

161 FERC ¶ 61,229

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;

Cheryl A. LaFleur, and Robert F. Powelson.

Millennium Pipeline Company, L.L.C.

Docket No. CP16-486-000

ORDER ISSUING CERTIFICATE

(Issued November 28, 2017)

1. On July 29, 2016, Millennium Pipeline Company, L.L.C. (Millennium) filed an application under section 7(c) of the Natural Gas Act (NGA)¹ and Part 157 of the Commission's regulations² for authorization to construct and operate the Eastern System Upgrade Project (Eastern System Upgrade), located in Orange, Sullivan, Delaware, and Rockland Counties, New York. The project is designed to provide up to 223,000 dekatherms per day (Dth/d) of firm transportation service.

¹ 15 U.S.C. § 717f(c) (2012).

² 18 C.F.R. pt. 157 (2017).

2. For the reasons discussed below, the Commission grants Millennium's requested certificate authorization, subject to conditions.

I. Background and Proposal

3. Millennium, a Delaware limited liability company, is a natural gas company, as defined by section 2(6) of the NGA,³ engaged in the transportation of natural gas in interstate commerce and subject to the Commission's jurisdiction. Millennium operates

³ 15 U.S.C. § 717a(6) (2012).

an approximately 240-mile-long interstate natural gas pipeline system extending across southern New York from an interconnection with National Fuel Gas Supply Corporation in Independence, New York, to an interconnection with Algonquin Gas Transmission, LLC (Algonquin) in Ramapo, New York.

4. Millennium proposes to construct and operate its Eastern System Upgrade to provide 223,000 Dth/d of incremental firm transportation service from its existing compressor station in Corning, New York, to the existing interconnection with Algonquin in Ramapo, New York. To provide the incremental service, Millennium proposes to construct and operate the following pipeline facilities:

- an approximately 7.8-mile-long, 30- and 36-inch-diameter pipeline loop in Orange County, New York (Huguenot Loop);⁴
- a new compressor station in Sullivan County, New York (Highland Compressor Station), with one 22,400 horsepower Solar Titan 130E gas-fired turbine compressor unit;
- a new 22,400 horsepower Solar Titan gas-fired turbine compressor unit at the existing Hancock Compressor Station in Delaware County, New York;
- modifications to the existing Ramapo Meter and Regulator Station in Rockland County, New York;
- modifications to the Wagoner Interconnect in Orange County, New York;
- additional pipeline appurtenant facilities at the existing Huguenot and Westtown Meter and Regulating Stations in Orange County, New York; and

⁴ A pipeline loop is a new pipeline placed adjacent to an existing pipeline and connected to that pipeline at both ends. The Huguenot Loop will loop the existing 7.2-mile-long, 24-inch-diameter pipeline segment between the Huguenot Meter Station and Westtown Meter Station (Neversink segment).

- an alternate interconnect to the 16-inch-diameter Valley Lateral⁵ at milepost 7.6 of the Huguenot Loop.

5. In addition, Millennium has reserved for the project 3,000 Dth/d of existing mainline transportation service available from a receipt point in Empire, New York, to a delivery point in Ramapo, New York, as provided for in section 4.2(i) of the General Terms and Conditions of Millennium's FERC Gas Tariff.

6. Millennium held an open season on March 11, 2015, to solicit interest in an expansion along the eastern end of its system. Following the open season, Millennium executed long-term precedent agreements with nine shippers (all of which are local distribution companies (LDC) or municipalities) for 202,500 Dth/d of firm transportation service, approximately 91 percent of the total design capacity of the project.⁶ Millennium is currently marketing the remaining 20,500 Dth/d of available service.

⁵ On July 21, 2017, Millennium filed with the Commission its request for notice to proceed with construction of the Valley Lateral Project Docket No. CP16-17-000. On October 20, 2017, Millennium renewed its request, and on October 27, the Commission issued a notice to proceed with construction. On October 30, 2017, the New York DEC filed a Request for Stay of the Notice to Proceed, which the Commission denied on November 15, 2017. Millennium Pipeline Co., L.L.C., 161 FERC ¶ 61,186 (2017). New York DEC also petitioned the United States Court of Appeals for the Second Circuit for a temporary stay of the Commission's Notice to Proceed until the Commission acts on New York DEC's request for rehearing of the Commission's declaratory order finding New York DEC's waiver of section 401. In re New York State Department of Environmental Conservation v. FERC, 2d Cir. No. 17-3503, Petitioner's Emergency Petition for a Writ of Prohibition (Oct. 30, 2017) (Emergency Petition). New York DEC also requested the court to stay the effectiveness of the Notice to Proceed on an interim basis while the court considers the merits of its petition. *Id.* at 34. On November 2, 2017, the court granted an administrative stay pending consideration of the petition by the next available three-judge panel. In re New York State Dep't of Env'tl. Conservation v. FERC, 2d Cir. No. 17-3503 (Nov. 2, 2017). New York DEC's Emergency Petition is pending at the court.

⁶ Millennium requests privileged treatment of its executed precedent agreements in accordance with section 388.112 of the Commission's regulations. 18 C.F.R. § 388.112 (2017). Millennium asserts that the agreements are confidential. The names of the shippers are listed in the privileged portion, not the public portion, of Millennium's application. See Millennium July 29, 2016 Application at Exhibit I.

7. Millennium estimates the proposed facilities will cost approximately \$275 million. Millennium proposes to charge its existing system rates under Rate Schedule FT-1 as the initial recourse rates for firm service on the proposed facilities. Project shippers have elected to pay negotiated rates. Millennium proposes to charge its existing system-wide IT rate for interruptible service on the proposed facilities, and to recover incremental fuel use and lost and unaccounted for fuel on the project through incremental fuel retainage percentages.

II. Public Notice, Interventions, and Comments

8. Notice of Millennium's application was published in the Federal Register on August 17, 2016, with interventions and comments due by September 1, 2016.⁷ Appendix A of this order identifies all parties that filed timely, unopposed motions to intervene. Timely, unopposed motions to intervene are granted automatically pursuant to Rule 214 of the Commission's Rules of Practice and Procedure.⁸ Glenn O'Hehier, Juliette S. Hermant, Stella Varveris, Larry Cohn, Corey King, Jeanne-Marie Maiale, and County of Sullivan, New York, filed untimely motions to intervene, which the Commission granted.⁹

9. Numerous comments were filed both supporting and opposing the project. Comments in opposition argue that the project is not needed and raise environmental and safety concerns, including the project's effect on forests and wetlands, air and water quality, public health, property values, recreation, noise, and aesthetics. Millennium filed comments responding to arguments regarding the project's economic benefits and market need, and the project's effects on the environment, human health, and property values.¹⁰

10. We discuss the project's market need below in the Certificate Policy Statement section of this order. The environmental and safety concerns raised in this proceeding are addressed in the Environmental Assessment (EA) for this project, and as appropriate, below in the Environmental Analysis section of this order.

⁷ 81 Fed. Reg. 54,799.

⁸ 18 C.F.R. § 385.214(c) (2017).

⁹ Secretary September 29, 2016 Notice Granting Late Intervention; Secretary September 7, 2017 Notice Granting Late Intervention.

¹⁰ Millennium filed reply comments on September 6 and December 22, 2016, and February 8 and May 16, 2017.

III. Discussion

11. Since the proposed facilities will be used to transport natural gas in interstate commerce subject to the Commission's jurisdiction, the construction and operation of the facilities are subject to the requirements of subsections (c) and (e) of section 7 of the NGA.¹¹

A. Certificate Policy Statement

12. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new construction.¹² 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.

13. 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 existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse economic 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 construction. 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.

¹¹ 15 U.S.C. §§ 717f(c), (e) (2012).

¹² Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC ¶ 61,227 (1999), order on clarification, 90 FERC ¶ 61,128, order on clarification, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

14. As discussed above, the threshold requirement is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. To ensure that existing customers do not subsidize expansion projects, Commission policy requires that incremental rates be established as initial recourse rates for services utilizing expansion capacity unless such incremental rates would be lower than the existing system rates for service. As discussed below, we find it appropriate for Millennium to use the existing applicable system reservation and usage charges for the expansion services because the combined calculated incremental reservation and usage charges for the expansion are lower than the existing system charges. Further, as discussed in more detail below, the revenues generated from the current precedent agreements will not recover the costs of the expansion. Therefore we are not making a finding that Millennium may roll-in the costs of the expansion in a future proceeding absent a change in circumstances. Millennium will bear the risk of any cost under-recovery. Accordingly, we find existing shippers will not subsidize the project and that the threshold no-subsidy requirement has been met.

15. None of Millennium's existing customers have indicated any concerns that construction, operation, or service on the project will adversely affect existing services. Nor is there any evidence that Millennium's proposed project will adversely affect any other pipelines or their customers; no pipelines or their captive customers have protested Millennium's proposal.

16. We also find that Millennium has taken sufficient steps to minimize adverse impacts on landowners and surrounding communities. Millennium has designed the project to utilize, to the extent practicable, its existing rights-of-way and land it already owns or has newly acquired. Millennium estimates that approximately 88 percent of the total length of the Huguenot Loop will be collocated with its existing rights-of-way. The proposed new compressor station, new units at an existing compressor station, meter and regulating equipment, pig launchers, and other facility installations will be located on land that Millennium owns or that is subject to a permanent easement.¹³

1. Project Market Need

17. Some intervenors raised concerns about the project's market need. Linda Reik, a local landowner, cites a study commissioned by the Massachusetts Attorney General to argue that new natural gas pipeline capacity is not needed to ensure reliable power supply

¹³ Millennium July 29, 2016 Application at 5-6.

in New England through 2030.¹⁴ In addition, Ms. Reik asserts that project demand can be satisfied by renewable energy alternatives, such as solar and wind power, or energy efficiency gains.¹⁵ Further, two commenters requested that the information on project shippers and their precedent agreements be made publicly available in order for the public to sufficiently understand the project market need.

18. Under the Certificate Policy Statement, the Commission considers all evidence submitted reflecting on the need for a project, including, but not limited to, precedent agreements, demand projections, potential cost savings to consumers, or a comparison of projected demand with the amount of capacity currently serving the market.¹⁶ The Commission has found that long-term commitments serve as “significant evidence of demand for [a] project.”¹⁷ Millennium has executed precedent agreements with nine shippers for firm service using approximately 91 percent of the design capacity for the proposed project. We find that Millennium’s precedent agreements are persuasive evidence of market need for this project, and further, Ordering Paragraph (C) of this order requires that Millennium file a written statement affirming that it has executed final contracts for service at the levels provided for in these precedent agreements before commencing construction.

19. Ms. Reik’s assertion that the project is not needed based on the study commissioned by the Massachusetts Attorney General is unpersuasive. That study focuses on long-term electric reliability issues in New England and compares potential ways to address those reliability issues, considering both ratepayer cost and regional carbon emissions.¹⁸ The study explicitly states that it does not assess

¹⁴ Linda Reik August 31, 2016 Motion to Intervene and Comments at 2 (citing Analysis Group, Inc., Power System Reliability in New England Meeting Electric Resource Needs in an Era of Growing Dependence on Natural Gas (2015), available at <http://www.mass.gov/ago/docs/energy-utilities/feros-study-final.pdf>) (Massachusetts AG Study).

¹⁵ Linda Reik May 1, 2017 Comments.

¹⁶ Certificate Policy Statement, 88 FERC at 61,748.

¹⁷ *Id.* The United States Court of Appeals for the District of Columbia Circuit has upheld the Commission’s finding that long-term precedent agreements constitute evidence of market demand. See *Sierra Club v. FERC*, 867 F.3d 1357, 1379 (D.C. Cir. 2017) (*Sabal Trail*).

¹⁸ Massachusetts AG Study at 4.

“whether there is a need for incremental pipeline capacity to meet gas LDC needs or whether power system needs (or lack thereof) should affect considerations related to development and construction of new pipeline capacity for use by gas LDCs.”¹⁹ As stated earlier, the purpose of the project is to provide incremental firm transportation service to LDCs and municipalities. Accordingly, the study does not assess the market for the Eastern System Upgrade. Moreover, renewable energy or energy efficiency measures would not accomplish the project purpose of providing incremental natural gas transportation service to the nine project shippers. As discussed above, the project shippers have elected to meet their present energy needs by signing precedent agreements for natural gas service. The Commission cannot require individual energy users to use different or specific energy resources. Thus, these long-term precedent agreements accurately reflect the need for the project.

20. In addition, National Grid Gas Delivery Companies, which includes three project shippers (Boston Gas, Colonial Gas, and Narragansett) serving Rhode Island and Massachusetts retail customers, filed comments stating that load forecasts predict demand growth within its New England service territories over the next 10 years, indicating a need for additional gas pipeline capacity.²⁰ They added that the project would provide additional access to upstream sources of gas supply.²¹

21. Regarding access to the privileged precedent agreements, we note that Millennium filed a form of protective agreement in its application,²² consistent with the requirements of section 388.112(b)(2) of the Commission’s regulations.²³ Any party was able to request a copy of the privileged information by mailing a written request to Millennium, which would have included an executed copy of the protective agreement and a statement or proof of their party status.²⁴

¹⁹ Id. at 20, n.36.

²⁰ National Grid Gas Delivery Companies September 1, 2016 Motion to Intervene and Comments at 4.

²¹ Id. at 5.

²² Millennium July 29, 2016 Application at Exhibit Z-1.

²³ 18 C.F.R. § 388.112(b)(2)(i) (2017).

²⁴ Id. § 388.112(b)(2)(iii).

2. Certificate Policy Statement Conclusion

22. Accordingly, we find that Millennium has demonstrated a need for the Eastern System Upgrade and that the project's benefits will outweigh any adverse economic effects on existing shippers, other pipelines and their captive customers, and landowners and surrounding communities. Consistent with the criteria discussed in the Certificate Policy Statement and subject to the environmental discussion below, we find that the public convenience and necessity requires approval of Millennium's proposal, as conditioned in this order.

B. Rates

1. Initial Recourse Rates

23. Millennium proposes to assess its generally applicable Rate Schedule FT-1 reservation charge of \$0.6499 Dth/d and usage charge of \$0.0019 per Dth for firm transportation service utilizing the proposed facilities.

24. For comparison purposes, Millennium calculated an illustrative initial incremental reservation charge of \$0.6301 per Dth/d for the firm service and usage charge of \$0.0000 per Dth. Millennium developed the illustrative incremental recourse charge of \$0.6301 per Dth/d by dividing the first year incremental annual cost of service of \$51,283,372 by the annual project design billing determinants of 2,676,000 Dth/d,²⁵ and by using its system depreciation rate and pre-tax rate of return.²⁶ The Commission finds that the combined illustrative incremental recourse reservation and usage charges are lower than the generally applicable system rates. Therefore, the Commission approves Millennium's proposal to use its generally applicable reservation and usage charges under Rate Schedule FT-1.

25. On February 21, 2017, Commission staff issued a data request asking Millennium to break down projected Operation and Maintenance (O&M) expenses by FERC account number and between labor and non-labor costs. In response, Millennium identified a total of \$897,021 in non-labor O&M costs for FERC account numbers 864 and 865. Millennium classified these

²⁵ The project design capacity of 223,000 Dth/d times 12 months equals 2,676,000 Dth/d of annual design determinants.

²⁶ Millennium Pipeline Co., L.L.C., 117 FERC ¶ 61,319, at PP 32, 103 (2006).

costs as fixed costs. Commission policy²⁷ and section 284.7(e) of our regulations²⁸ require that non-labor costs in these accounts be classified as variable costs. Consistent with the Commission's regulations requiring the use of straight fixed variable (SFV) rate design, reservation charges may not recover any variable costs.²⁹ Accordingly, Millennium is directed to reclassify these non-labor O&M costs as variable costs.

2. Predetermination on Rolled-in Rate Treatment

26. Millennium does not request a predetermination that it may roll the costs of the project into its rates in its next NGA section 4 rate case. Nevertheless and consistent with longstanding Commission policy, we will evaluate whether to issue a predetermination of rolled-in rate treatment.³⁰

27. To receive a predetermination favoring rolled-in rate treatment, a pipeline must demonstrate that rolling in the costs associated with the construction and operation of new facilities will not result in existing customers subsidizing the expansion. In general, this means that a pipeline must show that the revenues to be generated by an expansion project will exceed the project cost. To make this determination, we compare the project cost to the revenues generated using actual contract volumes

²⁷ See, e.g., Tennessee Gas Pipeline Co., L.L.C., 156 FERC ¶ 61,156, at P 29 (2016) (stating the Commission generally requires all non-labor costs in these accounts to be classified as variable costs).

²⁸ 18 C.F.R. § 284.7(e) (2017). Section 284.7(e) provides:

[if] a reservation fee is charged, it must recover all fixed costs attributable to the firm transportation service, unless the Commission permits the pipeline to recover some of the fixed costs in the volumetric portion of a two-part rate. A reservation fee may not recover any variable costs or fixed costs not attributable to the firm transportation service.

²⁹ Dominion Transmission, Inc., 153 FERC ¶ 61,382, at P 33 (2015) (stating variable costs should not be recovered through the reservation charge); Columbia Gulf Transmission, LLC, 152 FERC ¶ 61,214, at P 20 (2015) (stating variable costs should be recovered through the usage charge).

³⁰ Millennium Pipeline Co., L.L.C., 145 FERC ¶ 61,007, at P 31, n.41 (2013) (stating that the Certificate Policy Statement contemplates that as a general matter, issues of future rate treatment will be addressed in advance).

and either the maximum recourse rate or, if the negotiated rate is lower than the recourse rate, the actual negotiated rate.

28. The Eastern System Upgrade is not fully subscribed, and Millennium states the negotiated rates are lower than the recourse rates. Based on the 202,500 Dth/d of total subscribed under precedent agreements at negotiated rates, Millennium estimates its first year revenues from the expansion services to be \$46,472,019, which is less than its estimated first year cost of service of \$51,283,372. Therefore, the Commission will not grant a predetermination of rolled-in rate treatment for the costs of the Eastern System Upgrade Project in a future section 4 rate case absent a demonstration that the costs associated with the project can be rolled-in without existing customers subsidizing the project. Millennium will bear the burden of proof to demonstrate that rolled-in rate treatment is just and reasonable. This holding is consistent with previous NGA section 7 expansion projects in which the Commission denied predetermination of rolled-in rate treatment due to costs exceeding revenues in the first few years.³¹

3. Reporting Incremental Project Costs

29. The Commission will require Millennium to keep separate books and accounting of costs and revenues attributable to the proposed incremental project services and capacity created by the project in the same manner as required by section 154.309 of the Commission's regulations.³² The books should be maintained with applicable cross-reference and the information must be in sufficient detail so that the data can be identified in Statements G, I, and J in any future NGA section 4 or 5 rate case, and the information must be provided consistent with Order No. 710.³³

4. Fuel Retainage Rate

30. Millennium proposes to charge an initial incremental fuel retainage percentage of 0.79 percent to recover incremental fuel use and lost and unaccounted for gas on the project. Millennium calculated its initial incremental fuel retainage percentage based on its analysis of current system deliveries and

³¹ See Southern Natural Gas Co., 115 FERC ¶ 61,328, at PP 39-43 (2006); Eastern Shore Natural Gas Co., 111 FERC ¶ 61,479, at PP 18-22 (2005).

³² 18 C.F.R. § 154.309 (2017).

³³ Revisions to Forms, Statements, and Reporting Requirements for Natural Gas Pipelines, Order No. 710, FERC Stats. & Regs. ¶ 31,267, at P 23 (2008).

fuel gas consumption, and on an assumed initial load factor of 90 percent. Millennium states that it will track changes in fuel costs for the incremental service using its currently effective fuel consumption tracking mechanism to true-up any differences between the projected and actual fuel costs, and will use actual load factors after the facilities become operational.

31. Millennium's proposed incremental fuel retainage percentage is greater than its existing system fuel retainage percentage of 0.488 percent.³⁴ Therefore, the Commission approves Millennium's incremental fuel retainage percentage.

32. Millennium also provides for the Commission's review a pro forma rate sheet that revises section 7, Retainage Rates, of its General Terms and Conditions of its FERC Gas Tariff to incorporate the incremental fuel retainage percentage for the project. The Commission finds the changes as provided by the pro forma tariff records acceptable and directs Millennium to file actual tariff records not less than 30 days, or more than 60 days, before the in-service date of the project.

5. Negotiated Rates

33. Project shippers have agreed to pay negotiated rates. Millennium must file either the negotiated rate agreements or tariff records setting forth the essential terms of the agreements in accordance with the Alternative Rate Policy Statement³⁵ and the Commission's negotiated rate policies.³⁶ The filing must be made at least 30 days, but not more than 60 days, before the proposed effective date for such rates.³⁷

³⁴ Millennium Pipeline Company, LLC, FERC NGA Gas Tariff, Millennium Tariffs, Currently Effective Rates, Section 7. Retainage Rates, 10.0.0.

³⁵ Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines; Regulation of Negotiated Transportation Services of Natural Gas Pipelines, 74 FERC ¶ 61,076, order granting clarification, 74 FERC ¶ 61,194, reh'g and clarification denied, 75 FERC ¶ 61,024, reh'g denied, 75 FERC ¶ 61,066, reh'g dismissed, 75 FERC ¶ 61,291 (1996), petition denied sub nom. Burlington Res. Oil & Gas Co. v. FERC, 172 F.3d 918 (D.C. Cir. 1998). (Alternative Rate Policy Statement).

³⁶ 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).

³⁷ 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. 18 C.F.R. § 154.112(b) (2017); see, e.g., Texas Eastern Transmission, LP, 149 FERC ¶ 61,198, at P 33 (2014).

C. Engineering Analysis

34. Delaware Riverkeeper Network (Delaware Riverkeeper) filed a report by Richard B. Kuprewicz of Accufacts Inc. that reviewed Millennium's non-public Critical Energy Infrastructure Information (CEII) flow diagrams filed in Exhibit G of Millennium's application.³⁸ Using Millennium's CEII, Mr. Kuprewicz developed four exhibits that plot Millennium pipeline's pressure and flow at each milepost between the Corning Compressor Station, at the beginning of Millennium's system, and the Ramapo Metering Station at the interconnection with Algonquin for both the existing and proposed flow scenarios under summer and winter design conditions. These exhibits provide the basis for Mr. Kuprewicz's analysis of Millennium's proposal. Delaware Riverkeeper filed Mr. Kuprewicz's four exhibits with the Commission as CEII.³⁹

35. Based on his exhibits and review of Millennium's CEII, Mr. Kuprewicz claims that the 36-inch-diameter portion of the Huguenot Loop is larger than needed for the project, and that Millennium has not justified the proposed Maximum Allowable Operating Pressure (MAOP) of 1,350 pounds per square inch (psig) for the Huguenot Loop and 750 psig delivery pressure to the Algonquin pipeline. Mr. Kuprewicz makes these arguments as part of his contention that Millennium has impermissibly segmented the Eastern System Upgrade from its Valley Lateral Project (Valley Lateral), approved in Docket No. CP16-17,⁴⁰ and hypothetical unidentified future pipeline projects. Millennium filed a response disputing Mr. Kuprewicz's findings and asserting that it designed the Eastern System Upgrade to specifically provide project shippers with the firm transportation service to meet their express market demand for natural gas.⁴¹ We address each of Mr. Kuprewicz's engineering design arguments immediately below and his segmentation arguments in the Environmental Analysis of this order.

36. As a preliminary matter, we note that Mr. Kuprewicz identified differences in Millennium's various flow diagrams in the mainline pipeline length of Millennium's pipeline system downstream of the Minisink Compressor Station. Mr. Kuprewicz pointed out that the length of the mainline varied by over five miles in some of Millennium's flow diagrams. In its April 10, 2107 response to staff's April 5,

³⁸ Delaware Riverkeeper March 29, 2017 Filing. Delaware Riverkeeper repeated these comments in its comments on the draft EA filed May 1, 2017.

³⁹ Delaware Riverkeeper April 20, 2017 Filing.

⁴⁰ Millennium Pipeline Co., L.L.C., 157 FERC ¶ 61,096 (2016), order on reh'g and stay, 161 FERC ¶ 61,194 (2017).

⁴¹ Delaware Riverkeeper May 16, 2017 Filing.

2017

data request, Millennium provided flow diagrams correcting the typographical errors noted by Mr. Kuprewicz. These new flow diagrams now properly represent the pipeline facilities and associated flow characteristics under existing and proposed gas flow scenarios. In addition, these new flow diagrams mirror the hydraulic flow models that Millennium filed on May 26, 2017, in support of its Eastern System Upgrade Project.

37. Commission staff reviewed Millennium's flow diagrams filed in its application, revised flow diagrams, and hydraulic flow models. Consistent with Commission staff's long-standing practice, staff used one of two industry standard hydraulic pipeline simulation software packages to evaluate whether the proposed project has been properly designed to meet existing and proposed system delivery requirements. Based upon these detailed pipeline hydraulic simulations conducted by Commission staff, the Commission is confident that staff accurately estimated the impacts that the proposed project would have on Millennium's system both before and after the project is in service. Commission staff's review of Millennium's pipeline hydraulic models, as supported by Millennium's revised flow diagrams, found that Millennium properly designed its facilities to provide an additional 223,000 Dth/d of new firm transportation service to meet the requirements of its expansion shippers while operating under winter and summer design conditions and meeting all other contractual obligations and minimum delivery pressures.

1. Pipeline Diameter of Huguenot Loop

38. Mr. Kuprewicz claims that the 36-inch-diameter portion of the Huguenot Loop is larger than needed based on the pressure line slope plotted in his exhibits, and that a 30-inch-diameter pipeline would meet the project purpose. Millennium disputes Mr. Kuprewicz's assertions, arguing that the 36-inch-diameter Huguenot Loop is required to meet the project demand based upon hydraulic pipeline modeling results and that a 30-inch-diameter loop would not meet the project purpose, but would require either additional looping or compression to provide the proposed service. On May 26, 2017, in response to staff's May 23, 2017 data request, Millennium provided flow diagrams and hydraulic models supporting its position.

39. As stated above Commission staff examined the flow diagrams, engineering data and hydraulic models provided in support of Millennium's application. Staff determined that Millennium's project was properly designed to provide an additional 223,000 Dth/d of new transportation service while maintaining existing services and meeting all design and contractual obligations. In addition, Commission staff evaluated the substitution of 30-inch-diameter pipeline, in lieu of the proposed 36-inch diameter pipeline, including the examination of the hydraulic models provided by Millennium on May 26, 2017.

Staff confirmed that substituting 30-inch-diameter pipe for the 36-inch diameter pipe would require either the installation of 1,500 horsepower of additional compression at the Minisink Compressor Station or constructing 4.71 miles of additional pipeline looping to provide the

project contracted volumes and meet required delivery pressures. Accordingly, we confirm that the proposed 36-inch-diameter portion of Huguenot Loop is properly designed to meet the new service requirements and the substitution of a 30-inch-diameter pipe would require substantial additional facilities.

2. Maximum Allowable Operating Pressure of Huguenot Loop and Delivery Pressures to Algonquin

40. Mr. Kuprewicz claims that the proposed MAOP of 1,350 psig on the Huguenot Loop cannot be justified because it is inconsistent with the operating pressures on Millennium's existing mainline. Mr. Kuprewicz argues that installing a pipeline with a MAOP of 1,350 psig overbuilds the project for its stated purpose, because the MAOP of 1,350 psig cannot be utilized without incorporating additional compressor stations and mainline pipeline changes beyond those proposed here.

41. The MAOP is the maximum pressure at which a pipe may operate based upon the physical properties of the steel and class location, determined by the population density, as dictated by the U.S. Department of Transportation (DOT).⁴² Staff notes that indeed the Huguenot Loop's MAOP of 1,350 psig will be higher than the 1,200 psig MAOP of most of Millennium's existing system and the 920 psig MAOP of the 7.0-mile Neversink Segment. There is no requirement, however, that MAOPs be consistent at all times across a pipeline's entire system. Further, as we note above, Commission staff found that Millennium properly designed the project to provide the contracted volumes.

42. Currently, the Neversink Segment is a pressure and capacity constraint on Millennium's pipeline system. The proposed Huguenot Loop, as needed, will allow Millennium to minimize the flow of gas on the Neversink Loop to provide the proposed increase in gas volumes to the Algonquin system at the Ramapo interconnect at the required delivery pressures, as required by Algonquin's system at this point. As Millennium's system is currently and proposed to be configured, the pressures in the Huguenot Loop will not approach its MAOP. Nor has Millennium identified any future plans for expansion of its system in order to fully exploit the 1,350 psig MAOP, as prescribed by DOT regulations, of the proposed Huguenot Loop.

3. Delivery Pressure

43. Mr. Kuprewicz argues that Millennium has not justified its delivery pressure of 750 psig to Algonquin's interconnection in Ramapo, New York.

⁴² 49 C.F.R. § 192.111 (2017).

44. Millennium, as the upstream pipeline, needs to ensure that it can deliver gas volumes into Algonquin's system under all operating conditions, including both summer and winter peak periods. To do this, Millennium needs to provide gas supplies to Algonquin at pressures equal to or greater than the existing line pressure on Algonquin's system. As Millennium points out in its reply comments filed on May 16, 2017, the current MAOP of Algonquin's system at the Ramapo Meter Station is 750 psig.⁴³ Therefore, Millennium must design its system to ensure that it can deliver gas to Algonquin at pressures sufficient to enter the Algonquin system. We find that Millennium has fully supported its proposed design delivery pressure to Algonquin.

4. Purpose of the Neversink Segment

45. Mr. Kuprewicz states that the 24-inch-diameter Neversink Loop is out of character with the design of the rest of Millennium 30-inch-diameter, 1,200 MAOP system, and is destined for a different service, such as providing gas to the proposed CPV Valley Energy Center supplied by the Valley Lateral.

46. Mr. Kuprewicz correctly states that the Neversink Segment's MAOP is out of character with the rest of the Millennium system. As Mr. Kuprewicz is aware, the Neversink Segment is a legacy pipeline segment incorporated into Millennium's system from another pipeline system when the Millennium system was constructed.⁴⁴ Daily operating conditions and nominations on Millennium's system will dictate the flow of the gas through the proposed 36-inch-diameter Huguenot Loop and the 24-inch-diameter Neversink Segment. From time to time the Neversink Segment may feed the CPV Valley Energy Center, at other times the Neversink Segment will act as a loop of the Huguenot Loop.

5. Future Pipeline Expansions

47. Mr. Kuprewicz alleges that the project design signals that Millennium is anticipating further pipeline expansions. Based upon the increase in horsepower of compression and the use of 36-inch-diameter pipeline for the Huguenot Loop, Mr. Kuprewicz suggests that additional project expansions are expected well beyond the needs in the instant application.

⁴³ Millennium May 16, 2017 Reply Comments at 15.

⁴⁴ Millennium Pipeline Co., L.P., 100 FERC ¶ 61,277 (2002) (order authorizing Millennium to construct its mainline).

48. As we reiterate our findings above, staff determined after an extensive review and examination of the engineering data, flow diagrams, and hydraulic models submitted in the proceeding, including Mr. Kuprewicz's exhibit, that Millennium has designed the project to meet the specific needs of its shippers. There are no current proposals by

Millennium before the Commission to expand or modify its pipeline system. Based upon the foregoing we find Mr. Kuprewicz's assertions to speculative, unsupported and without merit.

D. Environmental Analysis

49. On February 5, 2016, the Commission granted Millennium's request to use the Commission's pre-filing review process in Docket No. PF16-3-000. On May 11, 2016, the Commission issued a Notice of Intent to Prepare an Environmental Assessment for the Planned Eastern System Upgrade Project and Request for Comments on Environmental Issues (NOI). The Commission published the NOI in the Federal Register and mailed the NOI to 513 interested persons or entities, including federal, state, and local government representatives and agencies; elected officials; affected landowners; environmental and public interest groups; potentially interested Native American tribes; other interested entities; and local libraries and newspapers.

50. In response to the NOI, the Commission received 452 comment letters during the public scoping period. In addition, we received 66 letters before issuance of the NOI and 235 additional comment letters after the scoping period closed. Comments were filed by individuals; state and federal agencies, including the New York State Department of Environmental Conservation (New York DEC), New York State Department of Agriculture and Markets, and U.S. Environmental Protection Agency (EPA); and numerous non-governmental organizations, including Delaware Riverkeeper, Upper Delaware Preservation Coalition, The Nature Conservancy, Catskill Mountainkeeper, and Protect Orange County. Most comments opposed the Eastern System Upgrade and raised concerns about project need and scope; project alternatives; cumulative impacts; and project effects on air quality and human health, climate change, cultural resources, land use, recreation, visual resources, property values, environmental justice, soils, vegetation, wildlife, special status species, and public safety.

51. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA), our staff prepared an Environmental Assessment (EA) for Millennium's proposal. The EA addresses geology, soils, groundwater, surface water, wetlands, vegetation, wildlife and aquatic resources, threatened and endangered species, land use, recreation, visual resources, socioeconomics (including property values), cultural resources, air quality and noise, climate change, reliability and safety, cumulative impacts, and alternatives. In addition, the EA replies to all substantive comments received in response to the notice of application, NOI, as well as the comments filed after the scoping period. Commission staff issued the EA on March 31, 2017, for a 30-day comment period.

52. In response to the EA, the Commission received comments from 37 individuals (including landowners); the U.S. Fish and Wildlife Service (FWS); the Delaware Tribe of Indians; Delaware Riverkeeper; Catskill Mountainkeeper; two Sullivan County officials; the Sullivan County Chamber of Commerce; the Town of Highland, New York; and Teamsters National Pipeline Management. These comments raise issues related to project need and scope; the pipeline's future compliance with mitigation measures; the appropriateness of an EA instead of an environmental impact statement (EIS); segmentation; project alternatives; cumulative impacts; and project effects on geology/soils, water resources, vegetation and wildlife, threatened and endangered species, land use, socioeconomics, cultural resources, air quality, noise, and public safety.

53. We have addressed comments on project need and scope above. Below, we address the remaining substantive comments organized by comment topic or resource area. In each relevant resource area, we discuss the project's direct, indirect, and cumulative effects as appropriate.

1. Mitigation Measures

54. The EA finds that the Eastern System Upgrade will have no significant impacts based in part on Millennium's implementation of its Environmental Construction Standards, which meet or exceed the measures in the Commission's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures).⁴⁵ Delaware Riverkeeper argues that the EA cannot rely on Millennium's implementation of its Environmental Construction Standards to minimize project effects because the standards are inadequate. In support, Delaware Riverkeeper cites complaints filed in response to the construction of Millennium's mainline in 2007 and 2008.

55. An agency may use mitigation measures to minimize a proposed action's possible adverse impacts below the level of significance, when the adequacy of the proposed mitigation measures is supported by substantial evidence.⁴⁶ In practice, mitigation measures have been found to be sufficiently supported when they are based on agency studies or when they "are likely to be adequately

⁴⁵ EA at 22.

⁴⁶ National Audubon Society v. Hoffman, 132 F.3d 7, 17 (2d Cir. 1997) (Audubon Society); see also Cabinet Mountain Wilderness v. R. Max Peterson, 685 F.2d 678 (D.C. Cir. 1982); "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18,026, 18,038 (1981).

policed.”⁴⁷ If mitigation measures are mandatory, and a program exists to monitor and enforce those measures, then the efficacy of the mitigation measures has been found to be assured.⁴⁸

56. The issue Delaware Riverkeeper raises relates to compliance, not to the adequacy of the required mitigation. Instances of non-compliance that occurred nearly 10 years ago do not support a conclusion that there are pervasive flaws in the required mitigation measures. Commission staff has used its Plan and Procedures as a baseline level of protection on construction projects for over 20 years. During this time, staff has continued to assess mitigation needs and refined these protection measures based on its own and outside parties’ expertise. Staff has directly observed the measures’ efficacy through thousands of environmental compliance inspections, and has also considered best practices and other information from the public.⁴⁹ As Millennium is required to follow its Environmental Construction Standards, which meet or exceed the Plan and Procedures, we find that the mitigation measures proposed are sufficient.

2. Need for an EIS

57. Commenters assert that Commission staff should have prepared an EIS instead of an EA for the proposed project. Under NEPA, agencies must prepare an EIS for major federal actions that may significantly impact the environment.⁵⁰ If an agency determines that a

⁴⁷ Audubon Society, 132 F.3d at 17.

⁴⁸ *Id.*

⁴⁹ Commission staff updated both the Plan and Procedures in 1994, 2003, and 2013. During the process leading to these revisions, the Commission considered comments from “the natural gas industry, federal, state and local agencies, environmental consultants, inspectors, construction contractors, nongovernmental organizations and other interested parties with special expertise with respect to environmental issues commonly associated with pipeline projects and other natural gas facility construction projects.” Notice of Availability of Final Revisions to the Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures, 78 Fed. Reg. 34,374 (June 7, 2013).

⁵⁰ 42 U.S.C. § 4332(2)(C) (2012); 40 C.F.R. § 1502.4 (2017).

federal action is not likely to have significant adverse effects, it may prepare an EA. Guided by the Council on Environmental Quality's (CEQ) regulations,⁵¹

⁵¹ 40 C.F.R. § 1501.3(b) (2017) (stating agencies may prepare an EA to assist agency planning and decision-making).

the Commission will typically issue an EA, rather than prepare an EIS, where staff determines that the proposed action will not have a significant effect on the human environment.

58. Here, Commission staff prepared an EA to determine whether the Eastern System Upgrade would have a significant impact on the human environment, requiring the preparation of an EIS. The EA assesses the project effects that could occur on a variety of resources. Based on the EA's analysis and recommended mitigation measures, the EA concludes, and we agree, that approval of the Eastern System Upgrade would not constitute a major federal action significantly affecting the quality of the human environment. Therefore, preparation of an EIS is not required.

3. Segmentation

59. Delaware Riverkeeper and several commenters argue that the Commission improperly segmented its NEPA review by failing to analyze the Eastern System Upgrade and Millennium's approved Valley Lateral in a single NEPA document as connected, similar, and cumulative actions. As discussed below, we disagree.

60. CEQ regulations require the Commission to include "connected actions," "cumulative actions," and "similar actions" in its NEPA analyses.⁵² "An agency impermissibly 'segments' NEPA review when it divides connected, cumulative, or similar federal actions into separate projects and thereby fails to address the true scope and impact of the activities that should be under consideration."⁵³ Connected actions include actions that meet one of the following three criteria: (i) they automatically trigger other actions, which may require environmental impact statements; (ii) they cannot or will not proceed unless other actions are taken previously or simultaneously; and (iii) they are interdependent parts of a larger action and depend on the larger action for their justification.⁵⁴

61. In evaluating whether multiple actions are, in fact, connected actions, courts have employed a "substantial independent utility" test, which the Commission finds useful for determining whether the three criteria for a connected action are met. The test asks "whether one project will serve a significant

⁵² Id. § 1508.25(a).

⁵³ Delaware Riverkeeper Network v. FERC, 753 F.3d 1304, 1313 (D.C. Cir. 2014) (Delaware Riverkeeper Network).

⁵⁴ 40 C.F.R. § 1508.25(a)(1) (2017).

purpose even if a second related project is not built.”⁵⁵ For proposals that connect to or build upon an existing infrastructure network, this standard distinguishes between those proposals that are separately useful from those that are not. While the analogy between the pipelines and highways is not always apt, similar to a highway network, “it is inherent in the very concept of” the interstate pipeline grid “that each segment will facilitate movement in many others; if such mutual benefits compelled aggregation, no project could be said to enjoy independent utility.”⁵⁶

62. In Delaware Riverkeeper Network, the court ruled that individual pipeline proposals were interdependent parts of a larger action where four pipeline projects, when taken together, would result in “a single pipeline” that was “linear and physically interdependent” and where those projects were financially interdependent.⁵⁷ The court put a particular emphasis on the four projects’ timing, noting that when the Commission reviewed one of the four projects, the other projects were either under construction or pending before the Commission.⁵⁸ In a later case, the same court indicated that in considering a pipeline application, the Commission need not jointly consider projects that are unrelated and do not depend on each other for their justification.⁵⁹

63. In this case, the projects will not result in a single pipeline or one that is linearly, physically, or functionally interdependent.⁶⁰ The Valley Lateral comprises a 7.8-mile-long, 16-inch-diameter lateral pipeline to provide 127,200 Dth/d of firm transportation service from an interconnect with Millennium’s

⁵⁵ Coalition on Sensible Transp., Inc. v. Dole, 826 F.2d 60, 69 (D.C. Cir. 1987); see also O’Reilly v. U.S. Army Corps of Eng’rs, 477 F.3d 225, 237 (5th Cir. 2007) (defining independent utility as whether one project “can stand alone without requiring construction of the other [projects] either in terms of the facilities required or of profitability.”).

⁵⁶ Coalition on Sensible Transp., Inc. v. Dole, 826 F.2d at 69.

⁵⁷ Delaware Riverkeeper Network, 753 F.3d at 1314.

⁵⁸ Id.

⁵⁹ See Myersville Citizens for a Rural Community, Inc. v. FERC, 783 F.3d 1301, 1326 (D.C. Cir. 2015) (Myersville).

⁶⁰ See also Millennium Pipeline Co., LLC, 161 FERC ¶ 61,194 at P 30 (finding projects the Eastern System Upgrade and Valley Lateral Projects are not connected actions).

mainline in the Town of Minisink, New York, to the new gas-powered CPV Valley Energy Center in the Town of Wawayanda, New York. In contrast, the Eastern System Upgrade comprises a 7.8-mile-long pipeline that loops Millennium's mainline and added compression to deliver 223,000 Dth/d of firm transportation service from a receipt point in Steuben County, New York, to Algonquin's interconnect in Ramapo, New York, expanding capacity on Millennium's mainline to provide gas to downstream project shippers. Each project's expansion service follows a unique, discrete transportation path to separate shippers with different receipt and delivery points.

64. While the Eastern System Upgrade will include an interconnection with the Valley Lateral that will provide the Valley Lateral shipper an alternate means to access to gas supply in the event that Millennium's mainline is taken out of service, that interconnection is not a basis for finding that the Eastern System Upgrade and the Valley Lateral are connected actions.⁶¹ Pipeline interconnects are commonly installed to provide access to a backup or alternative source of natural gas to ensure uninterrupted deliveries of gas to intended customers during pipeline maintenance activities.⁶² Similarly, the fact that some of the construction zones for the projects will overlap does not mean that the projects are interdependent. Geographic proximity by itself does not equate to interdependence. If this were the case, customers of proposed projects located in close proximity would be held captive by multiple projects, as no given project in an area could be independently proposed, evaluated, or constructed.⁶³

65. Delaware Riverkeeper and Mr. Kuprewicz appear to argue that the projects are functionally connected because the operation of the Huguenot Loop will cause the majority of natural gas supplies on Millennium's system to travel through the Huguenot Loop, leaving only the gas supplies for the Valley Lateral to flow through the Neversink segment. The use of the Neversink segment, however, does not demonstrate that the projects are interdependent. If the Eastern System Upgrade is not built, gas would

⁶¹ On June 10, 2016, the EPA filed comments stating that it was concerned that the Eastern System Upgrade would connect to the Valley Lateral, and requested that the EA discuss the interconnect in detail and whether the Eastern System Upgrade could be completed with or without the Valley Lateral. Because the EPA did not file comments on the EA, we presume that the EPA is satisfied with how the EA addressed its comments.

⁶² Millennium Pipeline Co., L.L.C., 157 FERC ¶ 61,096 at P 55 & n.74.

⁶³ As discussed below, however, the cumulative environmental impacts of projects located in the same vicinity will be included in our cumulative impacts analysis, as appropriate.

continue to flow through the Neversink segment to deliver gas to the Valley Lateral. Similarly, if the Valley Lateral is not built, the Eastern System Upgrade would require the Huguenot Loop to deliver gas to its project's shippers.

66. Furthermore, there is no record evidence that the two projects are financially interdependent or that construction of either of the two expansion projects will allow service proposed on other, unidentified hypothetical expansion projects to be achieved at a much lower cost.⁶⁴ Because the Eastern System Upgrade and Valley Lateral have no pertinent physical, functional, or financial link, the timing of the projects has no relevance. Accordingly, the Eastern System Upgrade and Valley Lateral are not connected actions as defined by section 1508.25(a)(1) of CEO's regulations.

67. Delaware Riverkeeper also argues that the EA fails to satisfy the factors established in *Taxpayers Watchdog, Inc. v. Stanley*,⁶⁵ namely whether the project has logical termini, substantial independent utility, and does not foreclose the opportunity to consider alternatives. Delaware Riverkeeper claims that the Eastern System Upgrade lacks independent utility because it could not function properly without the Valley Lateral or other hypothetical unidentified future pipeline projects. In addition, it argues that the Commission is mistaken when it states that projects have independent utility if they are designed to serve different customers at different points in time. Delaware Riverkeeper adds that the Eastern System Upgrade has no logical termini because the project's physical end does not turn on the project's individual contract. In the alternative, it contends that because the Eastern System Upgrade ends where the Valley Lateral begins, the Eastern System Upgrade's logical termini is the Valley Lateral, demonstrating the two projects are connected. Delaware Riverkeeper also argues that because the Eastern System Upgrade will create inefficiencies and public safety issues on Millennium's system, Millennium has foreclosed the alternative of not fully looping the pipeline.

68. As we explain above, the Eastern System Upgrade facilities are necessary to deliver the quantities of gas contracted for by the project shippers. With respect to the logical termini factor, the placement and termini of pipeline looping is based on the engineering and hydraulics necessary to add capacity to an existing system sufficient to provide the contracted-for level of firm transportation service between designated receipt and delivery points. Unlike a metro rail system, which was the infrastructure under consideration in *Taxpayer Watchdog*, the logical termini of pipeline expansion loops are not necessarily coterminous with the contracted receipt and delivery points (or what would be the stations in the case of a rail system). The termini of this project were based on the engineering and

⁶⁴C.f. *Delaware Riverkeeper Network*, 753 F.3d at 1316-17 (finding improper segmentation based, in part, on record evidence that the projects were financially interdependent).

⁶⁵ 819 F.2d 294 (D.C. Cir. 1987) (*Taxpayer Watchdog*).

hydraulics necessary to add capacity to Millennium's existing system. Millennium's Eastern System Upgrade and Valley Lateral comport with the Taxpayer Watchdog independent utility test because, as discussed above, each project would proceed irrespective of the other. Further, Delaware Riverkeeper's assertion that Millennium is required to loop the entire mainline pipeline is false and conjectural. No such proposal is pending before the Commission and Millennium is not required to upgrade its mainline for safety purposes.⁶⁶

69. We also find that the Eastern System Upgrade and Valley Lateral are not cumulative or similar actions, and neither Delaware Riverkeeper nor any other commenter offers any explanation as to why the Eastern System Upgrade and Valley Lateral should be characterized as such.⁶⁷ Actions are cumulative if, when viewed with other proposed actions, they have cumulatively significant impacts and should therefore be discussed in the same environmental document.⁶⁸ The EA assesses the Eastern System Upgrade's cumulative effect on resources that are affected by both the Eastern System Upgrade and the Valley Lateral, including geology and soils, water resources and wetlands, vegetation and wildlife, land use and visual resources, and air quality.⁶⁹ The EA concludes that the Eastern System Upgrade would contribute a negligible to minor cumulative impact when the effects of the project are added to those of the Valley Lateral.⁷⁰ Accordingly, the Eastern System Upgrade and Valley Lateral are not "cumulative actions" as defined by section 1508.25(a)(2) of the CEQ's regulations.

70. The CEQ regulations define "similar actions" as those actions "which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography."⁷¹ The projects serve different customers and are physically, functionally, and financially independent. Accordingly, we find that preparation of separate EAs for the Eastern System Upgrade and Valley Lateral is both appropriate and consistent with CEQ guidance.

⁶⁶ EA at 151 (stating the Eastern System Upgrade would represent a slight increase in risk to the nearby public).

⁶⁷ See also Millennium Pipeline Co., L.L.C., 161 FERC ¶ 61,194 at PP 31-32.

⁶⁸ 40 C.F.R. § 1508.25(a)(2) (2017).

⁶⁹ EA at 151-66.

⁷⁰ *Id.* at 166.

⁷¹ 40 C.F.R. § 1508.25 (2017).

71. Moreover, even if, for the sake of argument, the Commission were to find that the projects were similar actions, our determination as to whether to prepare a single environmental document for similar actions is discretionary.⁷² CEQ states that “[a]n agency may wish to analyze [similar] actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.”⁷³ We do not find that such a multi-project analysis is the best way to assess the impacts or alternatives to the Eastern System Upgrade.

4. Geology and Soils

72. One commenter expresses concern for long-term impacts on soils.⁷⁴ The EA concludes that impacts on soils would be adequately minimized with implementation of Millennium’s Environmental Construction Standards.⁷⁵

73. Delaware Riverkeeper asserts that the EA erroneously relies on Millennium’s erosion and sedimentation measures to find that impacts from steep slopes will be minimal and that there would be no harm from landslides. Citing a report prepared by Princeton Hydro, Delaware Riverkeeper states that similar measures failed for similar pipeline projects located on steep slopes, but neither Delaware Riverkeeper nor Princeton Hydro specifically identify those projects.

⁷² See *Earth Island Institute v. U.S. Forest Service*, 351 F.3d 1291, 1305-06 (9th Cir. 2003) (finding agency’s decision to not prepare a single EIS for similar actions was proper).

⁷³ 40 C.F.R. § 1508.25(a)(3) (2017) (emphasis added); see also *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management.*, 387 F.3d 989, 1001-01 (9th Cir. 2004) (emphasizing that agencies are only required to assess similar actions programmatically when such review is necessarily the best way to do so).

⁷⁴ K. Bushell April 26, 2017 Comments.

⁷⁵ EA at 52-53.

74. Section B.1.1 of the EA discusses the total length of steep slopes crossed by the project and the potential for landslides in these areas.⁷⁶ The EA concludes that project construction and operation would not increase the risk of landslides,⁷⁷ not that there would be no harm from a landslide should one occur. The EA bases its finding on the project design, which avoids construction across steep slopes where practicable (e.g., at the Neversink River) and employs special construction techniques (e.g., cut-and-fill) where steep side-slope construction is unavoidable.⁷⁸ Further, the EA finds that Millennium will minimize potential risks from landslides and erosion by implementing its Environmental Construction Standards, which provide that revegetation efforts will continue until revegetation is successful.⁷⁹ These standards adhere to New York State Department of Agriculture and Markets guidance⁸⁰ and, as stated above, meet or exceed the measures in our Plan and Procedures. As for effects of blasting shallow bedrock, Millennium has prepared and is required to comply with a project-specific Bedrock Blasting Plan to minimize and mitigate blasting effects.⁸¹

75. As stated above, Millennium will adhere to its Environmental Construction Standards during construction. As noted, these standards adhere to New York State Department of Agriculture and Markets guidance and meet or exceed the measures in the Commission's Plan and Procedures, which reflect best practices and have proven effective on hundreds of projects constructed under the Commission's jurisdiction. Moreover, during project construction and restoration, Millennium will employ environmental inspectors to ensure

⁷⁶ Id. at 44. Table A-10 of the EA lists the areas of steep slopes crossed by the Huguenot Loop by milepost. Id. at 34. Because the table rounded the mileposts for presentation purposes, the mileposts do not equal the total length of steep slopes reported in the text (about 1.1 miles). Id. at 44.

⁷⁷ Id. at 45.

⁷⁸ Id. at 33-34.

⁷⁹ Millennium Environmental Construction Standards (filed as an attachment to its March 8, 2017 Filing) at 24; see also EA at 45.

⁸⁰ New York State Department of Agriculture and Markets Pipeline Right-of-Way Construction Projects Agricultural Mitigation through the Stages of Planning, Construction/Restoration and Follow-up Monitoring (2011), <https://www.agriculture.ny.gov/ap/agsservices/WEBAPConstrGuides.pdf> (providing agricultural mitigation standards and practices for the construction of transmission pipelines and post-construction restoration activities that affect agricultural land).

⁸¹ Millennium July 29, 2016 Application at Appendix 1B.

compliance with its Environmental Construction Standards, other measures proposed in its application as amended, and conditions appended to this order. Among other things, the inspectors will be responsible for inspecting and ensuring the maintenance of temporary erosion control measures. If Millennium fails to comply with this order or other federal and state permits, Millennium would be subject to enforcement by the Commission⁸² and potentially by other permit administering agencies. Accordingly, we affirm the EA's finding that the construction and operation of the project will not increase the risk of landslides.

76. Further, Delaware Riverkeeper comments on the low revegetation potential of project area soils and shallow bedrock in the project area, which may require blasting and further soil disturbance. Delaware Riverkeeper also states that the EA does not address discrepancies with Millennium's soil calculations that Princeton Hydro identifies.

77. The discrepancies identified by Princeton Hydro relate to staff's use of the K-factor to determine soil erodibility. The K-factor is an index that quantifies the relative susceptibility of soil to erosion and accounts for soil characteristics, including texture and structure. Princeton Hydro's report argues that the K-factor insufficiently determines erodible soils because it does not account for the slope of the soil and assumes soils are undisturbed. Table B-1 of the EA identifies 4.7 percent of the project area as having highly water erodible soils based on the K-factor of each soil type. While we recognize that soils on slopes may be more prone to erosion and that land disturbing activities could increase the potential for erosion and sedimentation, we find that staff appropriately used the K-factor to identify soils. A K-factor is assigned to soil map units based on extensive research and are valuable in characterizing the susceptibility of soils to erosion in the project area. Accordingly, we find that staff's analysis of impacts to geology and soils was proper.

5. Water Resources

a. Groundwater

78. Several commenters express concerns regarding impacts on springs and drinking water. Delaware Riverkeeper comments that pipeline trenches can divert groundwater and alter the hydrologic cycle in the vicinity of the pipeline right-of-way. Further, Delaware Riverkeeper asserts that the project could adversely affect several sensitive shallow and principal aquifers used by New York City, including

⁸² 15 U.S.C. § 717s(a) (2012) (the Commission may enjoin actions that violate the provisions of its certificate orders); id. 717t(b) (authorizing the Commission to impose penalties on any person who willfully and knowingly violates its orders).

the Ramapo River Basin Aquifer, the Delaware River Streamflow Zone recharge area for the New Jersey Coastal Plains Aquifer Sole Source Aquifer, and the New Jersey Fifteen Basin Aquifers Systems Sole Source Aquifer.

79. The EA identifies the sole source aquifers, primary aquifers, source water protection areas, water supply wells, and seeps or springs within the project vicinity.⁸³ The EA finds that groundwater could sustain minor impacts from temporary changes in overland water flow and recharge in areas where the water table is near the surface, and that soil compaction from construction could affect water absorption in soil, thereby reducing groundwater recharge. Millennium, however, will mitigate these effects by revegetating the right-of-way to restore the preconstruction overland flow and recharge patterns pursuant to its Environmental Construction Standards.⁸⁴ The EA also recognizes that inadvertent spills of fuel or hazardous materials could affect groundwater, but Millennium will implement its Spill Prevention Response Plan and Unanticipated Discovery of Contamination Plan, included in its Environmental Construction Standards, to reduce potential impacts should a spill occur, identify the type and extent of contamination, and develop a response action.⁸⁵

80. As for effects of pipeline trenching, the EA states that no springs or seeps are located within the trenchline of the Huguenot Loop.⁸⁶ Moreover, Millennium's Environmental Construction Standards provide that Millennium will install trench breakers to slow groundwater flow along the trench, and Environmental Condition 12 in Appendix B of this order requires Millennium to conduct post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace. Based on these measures, the EA concludes,⁸⁷ and we agree, that the project would not result in significant long-term or permanent impacts on groundwater resources in the project area.

b. Surface Water

81. Commenters express concern regarding impacts on water quality in surface waterbodies, including tributaries to Halfway Brook, the Delaware River, and Delaware Lake. Some commenters state

⁸³ EA at 54-56.

⁸⁴ Id. at 57.

⁸⁵ Id.

⁸⁶ Id. at 55.

⁸⁷ Id. at 58.

that the EA does not assess water quality or quantitative water quality data. Delaware Riverkeeper states that Millennium's proposed trench and horizontal directional drill (HDD) methods will increase sediment erosion and adversely affect the biological integrity of streams. Similarly, another commenter expresses concern about stream quality impacts associated with the HDD crossing of the Neversink River and its tributaries S-19, S-20, and S-21.⁸⁸ FWS recommends that the Commission give special attention to erosion and sedimentation controls, and require trenchless construction methods (i.e., conventional boring and HDD) in all waterbodies the New York DEC classifies as fisheries of special concern or designated as Class A, B, or C(T). For those streams where dry crossings are used, FWS recommends that Millennium take precautions to minimize impacts to aquatic biota. Further, FWS recommends an environmental inspector be on-site during in-stream construction to ensure erosion and sedimentation controls are appropriately implemented.

82. The EA concludes, and we affirm, that, with the implementation of Millennium's Environmental Construction Standards as well as applicable permit conditions, impacts on surface water quality would not be significant.⁸⁹ Section B.2.2 and Appendix E of the EA identify the waterbodies that the project will cross, the proposed crossing methods, and the impairment status and designated uses of waterbodies (which are developed based on quantitative water quality data).⁹⁰ The EA states that the project does not cross the Upper Delaware River or Halfway Brook, and, therefore, direct impacts on these waterbodies or associated riparian vegetation would not occur.⁹¹ Similarly, the project will not directly affect or cross Delaware Lake or tributaries S-20 and S-21, which are not located within 50 feet of construction work areas. The project will cross S-19 using HDD.⁹²

83. Based on our staff's experience, Millennium's proposed waterbody crossing methods will adequately minimize impacts. Millennium will construct waterbody crossings in accordance with state and federal permits and its Environmental Construction Standards to appropriately minimize impacts on waterbodies during construction. Millennium will cross all waterbodies classified as fisheries of special concern or designated as Class A, B, or C(T) by the New York DEC using trenchless methods, except for Shin Hollow Brook (S-12) and HC-S-01 Unnamed Tributary to

⁸⁸ Stephen Metts May 1, 2017 Comments.

⁸⁹ EA at 64.

⁹⁰ Id. at Appendix E.

⁹¹ Id. at 61.

⁹² Id. at Appendix E, E-1.

Pea Brook. Millennium will cross Shin Hollow Brook using a dry-ditch construction method, and HC-S-01 Unnamed Tributary to Pea Brook using an existing bridge and culvert.⁹³ Since the issuance of the EA, Millennium filed site-specific crossing plans for the waterbodies that will be crossed via dry-ditch construction methods, including Shin Hollow Brook, and revised the boundaries of Staging Area 4 to avoid impacts on waterbody S-01 (an unnamed tributary to Rutgers Creek). Commission staff has reviewed these site-specific plans and revised workspace locations and finds them acceptable to further minimize waterbody impacts and consistent with those identified in our Procedures (see section V.6) for classified fisheries or special use waterbodies.

84. Millennium's use of the conventional bore and HDD crossing method would avoid direct impacts on fisheries during construction at crossings of five waterbodies, including the Neversink River and Rutgers Creek.⁹⁴ Where waterbodies are crossed by HDD, hand-clearing will occur during construction and no vegetation maintenance along the path of the HDD will occur during project operation. Millennium will also limit routine vegetation and mowing within the riparian strip along the waterbody edge. The EA states that water quality and aquatic species could be affected by an inadvertent release of HDD drilling fluid or an accidental spill of hazardous material into a waterbody;⁹⁵ however, Millennium's adherence to its HDD Plan and Environmental Construction Standards would minimize the potential for these impacts, as well as the response time for notification and clean-up should an inadvertent release or spill occur.⁹⁶ Further, in accordance with its Environmental Construction Standards and Environmental Condition 7 in the Appendix B to this order, Millennium will assign to each construction spread a minimum of one environmental inspector, who will be knowledgeable of the wetland and waterbody conditions, and who is responsible for inspecting construction activities for compliance with conditions in this order and other environmental permit conditions.

⁹³ Id. at 77.

⁹⁴ Because Millennium has not provided the results of geotechnical investigations to assess the feasibility of HDD construction at Rutgers Creek and has not provided an assessment of noise impacts on noise sensitive areas (NSA) in the vicinity of entry and exit pits proposed at mileposts 7.2 and 7.4, we have included new Environmental Condition 19, requiring further study of and imposing construction restrictions regarding this crossing, in Appendix B of this order.

⁹⁵ EA at 62.

⁹⁶ Id. at 63.

85. Additionally, Princeton Hydro comments that hydrostatic testing water from a commercial source could contain chlorine, chloramines, or fluoride that could impact biota of a receiving stream or wetland. While it is common that commercial or municipal potable water sources could be chlorinated, and have fluoride added, Princeton Hydro's statement is speculative and does not specify which biota is sensitive to water chlorination and/or fluoride. Further, spent hydrostatic test waters are not discharged directly into a stream but through energy dissipating devices in upland areas. Accordingly, we affirm the EA's finding that the impacts from discharge of hydrostatic test water would be temporary and minor.⁹⁷

86. Delaware Riverkeeper asserts that the EA provides little or no analysis of the cumulative impact on subwatersheds and tributary basins that would occur from construction, operation, and post-construction mitigation of the Eastern System Upgrade, Valley Lateral, the CPV Valley Energy Center, and other hypothetical, unidentified projects. Delaware Riverkeeper adds that the EA should have considered Millennium's potential non-compliance with environmental conditions in its cumulative impacts analysis.

87. The EA assesses cumulative impacts on water resources and wetlands in each Hydrologic Unit Code-12 (HUC-12) subwatershed crossed by the project.⁹⁸ The EA includes Millennium's existing pipeline as a past action that is described as part of the affected environment. The EA concludes that the Eastern System Upgrade, in addition to the other projects within each HUC-12 (including the Valley Lateral and CPV Valley Energy Center), would result in temporary and minor cumulative impacts on water resources and wetlands,⁹⁹ noting that the Eastern System Upgrade and the other projects are required to comply with any mitigation requirements and conditions in their Clean Water Act section 401 water quality certifications, Clean Water Act section 404 permits, and state wetland permits. The EA appropriately did not consider other hypothetical, unidentified projects as those are conjectural and not reasonably foreseeable.¹⁰⁰

⁹⁷ Id. at 64.

⁹⁸ Id. at 157.

⁹⁹ Id.

¹⁰⁰ *Wilderness Workshop v. U.S. Bureau of Land Management*, 531 F.3d 1220, 1228-31 (10th Cir. 2008) (holding that NEPA does not require the agency to analyze the impacts of future actions that were "speculative" or not "imminent" connected actions); *Sierra Club v. Lujan*, 949 F.2d 362, 368 (10th Cir. 1991) ("NEPA does not require an agency to consider the environmental effects that speculative or hypothetical projects might have on a proposed project.").

88. Commission staff also properly did not consider potential non-compliance when assessing the project's cumulative effects on water resources. As stated above,¹⁰¹ during project construction and restoration, Millennium must employ environmental inspectors to ensure compliance with Millennium's Environmental Construction Standards, other measures proposed in Millennium's application as amended, and conditions appended to this order. If Millennium fails to comply with this order or other federal and state permits, Millennium would be subject to enforcement by the Commission and potentially by other permit-administering agencies. Based on the avoidance and minimization measures discussed in the EA, together with the environmental conditions included in Appendix B of this order, we agree with the EA's conclusions that cumulative impacts on wetlands and waterbodies will be temporary and minor.

6. Wetlands

89. One commenter expresses concern that the EA does not identify mitigation for potential releases of HDD drilling fluids in wetland habitats and does not provide information on the toxicity or quantity of fluids that could be released from HDD activities.¹⁰² Millennium has provided an acceptable HDD Contingency Plan that addresses the prevention, detection, required notifications, and response to any inadvertent releases of drilling fluid in upland areas, wetlands, and waterbodies. In any event, as the EA states, drilling mud is made of a naturally occurring non-toxic bentonite clay material and water, and is used to stabilize the borehole.¹⁰³ Due to the non-toxic nature of bentonite clay, a release of drilling mud will not introduce hazardous substances into the environment.

90. FWS recommends that the Commission require Millennium to provide compensatory mitigation for wetland impacts. The EA finds that with the implementation of Millennium's Environmental Construction Standards, adherence to applicable permits, and HDD methods, wetland impacts associated with the construction and operation of the project would not be significant.¹⁰⁴ Nevertheless, while we will not require compensatory mitigation, we note, as the EA states, that Millennium is consulting with the U.S. Army Corps of Engineers regarding impacts on wetlands, and will comply with

¹⁰¹ See supra at PP 74, 83.

¹⁰² Richard K. Malenky, Ph.D. May 2, 2017 Comments.

¹⁰³ EA at 28.

¹⁰⁴ Id. at 70.

applicable permits for wetland impacts.¹⁰⁵ Environmental Condition 9 in the Appendix B to this order requires all federal approvals be obtained before commencing project construction, including a Clean Water Act section 404 discharge permit from the Corps, which may require compensatory mitigation.¹⁰⁶

7. Vegetation

91. Commenters are concerned that the forest clearing for the permanent right-of-way, compressor site, and additional temporary workspace will have long-term impacts on forested habitat and cause forest fragmentation. The EA concludes that impacts on forest vegetation would be long-term because the regrowth of tree species could take 20 to 50 years.¹⁰⁷ However, about 88 percent of the proposed pipeline will be adjacent to or will overlap Millennium's existing mainline right-of-way, and thus, forest fragmentation will be minimized.¹⁰⁸

92. Commenters also express concern that forest fragmentation will increase the potential for invasive species establishment. FWS recommends that Millennium identify and incorporate best management practices to limit the spread of invasive species, and that Millennium file its Invasive Species Management Plan for review. FWS also recommends that the Commission require Millennium to map the locations of invasive plants and remove all invasive plants from work areas during post-construction monitoring. Section B.3.1 of the EA states that Millennium will implement its Invasive Species Management Plan, which Millennium attached to its application,¹⁰⁹ and its Environmental Construction Standards, which include measures to control the spread of invasive species.¹¹⁰ We find that Millennium's proposed invasive species management is acceptable.

93. FWS recommends that Millennium not burn vegetation cleared from the right-of-way, and that it pile forest slash along the edge of the right-of-way to provide wildlife habitat. Section B.3.1 of the EA

¹⁰⁵ Id. at 69.

¹⁰⁶ Id. at 183.

¹⁰⁷ Id. at 75.

¹⁰⁸ Id.

¹⁰⁹ Millennium July 29, 2016 Application at Appendix 3B.

¹¹⁰ EA at 76.

states that vegetation cleared during construction will be burned, chipped (except in wetlands), or otherwise handled per individual landowner agreements.¹¹¹ Environmental Condition 7 of Appendix B of this order requires Millennium to dispose of vegetation in accordance with applicable regulations and ordinances. We find these measures acceptable.

94. FWS recommends that Millennium seed disturbed areas with native plant species and annual rye. The EA states that Millennium will re-seed disturbed areas using seed mixes in accordance with New York DEC recommendations and its Environmental Construction Standards, unless otherwise specified during landowner consultation or by permit requirements.¹¹² Millennium's Environmental Construction Standards state that unsaturated wetlands will be seeded with annual rye grass, and New York DEC-regulated wetlands will be revegetated with a native seed mix.¹¹³

95. To minimize wildlife habitat disturbance, FWS recommends that Millennium limit maintenance of the permanent right-of-way to a 5-to-8-year cycle for tree and shrub clearing. Right-of-way maintenance is necessary to maintain accessibility to the right-of-way and accommodate pipeline integrity surveys. Millennium will implement the measures in its Environmental Construction Standards and will limit its right-of-way vegetation maintenance over the full width of the permanent right-of-way to no more than once every three years. Further, routine vegetation maintenance clearing will not occur between April 15 and August 1, to minimize potential effects on migratory birds,¹¹⁴ and Millennium will avoid routine maintenance activities in wetlands and waterbody riparian areas between HDD entry and exit points. Millennium's vegetation maintenance measures are acceptable.

8. Wildlife Resources and Migratory Birds

96. Commenters express concern regarding impacts of the project, particularly the Highland Compressor Station, on wildlife. They argue that the EA's conclusion finding that the project will have no significant impact on wildlife is not supported by quantitative data, and that the EA only generally characterizes the affected habitat. Further, they state that the EA does not address long-term impacts on wildlife from

¹¹¹ Id. at 74.

¹¹² Id. at 75.

¹¹³ Id. at 29.

¹¹⁴ We note that Commission staff developed its Plan's vegetation maintenance mitigation measures and vegetation clearing restrictions in consultation with the FWS.

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operating the compressor stations, including habitat degradation, leaks of hazardous materials, and accidents.

97. The EA quantifies the project's effects on wildlife habitat during construction and operation of the Eastern System Upgrade,¹¹⁵ and concludes that long-term and permanent impacts on wildlife habitat would occur where forested vegetation is cleared for construction and within the permanent project footprint. The EA states that project construction in its entirety will affect 84 acres of forested land and project operation 27.6 acres;¹¹⁶ construction of the Highland Compressor Station will affect 16.8 forested acres and its operation 5.3 forested acres.¹¹⁷ The EA states that while some individual wildlife mortality may occur because of the project, these effects would occur at the individual level during construction and would be minor.¹¹⁸ Further, similar habitats that are near the project can support displaced wildlife.¹¹⁹

98. Millennium will implement prevention and mitigation measures to reduce project effects on wildlife, including spill prevention measures and cleanup procedures in its Spill Prevention and Response Plan. Aboveground pipeline facilities, including compressor stations, must also be designed, constructed, operated, and maintained in accordance with DOT's Minimum Federal Safety Standards. DOT's standards are intended to ensure adequate protection for the public and prevent natural gas facility accidents and failures,¹²⁰ and also protect wildlife. Accordingly, we agree with the EA's finding that the construction and operation of the project would not have population level impacts or significant adverse impacts on wildlife.¹²¹

99. FWS states that the EA provides no baseline data regarding the reptiles and amphibians that could be harmed by project construction. The EA identifies reptiles and amphibians that may potentially

¹¹⁵ EA at 74.

¹¹⁶ Id. at 93.

¹¹⁷ Id. at 73.

¹¹⁸ Id. at 83.

¹¹⁹ Id. at 75, 83.

¹²⁰ Id. at 143.

¹²¹ Id. at 83.

occur in wetlands within the project area, including the green frog, northern water snake, and numerous turtles and other frogs, and assesses impacts on wildlife generally.¹²² Other amphibians and reptiles that may occur in the project area include the eastern box turtle, painted turtle, common snapping turtle, eastern garter snake, eastern racer, American bullfrog, American toad, northern redback salamander, and red spotted newt.¹²³ Because these amphibians and reptiles would experience the same project effects as other wildlife, the EA's finding that the project would not have significant adverse impacts on wildlife also applies to these species.

100. One commenter notes that Millennium's bird survey did not sufficiently identify bird species in the project area.¹²⁴ Other commenters state that the Commission did not consider Audubon New York's recommendation that independent bird surveys be conducted at the Highland Compressor Station site.

101. We find Commission staff appropriately considered project effects on bird species in the project area. In accordance with the Commission's Memorandum of Understanding with FWS regarding the implementation of Executive Order 13186 for the protection of migratory birds, FWS shared information on migratory birds during Commission staff's initial project review.¹²⁵ FWS identified no particular species of concern that warranted species-specific surveys, other than the bald eagle. Audubon New York's comments on independent bird surveys are based on its mistaken assumption that the Highland Compressor Station would be located within the Mongaup Valley Wildlife Management Area (WMA).¹²⁶ However, the Highland Compressor Station will be located about 0.6 mile outside of that area.¹²⁷ Based

¹²² Id. at 80, 82.

¹²³ New York DEC, New York State Amphibian and Reptile Atlas Project, <http://www.dec.ny.gov/animals/7140.html>.

¹²⁴ George Billard May 1, 2017 Comments at 2.

¹²⁵ See Notice of Availability of a Memorandum of Understanding Between the Federal Energy Regulatory Commission and the U.S. Fish and Wildlife Service to Promote Conservation of Migratory Birds, 76 Fed. Reg. 18,754 (April 5, 2011).

¹²⁶ Audubon New York October 24, 2016 Comments. The Mongaup Valley Wildlife Management Area was designated by the Audubon Society as an Important Bird Area and provides habitat for bald eagles and other species that use forested habitat.

¹²⁷ EA at 81.

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on the distance, rolling topography, and wooded land between the proposed Highland Compressor Station site and the wildlife management area, Commission staff does not anticipate any direct or indirect

impacts on the wildlife management area as a result of project construction or operation.¹²⁸ We concur.

102. FWS comments that construction activity in cleared areas could disturb forest-dwelling breeding migratory birds, and that construction noise, lighting, dust, and emissions may disrupt wildlife activity. Section B.3.3 of the EA addresses potential short-term impacts on migratory birds.¹²⁹ Construction activities may disrupt wildlife occupying habitats near the project; however, noise levels in those areas will return to background levels during project operation. The EA states Millennium will design aboveground facilities and use equipment that minimizes potential noise impacts on migratory birds and benefits other local wildlife. Millennium will reduce fugitive emissions through the application of dust suppressants to disturbed work areas.¹³⁰ Emissions associated with the construction-related activities will be temporary and will not cause, or significantly contribute to, a violation of any applicable ambient air quality standard.¹³¹ Accordingly, we agree with the EA's conclusions that based on the analyses conducted and Millennium's proposed mitigation measures, including timing restrictions for vegetation clearing, project construction will not significantly affect wildlife, including migratory birds.

103. FWS states that the EA does not address the magnitude of cumulative impacts on migratory birds and does not mention the original impacts from the construction of Millennium's existing pipeline. The EA discusses cumulative impacts of wildlife, which includes migratory birds,¹³² and includes Millennium's existing pipeline as a past action that is described as part of the affected environment. The EA concludes that similar migratory bird habitats near construction activities may support displaced wildlife.¹³³ Further, because Millennium will collocate 88 percent of the pipeline with existing rights-of-way, new fragmentation of interior forest will be minimized.

¹²⁸ Id.

¹²⁹ Id. at 83-84.

¹³⁰ Id. at 127.

¹³¹ Id. at 161.

¹³² Id. at 158.

¹³³ Id.

9. Threatened and Endangered Species

104. Below we address comments regarding project effects on the dwarf wedgemussel, Indiana bat, bald eagle, and timber rattlesnake, and regarding staff's process for assessing project effects on threatened and endangered species.

a. Dwarf Wedgemussel

105. Delaware Riverkeeper argues that threats to the dwarf wedgemussel, which occurs in the Neversink River,¹³⁴ cannot be mitigated or avoided because the project will remove the forested riparian zone, causing increases in sedimentation and turbidity. Other commenters state that the project will adversely affect the mussel based on Commission staff's EA for the Minisink Compressor Project, filed in Docket CP11-515-000. Those commenters note that the EA for the Minisink Compressor Project found that a project alternative called the Wagoner Alternative could impact the dwarf wedgemussel when the alternative's proposed pipeline would have crossed the Neversink River.¹³⁵

106. The EA finds,¹³⁶ and the FWS has concurred, that the project may affect, but is not likely to adversely affect the dwarf wedgemussel.¹³⁷ We affirm the EA's finding. Commission staff's general discussion of the Wagoner Alternative's potential effects on the dwarf wedgemussel, on which the Commission never formally consulted with FWS, has no pertinence here. In this case, Millennium will avoid direct impacts on the Neversink River by using the HDD construction method. Vegetation removal in the forested riparian zone will be limited to hand-clearing of small-diameter vegetation

¹³⁴ Id. at 89.

¹³⁵ Commission Staff February 29, 2012 Environmental Assessment for the Minisink Compressor Project Docket CP11-515.

¹³⁶ EA at 90.

¹³⁷ U.S. Fish and Wildlife Service July 19, 2017 at 3. The conclusion that an action "may affect, but is not likely to adversely affect" is appropriate "when effects to the species or critical habitat are expected to be beneficial, discountable, or insignificant." U.S. Fish and Wildlife Service and National Marine Fisheries Service, Endangered Species Consultation Handbook at B-55, https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf.

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along the path for laying the telemetry cable between the HDD entry and exit points. Millennium's geotechnical investigations at the Neversink River indicate that the

subsurface materials are favorable for HDD installation and there is low risk for an inadvertent release of drilling fluids along the planned crossing.¹³⁸

107. To avoid adverse effects to the Neversink River during the HDD installation, Millennium will designate a minimum of one environmental inspector to monitor HDD activities and will contact FWS within 24 hours of the inadvertent return, or as soon as practicable. Millennium has also committed to consult with FWS regarding the measures it will implement to protect mussels, which could include surveys and temporary relocation. Further, Millennium will implement its Spill Prevention and Response Plan and Environmental Construction Standards to reduce potential inadvertent leaks, spills of hazardous materials, or sedimentation from entering the Neversink River.

108. If the HDD is unsuccessful, Millennium would implement an alternative open-cut crossing of the Neversink River.¹³⁹ This order does not authorize the alternative open-cut crossing. If the alternative crossing method is required, Millennium shall request a variance from the Commission and, pursuant to Environmental Condition 18 in Appendix B of this order, consult with applicable agencies, including FWS, to obtain further approvals before implementing the open-cut crossing.

b. Indiana Bat

109. Commenters state that the project will adversely affect the federally endangered Indiana bat. They also add that Millennium's proposed installation of artificial roost structures will not adequately mitigate adverse effects on the bats.

110. The EA concludes, and the FWS has concurred,¹⁴⁰ that the project may affect, but is not likely to adversely affect the Indiana bat.¹⁴¹ We affirm the EA's finding. The EA states that two known summer roost sites were identified within 2.5 miles of the Huguenot Loop, within 1.1 and 1.4 miles from the project site. Given the distance of these roost sites from project construction, which will be limited to daytime hours except during HDD, Commission staff does not anticipate that noise, fugitive dust, or lighting from pipeline construction will affect roosting Indiana bats. We concur.

¹³⁸ EA at 28.

¹³⁹ Id.

¹⁴⁰ Fish and Wildlife Service July 19, 2017 Filing at 2.

¹⁴¹ EA at 89.

111. Millennium will also install artificial roost structures, a common mitigation measure, within the project area where it is within areas of known Indiana bat occurrence. In addition, Millennium will conduct all tree clearing between October 1 and March 31 when Indiana bats are hibernating or concentrated near their hibernacula. While unlikely, if Indiana bats are foraging in the project vicinity, bats will likely avoid active construction areas and will return to the project area when construction activity has ceased. Millennium has also committed to either plant or acquire and preserve about 9.5 acres of trees in Orange County, New York, to mitigate for the loss of potential Indiana bat habitat.¹⁴² If trees are planted, Millennium will plant shagbark hickory, white oak, and sugar maple, which provide suitable bat roosting habitat.¹⁴³ We find these mitigation measures to be adequate.

c. Bald Eagle

112. Commenters are concerned about project impacts on bald eagles within the project vicinity and overwintering bald eagle habitat in the Neversink River corridor.¹⁴⁴ FWS recommends that if blasting occurs within 0.5 mile of a bald eagle nest, that Millennium complete blasting between September 1 and November 30 to avoid disturbing nesting bald eagles.

113. Project construction and operation activities will occur well beyond the 660-foot minimum distance to bald eagle nests recommended by FWS's National Bald Eagle Management Guidelines.¹⁴⁵ While Millennium anticipates that blasting may be required along the Huguenot Loop between mileposts 0.8 and 1.1, these blasting locations are greater than 0.5-mile from the locations of known bald eagle nests. Further, Millennium has committed to conducting pre-construction surveys in the vicinity of the Neversink River crossing. If Millennium finds a new nest near the project area, Millennium

¹⁴² Fish and Wildlife Service July 19, 2017 at 2.

¹⁴³ Millennium June 13, 2017 FWS Concurrence Request at 3-4 (filed in Millennium's June 21, 2017 filing).

¹⁴⁴ Bald eagles are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, and by the State of New York as a threatened species.

¹⁴⁵ EA at 85.

will coordinate with FWS on its blasting activities and follow FWS's National Bald Eagle Management Guidelines.¹⁴⁶ Given Millennium's commitment to implementing FWS's

¹⁴⁶ Fish and Wildlife Service July 19, 2017 Filing at 3.

guidelines, we affirm the EA's conclusion that the project will not adversely affect nesting bald eagles.¹⁴⁷

114. We also anticipate, and FWS has agreed, that the project will have minimal effects on wintering bald eagles in the Neversink River corridor.¹⁴⁸ New York DEC identified no communal roost sites used by wintering bald eagles. Further, the Neversink River in the project area provides limited winter foraging habitat as it is shallow and freezes during the winter. If bald eagles are in the project vicinity during construction, they will be temporarily affected and will likely avoid areas of active construction. Individual eagles could find other suitable roosts in similar habitat surrounding the project area, and will likely return when construction activity has ceased.

d. Timber Rattlesnake

115. Commenters challenge the EA's finding that the project would not have an adverse effect on the state-threatened timber rattlesnake. Several commenters state that the project would negatively affect timber rattlesnake dens that they state are located near the Highland Compressor Station based on landowner accounts and GIS data developed by Delaware Riverkeeper. Delaware Riverkeeper and another commenter state that the timber rattlesnakes will be adversely affected by the vibrations from operating the Highland Compressor Station and Ramapo Meter Station, and by the cumulative impacts of the project along with the effects from Millennium's construction of its mainline in 2007 and 2008.¹⁴⁹

116. The EA states that the project would not have an adverse effect on the timber rattlesnake because timber rattlesnakes were not identified within project workspaces and Millennium will implement its mitigation measures.¹⁵⁰ We affirm the EA's finding. The EA states that the New York Natural Heritage Program¹⁵¹ has records of timber rattlesnake occurrences at six locations within 1.5 miles of the project workspaces, including a known hibernacula and foraging area within 0.4 mile of the

¹⁴⁷ EA at 85.

¹⁴⁸ Fish and Wildlife Service July 19, 2017 Filing at 3.

¹⁴⁹ The Commission considered Millennium's proposal to construct and operate its mainline in Docket No. CP98-150-000.

¹⁵⁰ EA at 91.

¹⁵¹ The New York Natural Heritage Program is a partnership between the New York DEC and the State University of New York College of Environmental Science and Forestry.

Ramapo Meter Station.¹⁵² In 2016, Millennium conducted surveys for potential suitable habitat within the project area, and identified two timber rattlesnake dens within 900 feet from the Ramapo Meter Station and potential foraging habitat, but no dens, near the Highland Compressor Station site.¹⁵³

117. Millennium will implement avoidance and mitigation measures during the construction and operation of the project. Millennium's Timber Rattlesnake Impact Assessment and Mitigation Plan states no construction activities will occur during timber rattlesnake hibernation periods and includes a project-specific Rattlesnake Encounter Plan.¹⁵⁴ Millennium has also proposed to install a snake barrier fence around the Highland Compressor Station site workspace, and hire a licensed, qualified timber rattlesnake biologist to monitor for timber rattlesnakes during construction outside of the hibernation period.¹⁵⁵ At the Highland Compressor Station site, Millennium will restore the project area with native brushy vegetation within temporary workspace limits to offset the permanent loss of forest habitat, and construct optimal basking habitat in the vicinity of the timber rattlesnake den nearest to the project site.¹⁵⁶ Millennium must also obtain a permit from the New York DEC, which has authority over state-listed species, that may have conditions to mitigate project effects on the timber rattlesnake.

e. Procedural Concerns

118. Delaware Riverkeeper contends that the EA prematurely made "may affect, not likely to adversely affect" or "no effect" findings for the federally listed bog turtle and northern long-eared bat and state listed timber rattlesnake, brook floater mussel, and putty root orchid before consultations with FWS and New York DEC were completed.

119. The EA's findings regarding the threatened and endangered species are not premature. The Commission staff does not wait for the issuance of federal, state and local permits to assess project impacts before making conclusions under NEPA. The issuance of federal, state, and local permits and approvals proceed on a parallel, but separate, review process under the purview of the respective

¹⁵² EA at 91.

¹⁵³ *Id.*

¹⁵⁴ Millennium Timber Rattlesnake Impact Assessment and Mitigation Plan (filed in Millennium January 26, 2017 Supplemental Information Correspondence) at 7.

¹⁵⁵ *Id.* at 3, 16.

¹⁵⁶ *Id.* at 18.

agencies with jurisdiction. Nevertheless, we note that FWS has concurred with the EA's determination that the project may affect, but will not adversely affect, the bog turtle, and stated that it had no further comment on Commission staff's streamlined form for compliance with FWS's rangewide consultation associated with the section 4(d) rule for the federally threatened northern long-eared bat.¹⁵⁷ Millennium's consultation with New York DEC is ongoing.

10. Land Use

120. Commenters state that Millennium has disregarded the Town of Highland, New York's zoning laws that expressly prohibit compressor stations and other high-impact industrial uses. State and local laws may not prohibit or unreasonably delay the construction of facilities approved by the Commission under the NGA.¹⁵⁸ The Commission is the lead federal agency with siting authority under the NGA, and any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this authorization.

121. One commenter states that if the Commission authorizes the Huguenot Loop to cross two parcels held in conservation easements with The Nature Conservancy, the Commission will violate a legally binding agreement and undermine conservation easements. NGA section 7(h) provides that a certificate holder is authorized to acquire the necessary land or property to construct the approved facilities by exercising the right of eminent domain if it cannot acquire the easement by an agreement with the landowner.¹⁵⁹ Nevertheless, the EA notes that Millennium has negotiated an easement agreement with the owner of one of the parcels, continues to work toward an easement agreement with the owner of the other parcel, and is actively consulting with The Nature Conservancy on the crossings of both these parcels.¹⁶⁰ Further, Environmental Condition 14 in Appendix B of this order requires that Millennium file with the Commission documentation of this consultation, including any

¹⁵⁷ Fish and Wildlife Service May 30, 2017 at 5.

¹⁵⁸ See 15 U.S.C. § 717r(d) (2012) (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).

¹⁵⁹ 15 U.S.C. § 717f(h) (2012).

¹⁶⁰ EA at 104.

specific mitigation measures identified in coordination with The Nature Conservancy, before construction.

122. One commenter expresses concern about siting portions of the project on agricultural lands, and recommends that these areas be avoided or that remediation of the land be documented. The EA concludes that project impacts on agricultural lands will be minor and temporary.¹⁶¹ Millennium will implement measures in its Environmental Construction Standards, which incorporates measures from the New York State Department of Agriculture and Markets pipeline construction guidance.¹⁶² These measures will minimize impacts on agricultural areas and include requirements regarding minimum pipeline cover depth, topsoil segregation, and post-construction monitoring and remediation. The EA states that Millennium will strip topsoil and stockpile topsoil separately from the subsoil, for placement back on the right-of-way following construction, within actively cultivated or rotated cropland, managed pastures, and hayfields.¹⁶³ Millennium will use matting to protect topsoil covering the construction right-of-way over Millennium's existing pipeline from the movement of equipment and construction activities. Following construction, Millennium will monitor agricultural lands for a minimum of two growing seasons. Based on these measures, we agree with the EA's findings that impacts on agricultural lands will be minor and temporary.

11. Socioeconomic Impacts

123. Commenters express concerns about the project's impacts on property values, the local tax base, and tourism. Commenters state that properties near existing and proposed compressor stations have been devalued because of the public's negative perception of the health effects from these facilities' emissions. Commenters state that the EA relies on only industry-funded studies and did not acknowledge the sources they provided that found the proximity of compressor stations adversely affect property values, including a report prepared by Key-Log Economics LLC. One commenter states that the Commission should provide a financial solution for property devaluation.

124. Section B.6 of the EA discusses potential impacts on local economics, including employment, housing, tax revenue, and property values.¹⁶⁴ The EA finds that because the existing property values

¹⁶¹ Id. at 75.

¹⁶² Supra note 80.

¹⁶³ EA at 95.

¹⁶⁴ Id. at 111-17.

account for the mainline and aboveground facilities, the Huguenot Loop and the modifications to the existing aboveground facilities will not result in any long-term changes that would negatively affect property values.¹⁶⁵ Further, the EA finds that the operation of the Highland Compressor Station will not significantly affect adjacent property values because the compressor station would be located on a large parcel of land containing natural buffers (trees and hills), and will be screened from roadways, reducing noise and visual impacts.¹⁶⁶

125. The EA acknowledges that the presence of a pipeline and compressor station could influence a potential buyer's decision to purchase a property, but does not find that such effect would be significant.¹⁶⁷ The EA cites a 2015 case study prepared by Real Property Service, LLC for National Fuel Gas Supply Corporation that assessed historical sales data for properties in proximity to 1 of 7 compressor stations in New York, including Millennium's Hancock Compressor Station. That study found no quantifiable impact on property values or appreciation rates for homes located in close proximity to a compressor station.¹⁶⁸ Commission staff also reviewed all links and citations provided in comment letters filed in this proceeding. Many of the sources are internet articles, some of which lack citations, and others are inapplicable or anecdotal, including the Key-Log Economics LLC report, which relied on a poll based on personal opinions and no actual real estate sales data. Accordingly, we conclude here, as we have in other cases,¹⁶⁹ that the proposed project is not likely to significantly impact property values in the project area. As the EA states, those current landowners who believe their property values have been negatively impacted can appeal to the local tax agency for reappraisal

¹⁶⁵ Id. at 114-15.

¹⁶⁶ Id. at 115.

¹⁶⁷ Id. at 114-15.

¹⁶⁸ Id. at 115

¹⁶⁹ See, e.g., *Myersville*, 783 F.3d 1301 (finding the Commission's consideration of property values adequate); *Minisink Residents for Environmental Preservation & Safety v. FERC*, 762 F.3d 97 (D.C. Cir. 2014) (upholding Commission's analysis of property values and finding that property values would not be significantly impacted by the proposed project).

and potential tax reductions. Nothing in the NGA, however, gives the Commission the authority to award damages to address property devaluation.¹⁷⁰

126. Regarding project impacts on tourism, sections B.5.3 and B.5.4 of the EA assess the potential land use and visual impacts from the project's construction and operation on public land and recreation in the project area.¹⁷¹ The EA analyzes 14 special use areas identified within 0.25 mile of the project and additional areas identified by commenters (i.e., the Bethel Woods Center for the Arts, Catskills Park, and a museum in Livingston Manor, New York). The EA finds that the areas identified by the commenters are located outside the project area, the closest being about 7 miles north of the Highland Compressor Station site. The EA finds that project effects on recreation areas with forested land would be temporary, limited to the period of active construction and restoration, lasting a few weeks or months in any one area.¹⁷² For recreation areas that are forested, which is less than 5.5 acres,¹⁷³ the EA finds that the project right-of-way would change the viewscape in the area.¹⁷⁴ Based on the minimal, and predominantly temporary, project effects on recreation, we find that the project will not significantly affect tourism.

12. Cultural Resources

127. The Delaware Tribe of Indians recommends that Millennium avoid pre-contact archaeological sites within the area of potential effects, or conduct a Phase II Cultural Resources Assessment if avoidance is not possible. Further, the tribe requests notification in the event of an unanticipated discovery of cultural resources. These recommendations will be accommodated. The project will avoid all sites that have the potential to provide information important to prehistory and/or history. Further,

¹⁷⁰ *Californians for Renewable Energy, Inc. v. Williams Northwest Pipeline*, 133 FERC ¶ 61,194 (2010) (citing *South Carolina Public Service Commission v FERC*, 850 F.2d 288 (D.C. Cir. 1988) (Commission cannot award damages under analogous FPA)).

¹⁷¹ EA at 99-111.

¹⁷² *Id.* at 105, 107.

¹⁷³ Staff's estimate is based on the number of acres of recreation areas that could be permanently affected by the project. *Id.* at Table B-12. This number includes both forested and non-forested areas. Thus, the number of forested acres of recreation area could be considerably less than 5.5 acres.

¹⁷⁴ *Id.* at 106.

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Millennium's Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains Plan provides for notification of Tribes in the event of any discovery.

128. In June 2017, Millennium filed revised alignment sheets depicting modified construction workspace to support HDD construction across Rutgers Creek, a bore crossing of waterbody S-01, and construction of the Westtown Meter Station.¹⁷⁵ Commission staff is unable to verify whether all areas of additional temporary workspace included in the June 2017 alignment sheets between milepost 7.1 and the Westtown Meter Station are included in the Phase IA/IB Archaeological Surveys for the project. Environmental Condition 9 in the Appendix B to this order requires Millennium to file with the Secretary documentation that it has received all applicable project authorizations required under federal law. If the revised construction workspaces identified in June 2017 for the project are outside of the survey area for which the New York State Historic Preservation Officer (SHPO) concurred under section 106 of the National Historic Preservation Act, Millennium must file additional information, including documentation of SHPO comments.

13. Air Quality

129. Several commenters express concern over air emissions from the proposed compressor units, including emissions of hazardous air pollutants (HAPs), criteria pollutants, and greenhouse gases (GHG). One commenter asserts that the EA does not quantitatively assess air quality. Other commenters request that the Commission provide the assumptions, methods, emission factors, and model setup parameters used to support the EA's conclusions for the Highland Compressor Station.

130. Section B.8.1 of the EA quantifies the emissions of HAPs, criteria pollutants, and GHG that will result from construction and operation of the project facilities and quantifies the resulting concentration, or impact, of those emissions using air quality modeling.¹⁷⁶ Millennium's application, available in the public record, provided detailed emission calculations, which included underlying assumptions and methodologies, and an air quality assessment, which included the methodology, assumptions, parameters, and emissions used to model impacts.¹⁷⁷ The EA summarizes the quantitative results of a detailed air quality modeling assessment performed by Millennium, based on local topography and meteorological conditions, using the EPA's approved AERMOD program.¹⁷⁸ This modeling analysis incorporated existing background concentrations of each criteria pollutant combined

¹⁷⁵ Millennium's modified construction workspaces require further consultations that it must satisfy under conditions 5, 9, and 19 in the appendix of this order.

¹⁷⁶ Id. at Tables B-16, B-17, and B-18.

¹⁷⁷ Millennium July 29, 2016 Application.

¹⁷⁸ EA at 132-33.

with emissions from the proposed compressor units.¹⁷⁹ The EA compares the air modeling results to the National Ambient Air Quality Standards (NAAQS), which the EPA established to protect human health and public welfare, and found that project emissions will not result in an exceedance of the NAAQS.¹⁸⁰

131. Some commenters state that the Commission should not accept air modeling provided by Millennium as the basis for its findings. We disagree. Staff independently reviewed the model selection, input assumptions and data, and results to validate the conclusions. Accordingly, we find that Commission staff appropriately relied on Millennium's models to assess air emissions, and we concur in staff's assessment.

132. Commenters also argue that the findings in the EA should not influence New York DEC's review of air permit applications, and that a full impact assessment under the Clean Air Act should be completed before the Commission approves the project. New York DEC independently reviews air quality impact modeling results as part of its air permitting program under the Clean Air Act, and is responsible for ensuring Millennium's compliance with permitted emissions thresholds. Since issuance of the EA, Millennium has refined its air quality modeling results based on comments from New York DEC; the results continue to demonstrate impacts below the NAAQS.¹⁸¹ On August 31, 2017, New York DEC issued its Clean Air Act permit. Further, the Commission is not required to wait to issue a certificate until New York DEC issues its air permit. The Commission routinely issues certificates for natural gas pipeline projects subject to the applicant's receipt of all other federal authorizations, a practice which has been upheld on judicial review.¹⁸²

133. Commenters challenge the EA's conclusion that the project would have no significant impacts on human health because the Commission is not a health agency and the preparers of the EA lack medical or public health credentials. They request that the Commission convene a panel of independent experts to review current federal exposure standards around compressor stations, and hire public health experts to help prepare the Commission's environmental documents. Commenters also state that because the

¹⁷⁹ Id. at Table B-18.

¹⁸⁰ Id. at 132-33.

¹⁸¹ See Millennium May 19, 2017 Supplemental Filing.

¹⁸² See *Myersville*, 783 F.3d 1301 (D.C. Cir. 2015) (finding that the Commission has not violated the NGA or the Clean Air Act by conditioning its approval of a new compressor station on the review process required by the Clean Air Act).

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NAAQS addresses regional air quality concerns, it is inappropriate to use the NAAQS to address health risks, local air quality concerns, or variable emissions rates.

134. In carrying out its NEPA responsibilities, Commission staff relies on other agencies' expertise, including that of the EPA and New York DEC, which establish methodologies and standards for assessing air quality impacts.¹⁸³ EPA has established the NAAQS to include primary standards to protect human health (including sensitive populations such as children, the elderly, and asthmatics), and secondary standards to protect public welfare (including protection against reduced visibility and damage to crops, vegetation, animals, and buildings). Further, contrary to commenters' assertions, the NAAQS are national standards that apply to all locations, and address both short-term and long-term exposures.

135. The Clean Air Act requires the EPA to periodically review the NAAQS and the data used to develop the standards.¹⁸⁴ In performing this periodic review, the EPA develops Integrated Science Assessments and Risk/Exposure Assessments, which consider the relevant science and risks to human health, to establish short-term and long-term NAAQS. Accordingly, any request for review of exposure standards is more appropriately directed to the EPA. While the EPA may review the NAAQS in the future, Commission staff evaluated the project based on the current standards that EPA finalized following a proposed rulemaking and public comment period. Accordingly, the EA appropriately applied the NAAQS to assess the air quality effects of the project.¹⁸⁵

136. Catskill Mountainkeeper states that there are studies that have documented health hazards associated with residing in proximity to natural gas infrastructure. Other commenters question the EA's dismissal of a report prepared by the Southwest Pennsylvania Environmental Health Project (Southwest PA Health Project), which documented such health hazards.

137. Most studies that Catskill Mountainkeeper cites focused on health effects for individuals living near natural gas production facilities that transport and process raw

¹⁸³ See also *EMR Network v. Federal Communications Commission*, 391 F.3d 269 (D.C. Cir. 2004) (finding that agency properly relied outside agency expertise).

¹⁸⁴ 42 U.S. § 7409 (2012).

¹⁸⁵ See also *Edwardsen v. U.S. Department of the Interior*, 268 F.3d 781, 789 (9th Cir. 2001) (finding it reasonable to rely on compliance with NAAQS to find that a project will have minimal effect on air quality).

field gas.¹⁸⁶ Catskill Mountainkeeper provides no evidence to support its claim that transmission-quality natural gas contains substantial quantities of toxic pollutants. On the contrary, the EA estimates that the Highland and Hancock Compressor Stations would emit a total of hazardous air pollutants of 2.67 and 3.38 tons per year (tpy), respectively, which is well below the established permitting major source thresholds of 25 tpy.¹⁸⁷ Further, Catskill Mountainkeeper does not explain why reports on production facilities that process raw gas with more pollutants are applicable to the proposed facilities, which will use and transport transmission-quality natural gas. Many of the studies also acknowledge significant limitations to their conclusions; reporting the lack of a control group, minimal participants, selective participation, and bias. We conclude that these reports are not appropriate to rely on to assess health impacts from operating the Highland and Hancock Compressor Stations.

138. The remaining reports that Catskill Mountainkeeper cites¹⁸⁸ do assess facilities that transport interstate transmission pipeline-quality gas; however, those reports similarly do not persuade us that there would be significant health effects from the project's air emissions. The studies conducted by the Damascus Citizens for Sustainability¹⁸⁹ only provide information on methane concentrations before and

¹⁸⁶ Brown D, et al. "Understanding exposure from natural gas drilling puts current air standards to the test." *Reviews on Environmental Health*. 2014; Macey G, et al., "Air concentrations of volatile compounds near oil and gas production: A community-based exploratory study." *Environmental Health*. 2014; Earthworks, Gas Patch Roulette. October 2012; Steinzor, N W. Subra and L Sumi. "Investigating Links between Shale Gas Development and Health Impacts Through a Community Survey Project in Pennsylvania". *New Solutions: A Journal Of Environmental And Occupational Health Policy*, Vol 23:55-3. 2013; Pring M and Wilhemi J. Fort Worth Natural Gas Air Quality Study. Conference summary; Subra, W. "Results of Health Survey of Current and Former DISH/Clark, Texas Residents" December 2009.

¹⁸⁷ EA at Table B-17.

¹⁸⁸ These are reports prepared by the Damascus Citizens for Sustainability and the Southwest PA Health Project.

¹⁸⁹ Payne, Bryce F. Jr. and Robert Ackley, Report to Damascus Citizens for Sustainability, Baseline Methane Emissions in Town of Hancock, Delaware County, New York (2014), <http://www.damascuscitizensforsustainability.org/wp-content/uploads/2014/12/Hancock4.pdf>; Payne, Bryce F. Jr. and Robert Ackley, Addenda

to Baseline Methane Emissions in Town of Hancock, Delaware County, New York,
(continued ...)

after commissioning of the Hancock Compressor Station, and do not quantify other pollutants or address specific health concerns.¹⁹⁰ The Southwest PA Health Project published information that summarizes the results of monitoring in the vicinity of one specific compressor station.¹⁹¹ Each compressor station, however, is unique, with specific sizing, design, emissions, emission controls, and operating conditions. There are over 300,000 miles of natural gas transmission pipeline and hundreds of natural gas transmission compressor stations in the United States; the Southwest PA Health Project's report does not provide systemic evidence of conditions that occur regionally or from a general type of pollution source (i.e., compressor stations). Further, this publication is limited to a summary of results, and does not provide sufficient information on the methodology, assumptions, and quality control for Commission staff to consider whether this information is appropriate for consideration in evaluating the project.

139. Lastly, Catskill Mountainkeeper cites its own study on air quality monitoring at the Hancock Compressor Station. However, Catskill Mountainkeeper notes that this data is not yet published, and it provides no information on the methodology, assumptions, and quality control used. Therefore, we find that this information, which Commission staff cannot verify, unpersuasive.

140. Moreover, the EA quantifies hazardous air pollutants expected to be emitted by the proposed project and explains that transmission compressor stations utilizing gas-driven compressors emit low amounts of hazardous air pollutants and primarily emit criteria pollutants, particularly nitrous oxide (NO_x) and carbon monoxide (CO). The air modeling analysis provided in the EA finds that emissions of these pollutants will result in concentrations within the limits established by EPA to be protective of human health. Further, Millennium conducted a toxic ambient air contaminant analysis as part of its air permit applications submitted to New York DEC for the Highland and Hancock Compressor Stations.¹⁹² New York DEC establishes annual guidelines to protect against adverse effects due to exposures lasting months or years, and short-term guidelines to protect the general population from adverse, acute one-

<http://www.damascuscitizensforsustainability.org/wp-content/uploads/2014/12/Compressor-Addenda-to-Hancock-Report.pdf>.

¹⁹⁰ The EA states that methane is non-toxic and presents a slight inhalation risk, and that methane is buoyant and disperses upward rapidly in air. EA at 142.

¹⁹¹ Southwest PA Health Project "Summary of Minisink Monitoring Results" <http://www.environmentalhealthproject.org/resources/3/click/5>. Catskill Mountainkeeper also cites Southwest PA Health Project's report titled, "EHP's Latest Findings Regarding Health Data." Commission staff, however, could not find a copy of this report, and thus it was not considered.

¹⁹² EA at 133.

hour exposures.¹⁹³ All maximum modeled toxic air pollutants assessed fall below New York DEC's annual and short-term guideline concentrations at both the Highland and Hancock Compressor Stations. Thus, we find that hazardous air pollutants and health impacts have been adequately considered.

141. Catskill Mountainkeeper recommends that the Commission require the Highland Compressor Station to use electric motor-driven compressors to reduce air emissions, noise, and vibration. The proposed gas-driven compressor units would not result in significant impacts on air quality, noise, or vibration.¹⁹⁴ Further, the EA provides extensive discussion of the use of electric-driven compression as an alternative, including of the additional environmental impacts associated with the construction and operation of a high voltage power line, substation, and transformer to supply electrical power to the electric-driven compressor units; the additional costs and time to permit such facilities; and the reduced reliability associated with electric supply. The EA finds, and we affirm, that electric driven compressor units would not offer significant environmental advantage over the proposed gas-driven turbines.¹⁹⁵

142. Several commenters express concern over the health impacts of emissions from blowdowns. Commenters argue that the EA underestimates the frequency of blowdowns, given the potential for both planned and unplanned events and the frequency of blowdowns that occurred in 2014 and 2015 at Millennium's existing Hancock and Minisink Compressor Stations.¹⁹⁶

143. The term blowdowns covers a range of venting activities, including: full station blowdowns for maintenance or testing; individual compressor unit blowdowns for maintenance, testing, or start-up/shutdown; emergency shutdown blowdowns; and other equipment/piping ventings. The majority of blowdowns are planned activities, where the pipeline operator typically reduces operating capacities and has the ability to contain the gas, minimizing the loss of gas and vented emissions. For example, here Millennium will install valves on the station blowdown piping at both the Highland and Hancock

¹⁹³ New York DEC, Guidelines for the Evaluation and Control of Ambient Air Contaminants under Part 212, http://www.dec.ny.gov/docs/air_pdf/dar1.pdf.

¹⁹⁴ EA at 130-33, 138-42.

¹⁹⁵ EA at 178.

¹⁹⁶ Commenters cite the EPA's Facility Level Information on GreenHouse Gases Tool (FLIGHT), which reports that the Minisink Compressor Station experienced 8 total blowdown events in 2015 and 97 total blowdown events in 2014, and the Hancock Compressor Station experienced 35 total blowdown events in 2015 and 11 total blowdown events in 2014.

Compressor Stations to contain the majority of the gas typically vented to the atmosphere during blowdowns.¹⁹⁷ During unplanned, emergency events, the goal of the blowdown is to release the gas from the station to prevent or minimize an incident, and the gas in these circumstances is not contained within a facility on other parts of its system. However, staff cannot predict unplanned events because they occur based on unanticipated emergency conditions.

144. Commenters inappropriately try to equate the number of historical blowdown events that have occurred to a resulting impact of emissions. Although the EA indicates that planned full-station blowdowns could occur up to two times a year, the EA also estimates that the emissions from all types of planned blowdown events and ventings would be approximately 8,652 tpy of carbon dioxide equivalents (CO_{2e}) from the Hancock Compressor Station and 8,466 tpy of CO_{2e} from the Highland Compressor Stations.¹⁹⁸

145. The frequency of actual blowdowns that have occurred previously at the Minisink and Hancock Compressor Stations is not predictive of the frequency of such events at the Eastern System Upgrade compressor facilities, or the amount of emissions that would occur during any given blowdown event. Each station operates under unique conditions, and under varying capacities throughout the day, week, and season, based on customer demand. Regardless, using the EPA's FLIGHT tool cited by commenters, the total GHG emissions reported from blowdown events at the Minisink Compressor Station was under 1,100 tons of CO_{2e} in 2014 and in 2015, and was around 371 tons of CO_{2e} in 2014 and 6,600 tons of CO_{2e} in 2015 from the Hancock Compressor Station. The historical emissions from blowdowns is well below the amount of emissions estimated from the blowdown events/ventings presented in the EA. Based on the information available, we find the EA conservatively estimates the emissions that would occur from blowdowns during annual project operation.¹⁹⁹

146. Catskill Mountainkeeper states that the EA does not consider effects of increased radon and its decay progeny that may affect employees of the pipeline and nearby residents. In prior proceedings we have summarized the results of numerous studies²⁰⁰ regarding radon and natural gas facilities, including

¹⁹⁷ EA at 132.

¹⁹⁸ Id. at 130 and table B-17.

¹⁹⁹ Id. at 130.

²⁰⁰ Rowan, E.L. and T.F. Kraemer. 2012. Radon-222 Content of Natural Gas Samples from Upper and Middle Devonian Sandstone and Shale Reservoirs in Pennsylvania: Preliminary Data. U.S. Geological Survey, Reston, Virginia. Available online at <http://pubs.usgs.gov/of/2012/1159/ofr2012-1159.pdf>.

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Pennsylvania Department of Environmental Protection's Technologically Enhanced Naturally Occurring Radioactive Materials Study Report issued in January 2015.²⁰¹ The Commission has explained that radon exposure associated with delivered gas supply decreases due to radioactive decay over time; gas processing and removal of natural gas liquids; and commingling with other gas supplies.

147. Although the potential exists for radioactive solids to be present within the pipeline, natural gas pipeline operators routinely clean pipelines to remove any accumulated solids or liquids, and test the collected material before disposal. In the event that such debris contains radioactive materials, there are applicable federal, and potentially state and local, waste management regulations pertaining to these types of hazardous materials. Therefore, we find that any gas that is supplied by the project will not result in significant risk of exposure to radon or its progeny.

14. Greenhouse Gas Emissions and Climate Change

148. In its comments on the EA, Delaware Riverkeeper states that the EA fails to present a comprehensive analysis of the direct, indirect, and cumulative effects of the project on climate change. Other commenters express concerns that the EA assesses the impact of GHG emissions from the project based solely on carbon dioxide (CO₂) emissions and did not address methane (CH₄) emissions.

149. Over four months after the deadline for comments on the EA, Delaware Riverkeeper and Sierra Club filed comments asserting that, in light of the D.C. Circuit opinion in *Sierra Club v. FERC*, which vacated and remanded certificates authorizing the Southeast Market Pipelines Project because the EIS

Anspaugh, L.R. 2012. Scientific Issues Concerning Radon in Natural Gas, Texas Eastern Transmission, LP and Algonquin Gas Transmission, LLC, New Jersey-New York Expansion Project, Docket No. CP11-56. Prepared at Request of Counsel for Applicants, Henderson, Nevada. Available online at <http://energyindepth.org/wp-content/uploads/marcellus/2012/07/A-Anspaugh-Report.pdf>

Pennsylvania Department of Environmental Protection. 2015. Technologically Enhanced Naturally Occurring Radioactive Materials (TERNORM) Study Report. Available online at <http://www.dep.pa.gov/Business/Energy/OilandGasPrograms/OilandGasMgmt/Oil-and-Gas-Related-Topics/Pages/Radiation-Protection.aspx>.

²⁰¹ See *Algonquin Gas Transmission, LLC*, 158 FERC ¶ 61,061, at P 215 (2017); *Algonquin Gas Transmission, LLC*, 154 FERC ¶ 61,048, at PP 193-96 (2016); *Constitution Pipeline Co., LLC*, 154 FERC ¶ 61,046, at P 155 (2016); *Transcontinental Gas Pipe Line Co., LLC*, 155 FERC ¶ 61,016, at P 131 (2016); *Dominion Cove Point LNG, LP*, 148 FERC ¶ 61,244, at PP 160-61 (2014); *Texas Eastern Transmission, LP*, 139 FERC ¶ 61,138, at P 82 (2012).

for that action failed to quantify downstream gas emissions from power plants, the EA for the Eastern System Upgrade inadequately assesses the cumulative impacts of downstream GHG emissions and fails to employ, or explain why it was not employing, the social cost of carbon.²⁰² In addition, Delaware Riverkeeper adds that the EA fails to consider the indirect effects of GHG emissions that will result from gas being delivered to the CPV Valley Energy Center and other natural gas power plant facilities.

a. Direct Effects of GHG Emissions

150. The EA discusses the direct GHG impacts from construction and operation of the project and the associated climate change impacts in the region.²⁰³ The EA quantifies GHG emissions from the project construction (9,386 metric tons CO_{2e}) and operation (294,539.5 metric tpy CO_{2e}).²⁰⁴ As stated in the EA,²⁰⁵ emissions of GHG are typically quantified in terms of CO_{2e} by multiplying emissions of each GHG by its respective global warming potential. Thus, Methane emissions are included in the total estimated CO_{2e} emissions for the project.

b. Upstream and Downstream GHG Emissions

151. Several commenters raise concerns regarding the potential for increased upstream natural gas production associated with construction and operation of the project. Commenters request that the EA include the GHG emissions associated with the upstream production and downstream combustion of the natural gas to be transported by the project.

152. CEQ's regulations direct federal agencies to examine the direct, indirect, and cumulative impacts of proposed actions.²⁰⁶ 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."²⁰⁷ Further, indirect

²⁰² Delaware Riverkeeper Network September 5, 2017 Comments; Sierra Club August 30, 2017 Comments.

²⁰³ EA at 165-66.

²⁰⁴ Id. at Table B-16, Table B-17.

²⁰⁵ Id. at 122

²⁰⁶ 40 C.F.R. § 1508.25(c) (2017).

²⁰⁷ Id. § 1508.8(b).

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.”²⁰⁸ Accordingly, to determine whether an impact should be studied as an indirect impact, the Commission must determine whether it: (1) is caused by the proposed action; and (2) is reasonably foreseeable.

153. With respect to causation, “NEPA requires ‘a reasonably close causal relationship’ between the environmental effect and the alleged cause”²⁰⁹ in order “to make an agency responsible for a particular effect under NEPA.”²¹⁰ As the Supreme Court explained, “a ‘but for’ causal relationship is insufficient [to establish cause for purposes of NEPA].”²¹¹ 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.²¹² Further, the Court has stated that “where an agency has no ability to

²⁰⁸ Id. § 1508.8(b).

²⁰⁹ U.S. Dep’t of Transp. v. Pub. Citizen, 541 U.S. 752, 767 (2004) (quoting Metropolitan Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 774 (1983)).

²¹⁰ Id.

²¹¹ Id.; see also *Sierra Club v. Federal Energy Regulatory Commission*, 827 F.3d 36, 46 (D.C. Cir. 2016) (Freeport LNG) (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 construction of liquefied natural gas export facilities is not the legally relevant cause of increased production of natural gas).

²¹² *Metro. Edison Co.*, 460 U.S. at 774.

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."²¹³

154. 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."²¹⁴ 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."²¹⁵

i. Impacts from Upstream Natural Gas Production

155. 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 contemplated by CEQ regulations.²¹⁶ A causal relationship sufficient to warrant Commission NEPA 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).²¹⁷ To date, the Commission has not been presented with a proposed pipeline project

²¹³ 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).

²¹⁴ 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).

²¹⁵ N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1078 (9th Cir. 2011).

²¹⁶ See, e.g., Central New York Oil & 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).

²¹⁷ 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) (continued ...)

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.

156. We note that the Department of Energy (DOE) 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.²¹⁸ The DOE has concluded that such production, when conforming to regulatory requirements, implementing best management practices, and administering pollution prevention concepts, may have temporary, minor impacts on water resources.²¹⁹ With respect to air quality, the DOE found that natural gas development leads to both short- and long-term increases in local and regional air emissions.²²⁰ It also found that such emissions may contribute to climate change.²²¹ But to the extent that natural gas production replaces the use of other carbon-based energy sources, the DOE found that there may be a net positive impact in terms of climate change.²²² 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.

157. 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 project 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

(acknowledging that existing development led to planned freeway, rather than the reverse, notwithstanding the project's potential to induce additional development).

²¹⁸ 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*, 867 F.3d 189, 195, 201 (D.C. Cir. 2017).

²¹⁹ DOE Addendum at 19.

²²⁰ *Id.* at 32.

²²¹ *Id.* at 44.

²²² *Id.*

dispute. This does not mean, however, that approving this particular project 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.²²³ If this project was not constructed, it is reasonable to assume that any new production spurred by such factors would reach intended markets through alternate pipelines. Again, any such production would take place pursuant to the regulatory authority of state and local governments.²²⁴

158. 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 under NEPA. 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 project.

159. As noted above, upstream impacts of the type described by commenters do not meet the definition of indirect impacts; therefore, they are not mandated as part of the Commission's NEPA review. However, to provide the public additional information, Commission staff, after reviewing publicly-available DOE and EPA methodologies, has prepared the following analyses regarding the potential impacts associated with unconventional natural gas production. As summarized below, these analyses provide an estimate of upstream effects using general Marcellus shale well information.

²²³ 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).

²²⁴ We acknowledge that NEPA may obligate an agency to evaluate the environmental impacts of non-jurisdictional activities. States, however, not the Commission, have jurisdiction over natural gas production and associated development (including siting and permitting), further supporting 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*, 867 F.3d 189, 200 (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).

160. As noted previously, the EA discusses the direct GHG impacts from construction and operation of the project. The EA does not include upstream emissions. However, presuming all gas transported represents new, incremental production (as opposed, e.g., to production which would otherwise have been transported on another pipeline), Commission staff conservatively estimated the upstream GHG emissions as 180,000 metric tpy CO_{2e} from extraction, 350,000 metric tpy CO_{2e} from processing, and 57,000 metric tpy CO_{2e} from the upstream non-project pipelines. Again, these are upper-bound estimates that involves a significant amount of uncertainty.

161. With respect to upstream impacts, Commission staff estimated the impacts associated with the production wells that would be required to provide 100 percent of the volume of natural gas to be transported by the project. Commission staff estimated land use and water use within the Marcellus shale basin for the life of the project. Commission staff estimated that approximately 1.48 acres of land is required for each natural gas well pad and associated infrastructure (i.e., road infrastructure, water impoundments, and pipelines). Based upon the project volume and the expected estimated ultimate recovery of Marcellus shale wells, between 320 and 630 wells would be required to provide the gas over the estimated 30-year lifespan of the project. Therefore, on a normalized basis, these assumptions result in an estimate of an additional 15 to 30 acres per year that may be impacted by well drilling.

162. Commission staff estimates the amount of water required for the drilling and development of these wells over the 30-year period using the same assumptions. Recent estimates show that an average Marcellus shale well requires between 3.88 and 5.69 million gallons of water for drilling and well development, depending on whether the producer uses a recycling process in the well development. Therefore, the production of wells required to supply the project could require the normalized consumptive use of as much as 40 to 120 million gallons of water per year over the 30-year life of the project.

ii. Impacts from Downstream Combustion of Project-Transported Natural Gas

163. The court in Sabal Trail held that where it is known that the natural gas transported by a project will be used for end-use combustion, the Commission should “estimate[] the amount of power-plant carbon emissions that the pipelines will make possible.”²²⁵ In the EA, we estimated the downstream

²²⁵ Sabal Trail, 867 F.3d 1357, 1371. The Commission’s environmental review of the Eastern System Upgrade project is distinguishable from its environmental review of the project at issue in 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, the Commission has estimated the GHG emissions associated with burning the gas to be transported by the Eastern System (continued ...)

GHG emissions.²²⁶ Thus, the Commission and the public were fully informed of the potential impacts from the project.

164. The final EA conservatively estimates that if all 223,000 Dth/d of natural gas were transported to combustion end uses, downstream end-use would result in the emission of about 4.3 million metric tpy of CO_{2e}.²²⁷ We note that this CO_{2e} estimate represents an upper bound for the amount of end-use combustion that could result from the gas transported by this project. This is because some of the gas may displace other fuels (i.e., fuel oil and coal) that could result in lower total CO_{2e} emissions. It may also displace gas that otherwise would be transported via different systems, resulting in no change in CO_{2e} emissions, or be used as a feedstock. This estimate also assumes the maximum capacity is transported 365 days per year, which is rarely the case because many projects are designed for peak use. Consequently, it is unlikely that this total amount of GHG emissions would occur, and emissions are likely to be significantly lower than the above estimate.

Upgrade, 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 NEXUS Gas Transmission, LLC, 160 FERC ¶ 61,022 at PP 172-173 (NEXUS Project); 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).

²²⁶ EA at 165

²²⁷ Staff estimated GHG using EPA's GHG Equivalencies Calculator - Calculations and References, <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-andreferences>.

165. In an effort to put these emissions in to context, we examined both the regional²²⁸ and national emissions of GHG. If only the regions identified as potentially served by the project (via Algonquin) are considered, the volume of GHG emissions associated with the combustion of gas that could be transported by the project will result in about a 1.1 percent increase of GHG emissions from fossil fuel combustion in these states. From a national perspective, combustion of all the gas potentially transported by the project will result in a 0.1 percent increase of national GHG emissions. Based on the myriad existing and potential future interconnections with other pipeline systems, it is impossible to identify the states and the facilities that may ultimately consume gas transported by the project. From a practical sense, we know that as more states are considered, the percentage of increase contributed by the project would decline. Therefore, speculating on the ultimate distribution does little to clarify the impact.

c. Cumulative Impacts of GHG Emissions

166. Delaware Riverkeeper and Sierra Club argue that the EA provides no rationale for its conclusion that cumulative effects on climate would be insignificant and states that Sabal Trail requires that the Commission quantify cumulative effects of downstream GHG from past, present, and future gas projects in the region. Further, they argue that the EA prematurely discusses mitigation of methane emissions before quantifying the cumulative impacts of downstream GHG, and suggests that the Commission explore mitigation for combustion emissions associated with the project and similar projects in the region.

167. The CEQ regulations define cumulative impacts as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.”²²⁹ A cumulative impacts analysis may require an analysis of actions unrelated to the proposed project if they

²²⁸ Because the project would deliver gas to the Algonquin pipeline system, staff looked at the Algonquin system to identify the states the pipeline system serves. Given that the natural gas can move anywhere on Algonquin’s system, we used the combined inventory of states served by the Algonquin system: New Jersey, New York, Connecticut, Rhode Island, and Massachusetts. We compared the 2015 inventory of these states served by the project in comparison to the downstream emissions to arrive at the potential increase in GHG emissions.

²²⁹ 40 C.F.R. § 1508.7 (2017).

occur in the project area or region of influence of the project being analyzed.²³⁰ CEQ states 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.”²³¹ An agency is only required to 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.”²³²

168. We could not find a suitable method to attribute discrete environmental effects to GHG emissions. The atmospheric modeling used by the Intergovernmental Panel on Climate Change, EPA, National Aeronautics and Space Administration and others is not reasonable for project-level analysis for a number of reasons. For example, these global models are not suited to determine the incremental impact of individual projects, due both to scale and overwhelming complexity. We reviewed simpler models and mathematical techniques to determine global physical effects caused by GHG emissions, such as increases in global atmospheric CO₂ concentrations, atmospheric forcing, or ocean CO₂ absorption. We could not identify a reliable, less complex model for this task and we are not aware of a tool to meaningfully attribute specific increases in global CO₂ concentrations, heat forcing, or similar global impacts to project GHG emissions. Similarly, it is not currently possible to determine localized or regional impacts from GHGs by use of these models.

169. As explained above, the EA identifies the total CO_{2e} emissions that would be emitted by the project. Methane is a GHG that has a greater global warming potential than CO₂, and emissions of methane were included as part of the total CO_{2e} estimates. The EA acknowledged that the emissions would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and contribute incrementally to climate change.²³³ However, as the EA explained, because the project’s incremental physical impacts on the environment caused by climate change

²³⁰ CEQ Guidance, Considering Cumulative Effects under the National Environmental Policy Act (January 1997).

²³¹ *Id.* at 8.

²³² *New York Natural Res. Def. Council, Inc. v. Kleppe*, 429 U.S. 1307, 1311 (1976) (citing *Natural Res. Def. Council v. Calloway*, 524 F.2d 79, 88 (2d Cir. 1975)).

²³³ EA at 166.

cannot be determined, it also cannot be determined whether the projects' contribution to cumulative impacts on climate change would be significant.²³⁴

170. The EA discusses that Millennium voluntarily participates in the EPA's Natural Gas Star Program, implementing mitigation measures to minimize methane emissions.²³⁵ The mitigation measures that Delaware Riverkeeper and Sierra Club request on the end-use combustion emissions would need to be applied to non-jurisdictional entities (i.e., power plants, commercial sources, residential heaters and stoves, etc.). Therefore, Commission staff appropriately limited reasonable mitigation measures to the project facilities within the Commission's jurisdiction.

d. Social Cost of Carbon

171. The EA appropriately does not assess the social cost of carbon. The Interagency Working Group on Social Cost of Carbon developed the social cost of carbon to quantify the comprehensive costs associated with a project's CO₂ emissions and provide monetized values for addressing climate change impacts on a global level. The social cost of carbon only addresses impacts from CO₂, not methane, N₂O or other GHGs.²³⁶

172. While we recognize the availability of this tool, it is not appropriate for use in any project-level NEPA review for the following reasons: (1) EPA states that "no consensus exists on the appropriate [discount] rate to use for analyses spanning multiple generations"²³⁷ and consequently, significant variation in output can result; (2) the tool does not measure the actual incremental impacts of a project on the environment; and (3) there are no established criteria identifying the monetized values that are to be considered significant for NEPA reviews. The social cost of carbon tool may be useful for rulemakings or comparing regulatory alternatives using cost-benefit analyses where the same discount

²³⁴ Id.

²³⁵ Id. at 132.

²³⁶ In March 2017, Executive Order 13783, Promoting Energy Independence and Economic Growth, disbanded the Interagency Working Group on Social Cost of Greenhouse Gases and directed the withdrawal of all technical support documents and instructions regarding the Social Cost of Carbon tool, stating that the documents are "no longer representative of governmental policy. See Exec. Order No. 13783, 82 Fed. Reg. 16093 (Mar. 28, 2017).

²³⁷ See Fact Sheet: Social Cost of Carbon issued by EPA in November 2013, available at <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf>.

rate is consistently applied; however, it is not appropriate for estimating a specific project's impacts or informing our analysis under NEPA.

15. Noise

173. Commenters express concern regarding noise from blowdowns and routine operations associated with the proposed compressor units. The EA explains that the new compressor units will each be outfitted with a blowdown silencer, and that the sound level from blowdowns will be below the Commission's day-night sound level criterion of 55 decibels on the A-weighted scale at the nearest noise sensitive areas.²³⁸ Given the non-routine nature and short-term duration of blowdown events, the EA appropriately finds that blowdowns would not significantly contribute to operational sound levels from the project.²³⁹ The EA also provides the results of acoustical analyses, including background noise levels and noise from operating the compressor stations, demonstrating that noise impacts on nearby noise sensitive areas would not be significant.²⁴⁰ Further, Environmental Conditions 16 and 17 of Appendix B of this order require Millennium to file noise surveys with the Commission to verify the accuracy of Millennium's acoustical analyses and ensure sound levels do not exceed the 55 decibel noise criterion.

174. One commenter states that the EA does not address potential environmental and health impacts related to vibration.²⁴¹ The EA finds that Millennium's noise control measures will minimize vibration from operating the compressor stations.²⁴²

²³⁸ EA at 140

²³⁹ Id.

²⁴⁰ Id. at 138-39.

²⁴¹ Catskill Mountainkeeper May 2, 2017 Comments at 4.

²⁴² EA at 139.

16. Safety

175. Several commenters raise safety concerns, primarily regarding pipeline rupture and evacuations. The risk of an incident at any given location on a pipeline is low.²⁴³ The EA explains that the pipeline and aboveground facilities associated with the project must be designed, constructed, operated, and maintained in accordance with the U.S. DOT's Minimum Federal Safety Standards.²⁴⁴ These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, include specifications for material selection and qualification; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. Further, the EA states that the DOT requires pipelines to establish an emergency plan.²⁴⁵ Key elements of the required emergency plan include procedures for establishing communication with local response officials and protecting people first.

17. Alternatives

176. Commenters contend that the Commission should have considered renewable energy sources, energy efficiency, and the Wagoner Alternative from the Minisink Compressor Project in Docket No. CP11-515²⁴⁶ as alternatives to the project.

177. Section 102(C)(iii) of NEPA requires an agency to discuss alternatives to the proposed action in an environmental document.²⁴⁷ All reasonable alternatives must be evaluated, including alternatives

²⁴³ EA at 141, 148.

²⁴⁴ Id. at 21 (citing 49 C.F.R. pt. 192 (2017)).

²⁴⁵ Id. at 145.

²⁴⁶ The Wagoner Alternative to the Minisink Compressor Station consisted of a 5,100-horsepower compressor station located at a site adjacent to Millennium's existing Wagoner Meter Station facility in Sparrowbush, New York, and replacement of the 7.2-mile-long Huguenot-to-Westtown segment beneath the Neversink River.

²⁴⁷ 42 U.S.C. § 4332(C)(iii) (2012). Section 102(E) of NEPA also requires agencies "to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." Id. § 4332(E).

not within the lead agency's jurisdiction and no-action alternatives.²⁴⁸ In determining which alternatives to consider, agencies must adopt a rule of reason.²⁴⁹ Only feasible alternatives need to be considered.²⁵⁰ Alternatives that are remote, conjectural, or do not meet the purpose or need of the proposed action may be eliminated so long as the agency briefly discusses the reasons for the elimination.²⁵¹

178. The EA appropriately did not consider renewable energy sources or energy efficiency as alternatives to the Eastern System Upgrade because they would be unable to meet the project's purpose to provide 223,000 Dth/d of firm natural gas transportation service as requested by the project shippers. Similarly, the Wagoner Alternative is not a feasible alternative to the Eastern System Upgrade. Millennium states that the location of the proposed compressor station in the Wagoner Alternative would not support the additional flows to meet the purpose of the Eastern System Upgrade.²⁵² Commission staff has reviewed the engineering data provide by Millennium and concurs that the Wagoner Alternative would be unable to provide the contracted for transportation service to the project shippers. We agree.

IV. Conclusion

179. Based on the analysis in the EA, and as supplemented herein, we conclude that if constructed and operated in accordance with Millennium's application and supplements, and in compliance with the environmental conditions in Appendix B to this order, our approval of this proposal will not constitute a major federal action significantly affecting the quality of the human environment.

²⁴⁸ 40 C.F.R. § 1502.14 (2017).

²⁴⁹ See *Natural Resource Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) ("the requirement as to alternatives is subject to a construction or reasonableness . . .").

²⁵⁰ CEQ, *Guidance Regarding NEPA Regulations* at 9 (1983), http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQGuidanceRegulations.pdf; see also "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18,026, 18,038 (1981). ("Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense.").

²⁵¹ 40 C.F.R. § 1502.14(a) (2017).

²⁵² Millennium September 15, 2017 Filing at 3-4; Millennium May 16, 2017 Filing at 29-31.

180. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. The Commission encourages 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.²⁵³

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

The Commission orders:

(A) A certificate of public convenience and necessity is issued to Millennium, authorizing it to construct and operate the proposed Eastern System Upgrade Project, as described and conditioned herein, and as more fully described in the application.

(B) The certificate authority issued in Ordering Paragraph (A) is conditioned on:

(1) Millennium's proposed Eastern System Upgrade Project being constructed and made available for service within two years of the date of this order, pursuant to section 157.20(b) of the Commission's regulations;

(2) Millennium's compliance with all applicable Commission regulations, particularly the general terms and conditions set forth in Parts 154, 157, and 284, and paragraphs (a), (c), (e), and (f) of section 157.20 of the Commission's regulations; and

²⁵³ See 15 U.S.C. § 717r(d) (2012) (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).

(3) Millennium's compliance with the environmental conditions listed in Appendix B to this order.

(C) Millennium shall file a written statement affirming that it has executed firm contracts for the capacity levels and terms of service represented in signed precedent agreements, prior to commencing construction.

(D) Millennium's proposal to use its generally applicable reservation charge under Rate Schedule FT-1 is approved.

(E) Millennium's proposed incremental fuel retainage percentage for the Eastern System Upgrade Project is approved.

(F) Millennium shall file revised actual tariff records no earlier than 60 days and no later than 30 days, prior to the date the project facilities go into service.

(G) Millennium shall keep separate books and accounts of costs attributable to the proposed incremental services, as described above.

(H) Millennium 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 Millennium. Millennium shall file written confirmation of such notification with the Secretary of the Commission (Secretary) within 24 hours.

By the Commission.

(SEAL)

Kimberly D. Bose,
Secretary.

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Appendix AList of Timely, Unopposed Intervenors

- Allison, Jeffrey C.
- Arney, Dorothy
- Back, John
- Bay State Gas Company d/b/a Columbia Gas of Massachusetts
- Beck, Bernard
- Bemak, Mitchell B.
- Benzenberg, Darlene
- Bilger, Joseph
- Billard, George
- Binkowski, Audrey R.
- Borow, Stacey
- Burns, Sarah and King, Amanda L.
- Bushell, K.
- Butler, Jennifer Q.
- Cabot Oil & Gas Corporation
- Cahill, Shawn
- Champion, Anne Marie
- Champion, James
- Caplan, John
- City of Norwich Department of Public Utilities
- Clemente, Jeffrey P. Esq.
- Comstock, Jack
- Consolidated Edison Company of New York, Inc.
- Conway, Debra R.
- Conway, John
- Damascus Citizens for Sustainability, Inc.
- Delaware Riverkeeper Network
- Delord, Nicolas
- Dolgin, Elaine S.
- Donofrio, Jeanne
- Dorosh, Daria
- Dorr, Cheri L.
- Duke, Dana A.
- Dusenbury, B.
- Dyrszka, Larysa M.

- Egan, Mark T. and Alycia Glide
- Falkson, Michael
- Finneran, Ann L.
- Fleissig, Harriet S.
- Flood, Karen
- Giglio, Terriesa
- Gilmore, Nancy
- Goodman, Chryse
- Gough , Trisha
- Gregory, Richard
- Guiroy, Jessica
- Guiroy, Pablo
- Gutekunst, James P.
- Hall, Mary Lou
- Hall, Nonna
- Heath, Janie
- Hesse, Star D.
- Hoffman-Pletter, Susan
- Horn, Jennifer Leighty
- Hoshour, Robert
- Irish, Jessica
- Israel, Joseph J.
- Israel, Paula
- Jones, Laurie
- Kearns, Allison
- Kearns, Robert
- Kelley, Eric O.
- Kennedy, Edward
- Khan, Judith P.
- Kidney, Sonia
- Klausner, Stuart
- Klewan, Suzanne
- Krause, Robert
- Landstorm, Ruth
- Lang, Shawn
- Leighty, Jill
- Lerner, Barbara
- Levine, Jeffrey
- Levine, Pam
- Lobmeyer, Veronica

- London, Karen
- Lotorto, Gregory
- MacKechnie, Jeremy
- MacKechnie, Russell W., Jr.
- Malick, Pramilla
- Matthews, Laquita
- McDonnell, Mary
- Metts, Stephen
- Misner, Elizabeth
- Mojica, Michael
- Catskill Mountainkeeper
- Nagy, Shari
- National Grid Gas Delivery Companies²⁵⁴
- New Jersey Natural Gas Company
- New York State Department of Environmental Conservation
- NJR Energy Services Company
- Nordanger, Henning
- Novick, Scott
- O'Neill, Lynne
- Ozdan Development, LLC and Amytra Development, LLC
- Parkinson, Richard
- Petkus, Maureen A.
- Popkin, Karen
- Protect Orange County
- Reik, Linda
- Riedel, Sandra
- Riggle, Yolanda
- Robins, Lenore
- Robinson, Wendy
- Rodgers, Gail
- Roig, Carol A.
- Rosenblatt, Alan
- Rossum, Maya K.

²⁵⁴ National Grid Gas Delivery Companies include Brooklyn Union Gas Company; KeySpan Gas East Corporation; Boston Gas Company; Colonial Gas Company; Niagara Mohawk Power Corporation; and The Narragansett Electric Company.

- Rowe, Sally
- Ryan, Kelly
- Sapanaro, John
- Sarka, Stephanie
- Schwartz, Eric C.
- Scoppa, Martha
- Seigel, Brian
- Serrano, Randy
- Sidney, Mara
- Siegel, Melissa
- Silverman, Laura
- Smith, Linda Z.
- Stanley, Anie
- Starr, Norman
- Stevens, Walter A.
- Stringer, Lizbeth
- Sudol, Mary
- Thompson-Handler, Nancy
- Todd, Barbara A.
- Tomlinson, John
- Town of Bethel, New York
- Town of Highland, New York
- Town of Tusten, New York
- Turoff, Howard
- Turoff, Lori
- Valand, Theodore L.
- Varney, Thomas
- Walsh, Anneke Lies
- Warner, Dorene
- Werneke, Anthony
- Wilkin, Charles
- Winkler, Suzy
- Wolchok, Jedd
- Wolf, Terry
- Wood, David A.
- Worzel, Heather and Brian
- Young , Jennifer L.
- Zigmund, Sean

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Appendix B

Environmental Conditions

As recommended in the environmental assessment (EA), this authorization includes the following conditions:

1. Millennium 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 EA, unless modified by the order. Millennium 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 address any requests for approvals or authorizations necessary to carry out the conditions of the order, and take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the project. This authority shall allow:
 - a. the modification of conditions of the order;
 - b. stop-work authority; and
 - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation.

3. Prior to any construction, Millennium shall file an affirmative statement with the Secretary, certified by a senior company official, 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 locations shall be as shown in the EA, as supplemented by filed alignment sheets. As soon as they are available, and before the start of construction, Millennium 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 the order. All requests for modifications of environmental conditions of the order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

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

5. Millennium 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, and staging areas, contractor/pipe 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 the FERC's Erosion Control, Revegetation, and Maintenance Plan, and/or minor field realignments per landowner needs and requirements which 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, Millennium shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Millennium must file revisions to the plan as schedules change. The plan shall identify:
 - a. how Millennium will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the order;
 - b. how Millennium will 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 onsite construction and inspection personnel;
 - c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
 - d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
 - e. the location and dates of the environmental compliance training and instructions Millennium will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
 - f. the company personnel and specific portion of Millennium's organization having responsibility for compliance;
 - g. the procedures (including use of contract penalties) Millennium will follow if noncompliance occurs; and
 - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) completion of all required surveys and reports;
 - (2) the environmental compliance training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. Millennium shall employ at least one EI per construction spread. The EIs shall be:

- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the 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(2) above) and any other authorizing document;
 - c. empowered to order the correction of acts that violate the environmental conditions of the 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 that 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 its Implementation Plan, Millennium shall file updated status reports with the Secretary on a biweekly basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
- a. an update on Millennium's efforts to obtain the necessary federal authorizations;
 - b. the construction status of the project, 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 EI 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 which may relate to compliance with the requirements of the order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by Millennium from other federal, state, or local permitting agencies concerning instances of noncompliance, and Millennium's response.

9. Millennium must receive written authorization from the Director of OEP before commencing construction of any project facilities. To obtain such authorization, Millennium must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Millennium must receive written authorization from the Director of OEP before placing the project into service. Such authorization will 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.
11. Within 30 days of placing the authorized facilities in service, Millennium shall file an affirmative statement with the Secretary, certified by a senior company official:
 - a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or
 - b. identifying which of the conditions in the order Millennium has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
12. Millennium shall offer to conduct, with the well owner's permission, pre- and post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace.
13. Prior to construction, Millennium shall file with the Secretary documentation of its consultation regarding project construction and operation within the Huckleberry Ridge State Forest, including any specific procedures Millennium will implement or permits identified by the New York State Department of Environmental Conservation.
14. Prior to construction, Millennium shall file with the Secretary documentation of its consultation regarding project construction and operation within private parcels protected under conservation easements, including any specific procedures Millennium will implement as identified in coordination with The Nature Conservancy.
15. Prior to construction using any drilling equipment or performing entry-side activity at milepost (MP) 3.8 of the Mountain Road/Bedell Drive horizontal directional drill (HDD), Millennium shall file with the Secretary, for review and written approval by the Director of the OEP, a revised HDD noise assessment for entry-side activity at MP 3.8 and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that noise levels will exceed 55 day-night sound level day-night (L_{dn}) decibels on the A-weighted scale (dBA) at any noise sensitive area (NSA), Millennium shall file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.

16. Millennium shall make all reasonable efforts to ensure its predicted impact on noise levels from the new Highland Compressor Station and modified Hancock Compressor Station are not exceeded at nearby NSAs, and file noise surveys showing this with the Secretary no later than 60 days after placing each station into service. If a full load condition noise survey of the entire station is not possible, Millennium shall file an interim survey at the maximum possible horsepower and file the full load survey within 6 months. If the noise attributable to the operation all of the equipment at either compressor station under full or interim horsepower load conditions exceeds an L_{dn} of 55 dBA at any nearby NSA, Millennium shall file a report on what changes are needed and shall install additional noise controls measures to meet the level within 1 year of the in-service date. Millennium shall confirm compliance with this requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.
17. Millennium shall file noise surveys with the Secretary no later than 60 days after placing the modified Ramapo and Huguenot Meter Stations in service. If the noise attributable to the operation of either meter station exceeds the previously existing noise levels at any nearby NSAs that are currently at or above an L_{dn} of 55 dBA, or exceeds 55 dBA L_{dn} at any nearby NSAs that are currently below 55 dBA L_{dn} , Millennium shall file a report on what changes are needed and shall install the additional noise controls to meet the requirements within 1 year of the in-service date. Millennium shall confirm compliance with the above requirement by filing a second sound level survey with the Secretary no later than 60 days after it installs the additional noise controls.
18. Prior to any unanticipated open-cut construction across the Neversink River, Millennium shall file with the Secretary, for review and written approval from the Director of the OEP, documentation of its consultation with the U.S. Army Corps of Engineers, New York State Department of Environmental Conservation, and the U.S. Fish and Wildlife Service to determine the need for mitigation measures that will avoid and/or minimize potential impacts on the dwarf wedgemussel.
19. Prior to construction of the Rutgers Creek HDD between mileposts 7.2 and 7.4, Millennium shall file with the Secretary for review and written approval by the Director of the OEP:
 - a. documentation of geotechnical investigations that support the feasibility of HDD construction at this location; and
 - b. an HDD noise assessment and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that noise levels will exceed an L_{dn} of 55 dBA at any NSA, Millennium shall file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.

Document Content(s)

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