEXUS shall demonstrate that the mitigation is not needed. (*Section 4.3.1.2*)
  22. In the event of an unsuccessful horizontal directional drill, NEXUS shall prepare an alternative construction plan for crossing the area that was to be drilled. This shall be a site-specific plan that includes scaled drawings identifying all areas that will be disturbed by construction. If the alternative plan affects a wetland or waterbody, NEXUS shall file the alternative plan with the Secretary concurrent with submission of its application to the U.S. Army Corps of Engineers (Corps) for a permit to construct using this alternative plan. The Director of OEP must review and approve any alternative construction plan in writing **before construction of the crossing**. (*Section 4.3.2.2*)
  23. **Prior to construction**, NEXUS and Texas Eastern shall file with the Secretary a copy of its final Wetland Mitigation Plan, including any comments and required approvals from the Corps, Michigan Department of Environmental Quality, and Ohio Environmental Protection Agency, as applicable. (*Section 4.4.3.1*)
  24. **Prior to construction**, NEXUS and Texas Eastern shall provide a plan describing the feasibility of incorporating plant seeds that support pollinators into the seed mixes used for restoration of construction workspaces. This plan shall also describe NEXUS and Texas Eastern's consultations with the relevant federal and/or state regulatory agencies. (*Sections 4.5.6.1 and 4.5.6.2*)
  25. **Prior to construction**, NEXUS and Texas Eastern shall file with the Secretary any additional mitigation measures for state-protected species in Ohio developed in consultation with the applicable state agencies. (*Section 4.8.2*)

26. **Prior to construction**, NEXUS shall provide updated consultation documentation from FirstEnergy regarding coordination of construction activities where the NEXUS Project and FirstEnergy's transmission lines will cross. (*Section 4.9.1.1*)
27. **Prior to construction**, NEXUS shall file with the Secretary, for review and written approval by the Director of OEP, evidence of landowner concurrence with the site-specific Residential Construction Plans for all locations in appendix K-2 of the final EIS where the NEXUS Project construction work areas will be within 10 feet of a residence. (*Section 4.9.4.1*)
28. **Prior to construction**, NEXUS shall provide an update on consultations with developer(s) regarding construction timing and any requested mitigation measures for any planned developments that are crossed by the NEXUS Project and listed in appendix K-3 of the final EIS. (*Section 4.9.4.2*)
29. **Prior to construction**, NEXUS shall file with the Secretary, for review and written approval of the Director of OEP, its revised *Erosion and Sediment Control Plan (E&SPC)* to identify where it will implement measures to ensure that conservation lands crossed by the NEXUS Project, such as Conservation Reserve Program lands, will be restored to pre-construction conditions, or in accordance with the landowner's request. (*Section 4.9.5.3*)
30. **Prior to construction**, NEXUS shall file with the Secretary, for review and written approval of the Director of OEP, a revised Drain Tile Mitigation Plan to require a depth of burial of 4 feet in cultivated or rotated croplands, if requested by the landowner. (*Section 4.9.5.4*)
31. **Prior to construction**, NEXUS shall file with the Secretary site-specific crossing plans for the North Country National Scenic Trail at milepost 3.5 and the Iron Horse Trail at milepost 17.0 that identify the location(s) of detours, public notification procedures, signage, and consideration of avoiding days of peak usage. The crossing plans shall be developed in consultation with the landowner and trail managing agencies. (*Sections 4.9.7.3 and 4.9.7.4*)
32. **Prior to construction**, NEXUS shall file with the Secretary, for review and approval of the Director of OEP, an updated *Spill Prevention, Control, and Countermeasure Plan (SPCC Plan)* and *E&SCP* that acknowledge the potential to encounter pre-existing contamination during construction, and specifically identifies the Country View Apartment Complex, the Ford Motor Company – Rawson Plant, and the RACER site as areas with increased potential to encounter pre-existing contamination. The updated *SPCC Plan* and *E&SCP* shall also detail site-specific measures NEXUS will implement to avoid exacerbating existing contamination, if encountered. (*Section 4.9.9*)

33. **Prior to construction**, NEXUS shall coordinate with the landowner(s) near milepost 51.2, where the dumping of unknown contaminants occurred, and file with the Secretary a site-specific plan to properly manage any contaminated soil or groundwater in compliance with applicable regulations or demonstrate that a site-specific plan is not needed. (*Section 4.9.9*)
34. NEXUS shall not begin implementation of any treatment plans/measures (including archaeological data recovery); construction of facilities; or use staging, storage, or temporary work areas and new or to-be-improved access roads **until**:
- a. NEXUS files with the Secretary:
    - i. all outstanding survey reports, special studies, evaluation reports, and avoidance/treatment plans; and
    - ii. comments on survey reports, special studies, evaluation reports, and avoidance/treatment plans from the Ohio State Historic Preservation Office, as applicable, as well as any comments from federally recognized Indian tribes;
  - b. the Advisory Council on Historic Preservation is afforded an opportunity to comment on the undertaking if historic properties would be adversely affected; and
  - c. the FERC staff reviews and the Director of OEP approves all cultural resources reports and plans, and notifies NEXUS in writing that treatment plans/mitigation measures may be implemented and/or construction may proceed.

All material filed with the Commission that contains **location, character, and ownership** information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering “**CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE.**” (*Section 4.11.4*)

35. NEXUS shall file **in its weekly construction status reports** the following for each horizontal directional drill entry and exit site:
- a. the noise measurements from the nearest noise sensitive area (NSA) for each drill entry/exit site, obtained at the start of drilling operations;
  - b. the noise mitigation that NEXUS implemented at the start of drilling operations; and
  - c. any additional mitigation measures that NEXUS will implement if the initial noise measurements exceeded a day-night sound level ( $L_{dn}$ ) of 55

decibels on the A-weighted scale (dBA) at the nearest NSA and/or increased noise is greater than 10 dBA over ambient conditions. (*Section 4.12.2.1*)

36. NEXUS shall file a noise survey with the Secretary **no later than 60 days** after placing the new metering and regulating (M&R) stations into service. If the noise attributable to the operation of all of the equipment at each M&R station exceeds 55 dBA  $L_{dn}$  at the nearest NSA, NEXUS shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. NEXUS shall confirm compliance with the above requirement by filing a second noise survey for each station with the Secretary **no later than 60 days** after it installs the additional noise controls. (*Section 4.12.2.2*)
37. NEXUS and Texas Eastern shall file a noise survey with the Secretary **no later than 60 days** after placing each of their respective Project compressor stations in service. If a full load condition noise survey is not possible, NEXUS and Texas Eastern shall instead file an interim survey at the maximum possible horsepower load and file the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at any station under interim or full horsepower load exceeds 55 dBA  $L_{dn}$  at any nearby NSA, NEXUS and Texas Eastern shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. NEXUS and Texas Eastern shall confirm compliance with the 55 dBA  $L_{dn}$  requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (*Section 4.12.2.2*)
38. **Prior to construction**, NEXUS shall file with the Secretary, for review and written approval by the Director of OEP, a revised *HDD Monitoring and Inadvertent Return Contingency Plan* that includes the following measures:
  - a. utilization of a down-hole annular pressure tool during all phases of HDD operations (pilot hole drilling and borehole reaming) so that actual annular pressure can be monitored and steps taken to reduce annular pressures, as necessary to avoid an inadvertent return of drilling fluids ;
  - b. a drilling fluid program that specifies use of only pre-approved non-toxic additives, if necessary to minimize drilling fluid circulation losses and/or mitigate the effects of reactive shale and associated annular pressure increases;
  - c. protocols for the regular daytime and nighttime monitoring of the drill path for early identification of any inadvertent releases of drilling fluids (e.g., scheduled pedestrian survey, aerial drones, or video surveillance, etc.); and

- d. procedures for routine and daily documentation of all activities related to each HDD operation.
39. **Prior to construction**, NEXUS shall file with the Secretary, for review and written approval by the Director of OEP, revised HDD design plans for the Tuscarawas River crossing that demonstrate the HDD path will remain within sedimentary rock.

Document Content(s)

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