

158 FERC ¶ 61,046
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Cheryl A. LaFleur, and Colette D. Honorable.

Columbia Gas Transmission, LLC

Docket Nos. CP15-514-000

Columbia Gulf Transmission, LLC

CP15-539-000

ORDER ISSUING CERTIFICATES AND APPROVING ABANDONMENT

(Issued January 19, 2017)

1. On June 8, 2015, Columbia Gas Transmission, LLC (Columbia) filed an application in Docket No. CP15-514-000, pursuant to sections 7(b) and 7(c) of the NGA¹ and Part 157 of the Commission's regulations,² requesting authorization to construct and operate the Leach XPress Project. The Leach XPress Project, located in West Virginia, Pennsylvania, and Ohio, will include two greenfield pipeline segments, two natural gas pipeline loops, three greenfield compressor stations, and three additional compressor units at existing stations.³ The Leach XPress Project is designed to provide up to 1,530,000 dekatherms per day (Dth/d) of firm transportation service on Columbia's system from the Appalachian Basin to certain Ohio markets, Columbia's TCO Pool,⁴ and an interconnection with Columbia Gulf Transmission, LLC (Columbia Gulf) near Leach, Kentucky.

¹ 15 U.S.C. § 717f(b), (c) (2012).

² 18 C.F.R. pt. 157 (2016).

³ Certain pipeline and compression facilities are to replace facilities proposed to be abandoned, as described more fully below.

⁴ The TCO pool is the main pooling point on Columbia's system. *Columbia Gas Transmission, LLC*, 139 FERC ¶ 61,141, at P 2 n.2 (2012).

2. On July 29, 2015, Columbia Gulf filed an application in Docket No. CP15-539-000, under section 7(c) of the NGA⁵ and Part 157 of the Commission's regulations,⁶ requesting authorization to construct and operate the Rayne XPress Project. The Rayne XPress Project includes two greenfield compressor stations, and is designed to provide an additional 621,000 Dth/d of firm transportation service from the Leach, Kentucky interconnect with Columbia to Gulf markets, including the Gulf Mainline Pool.

3. For the reasons discussed below, the Commission grants the requested certificate and abandonment authorizations, subject to conditions.

I. Background and Proposal

4. Columbia⁷ and Columbia Gulf⁸ are natural gas companies engaged in the transportation and storage of natural gas in interstate commerce, subject to the Commission's jurisdiction.⁹ Columbia operates transportation and storage facilities in Delaware, Kentucky, Maryland, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Virginia, and West Virginia. Columbia Gulf's transmission system extends from Louisiana through Mississippi and Tennessee to northeastern Kentucky.

A. Leach XPress Project

5. Columbia proposes to construct and operate facilities to provide an additional 1,530,000 Dth/d of firm natural gas transportation service on its system from Appalachian Basin receipt points to delivery points in Ohio, the TCO Pool, and an interconnection with Columbia Gulf near Leach, Kentucky. Columbia states that the proposed facilities will offer Leach XPress shippers opportunities to access more liquid markets and points of delivery on Columbia's reticulated system. Columbia estimates the total cost of the Leach XPress Project to be \$1.52 billion.

⁵ 15 U.S.C. § 717f(c) (2012).

⁶ 18 C.F.R. Pt. 157 (2016).

⁷ Columbia, a Delaware limited liability company, is an indirect subsidiary of TransCanada Corporation.

⁸ Columbia Gulf, a Delaware limited liability company, is an indirect subsidiary of TransCanada Corporation.

⁹ 15 U.S.C. § 717a(6) (2012).

6. Specifically, Columbia proposes to construct:

- an approximately 130-mile, 36-inch-diameter greenfield pipeline, extending from near the existing MarkWest Energy Partners, LP Processing Plant in Marshall County, West Virginia, and traversing through Greene County, Pennsylvania, back into Marshall County, West Virginia, and on through Monroe, Noble, Muskingum, Morgan, Perry, Fairfield, and Hocking Counties, Ohio, to the new K-260 Regulator Station (RS) near Sugar Grove, Ohio (LEX pipeline);
- an approximately 0.5-mile, 30-inch-diameter pipeline in Fairfield County, Ohio, extending from Columbia's existing K-260 pipeline to the new K-260 RS near Sugar Grove, Ohio (LEX1 pipeline);
- an approximately 27-mile, 36-inch-diameter pipeline loop on Columbia's existing R-System from Fairfield County, Ohio, to Vinton County, Ohio (R-801 Loop);¹⁰
- an approximately 3-mile, 36-inch-diameter pipeline loop of Columbia's existing Line BM-111 extending from Lawrence County, Ohio, to the existing Ceredo Compressor Station in Wayne County, West Virginia (BM-111 Loop);
- a new 47,700 horsepower (hp) compressor station located in Marshall County, West Virginia, on the LEX pipeline, consisting of three 15,900 hp natural gas turbine driven compressor units and appurtenant equipment (Lone Oak Compressor Station);¹¹
- a new 15,400 hp compressor station located in Noble County, Ohio, on the LEX pipeline, consisting of two 7,700 hp natural gas turbine driven compressor units and appurtenant equipment (Summerfield Compressor Station);

¹⁰ Columbia's R-System, consisting of three looped lines (R-501, R-601, and R-701), extends 90 miles from near Burlington, Ohio, to the Crawford Compressor Station in Fairfield County, Ohio. Columbia also proposes to abandon a portion of the R-501 Line as described below.

¹¹ Columbia states that at the maximum capacity acquired by the Leach XPress shippers, the third compressor unit only utilizes 54 percent of its available horsepower.

- a new 47,700 hp compressor station located in Jackson County, Ohio, on Columbia's existing R-System, consisting of three 15,900 hp natural gas turbine driven compressor units and appurtenant equipment (Oak Hill Compressor Station);
- three additional 11,000 hp electric driven compressor units at the existing Ceredo Compressor Station in Wayne County, West Virginia;¹² and
- other appurtenant facilities to be constructed pursuant to section 2.55(a) of the Commission's regulations,¹³ including regulators, launchers and receivers, and mainline valves.

7. Columbia also proposes to abandon in place approximately 28 miles of its existing 20-inch-diameter R-501 pipeline in Fairfield, Hocking, and Vinton Counties, Ohio. Columbia proposes to replace the abandoned R-501 pipeline segment with the R-801 Loop. Columbia asserts the R-System replacement is desirable due to integrity issues related to wrinkle bends on the R-501 pipeline.¹⁴ Columbia states that the costs of the abandonment and replacement facilities will be shared by its existing customers and shippers on the Leach XPress Project. Specifically, Columbia proposes to recover a portion of the costs associated with the R-501 abandonment/R-801 pipeline loop replacement from existing shippers through its Capital Cost Recovery Mechanism (CCRM).¹⁵

8. Columbia acknowledges that the proposed R-501 pipeline abandonment will affect consumers receiving gas through that section of the pipeline.¹⁶ Columbia avers that it will compensate the affected consumers by facilitating the transition to an alternative

¹² Columbia states that each compressor unit would be capable of operating at up to 13,000 hp with additional modifications.

¹³ 18 C.F.R. § 2.55 (2016).

¹⁴ Wrinkle bends are often linked to corrosion because of the difficulty of fully and uniformly coating wrinkled pipeline.

¹⁵ The CCRM was approved by the Commission as part of a settlement in Docket No. RP12-1201-000. *Columbia Gas Transmission, LLC*, 142 FERC ¶ 61,062 (2013). Columbia states that through the CCRM, Columbia can allocate costs between existing customers and new Leach XPress shippers.

¹⁶ The R-501 pipeline provides gas to customers of Columbia Gas of Ohio, a local distribution company (LDC), and to individual consumers through mainline farm taps.

energy source, such as propane, or reconnect service to another natural gas pipeline. Columbia states that other than by specific agreements to the contrary, it will retain existing easements on property where the R-501 pipeline is being proposed for abandonment.

9. Last, Columbia proposes to abandon one 10,500 hp natural gas fired compressor unit at the Ceredo Compressor Station.¹⁷ Columbia states that it is abandoning the compressor unit due to the age and condition of the unit and will replace it with one of the 11,000 hp units proposed herein.¹⁸ Columbia requests to roll in the costs associated with the replacement of the compressor unit at the Ceredo Compressor Station in its next NGA section 4 general rate case.

10. Columbia held an open season between December 3, 2013, and January 10, 2014, for capacity on the Leach XPress Project.¹⁹ Columbia states that the open season was the direct result of customers' requests for additional transportation service from production areas near Columbia's operational footprint. As a result of the open season, Columbia executed precedent agreements for approximately 90 percent of the available Leach XPress capacity.

11. Columbia states that Leach XPress shippers will be responsible for approximately \$1.38 billion of the project's costs, and existing shippers will be responsible for the remaining \$140 million. Columbia proposes to establish an initial incremental recourse rate under Rate Schedule FTS-LXP to recover costs associated with service to Leach XPress shippers.

B. Rayne XPress Project

12. Columbia Gulf states that the Rayne XPress Project is designed to provide an additional 621,000 Dth/d of north-to-south firm transportation service on its existing mainline system and ensure that firm, contractual obligations are maintained for existing customers. Columbia Gulf avers that the new, bi-directional operation of the mainline will provide shippers the opportunity to access Gulf markets, as well as more liquid

¹⁷ Columbia proposes to abandon Unit #8, which was installed in 1968.

¹⁸ Upon completion of the proposed construction, the Ceredo Compressor Station will have a total of 65,000 hp.

¹⁹ Columbia also solicited offers from existing shippers to turn back firm transportation capacity under existing service agreements during the open season. Columbia states that it received no offers from its existing shippers that provided a benefit to the project through reduced facilities.

pools, including firm deliveries to the Gulf Mainline Pool.²⁰ Columbia Gulf estimates the total cost of the Rayne XPress Project to be \$173.7 million.

13. Specifically, Columbia Gulf proposes to construct:

- a new 36,400 hp compressor station located in Carter County, Kentucky, consisting of one 15,900 hp natural gas turbine driven compressor unit, one 20,500 hp natural gas turbine driven compressor unit, and appurtenant equipment (Grayson Compressor Station);
- a new 15,400 hp compressor station located on the border of Menifee and Montgomery Counties, Kentucky, consisting of two 7,700 hp natural gas turbine driven compressor units and appurtenant equipment (Means Compressor Station);²¹ and
- other appurtenant facilities to be constructed pursuant to section 2.55(a) of the Commission's regulations.²²

14. Columbia Gulf held an open season between December 3, 2013, and January 10, 2014, for capacity on Rayne XPress Project.²³ Columbia Gulf states that results of the open season and subsequent discussions with shippers desiring north to south transportation indicated support for an increase of Columbia Gulf's ability to transport gas in a north to south direction to various points along its system. Ultimately, Columbia Gulf executed precedent agreements for 1,050,000 Dth/d of natural gas transportation

²⁰ The Gulf Mainline Pool is a pooling point located just south of the Inverness Compressor Station in Humphreys County, Mississippi.

²¹ Columbia Gulf states that construction of the Means Compressor Station is intended to enable it to meet the delivery pressure requirements for Columbia's customers at the interconnection between Columbia Gulf and Columbia near Leach, Kentucky.

²² 18 C.F.R. § 2.55 (2016).

²³ Columbia Gulf also offered existing shippers the opportunity to turn back firm transportation capacity under existing service agreements during the open season. Columbia Gulf states that it received no conforming offers from its existing shippers that provided a benefit to the project through reduced facilities.

service. Columbia Gulf states that the contracted service utilizes both existing backhaul capacity and the additional north to south capacity created by the project.²⁴

II. Procedural Issues

A. Notice and Intervention

15. Notice of Columbia's application in Docket No. CP15-514-000 was published in the *Federal Register* on June 29, 2015 (80 Fed. Reg. 36,983). Notice of Columbia Gulf's application in Docket No. CP15-539-000 was published in the *Federal Register* on August 17, 2015 (80 Fed. Reg. 49,220).

16. In each docket, a number of parties have filed timely motions to intervene. Timely, unopposed motions to intervene are granted automatically pursuant to Rule 214 of the Commission's Rules of Practice and Procedure.²⁵ Columbia opposes the timely motions to intervene filed by G&B Landowners and E&W Landowners in Docket No. CP15-514-000. As discussed below, the Commission also grants these timely opposed motions to intervene.

17. Peoples TWC, LLC and Rover Pipeline, LLC filed untimely motions to intervene in Docket No. CP15-514-000. We will grant these late motions to intervene.²⁶ All parties to each proceeding are listed in Appendix A of this order.

18. Several comments opposing the project on environmental grounds were filed. Columbia filed an answer to the comments.²⁷ These concerns are addressed in the Environment Impact Statement prepared by Commission staff, as well as the environmental section of this order.

²⁴ Columbia Gulf asserts that the precedent agreements include an additional 429,000 Dth/d of transportation service utilizing existing capacity made possible on a north to south basis through the installation, under section 2.55(a) of the Commission's regulations, of certain appurtenant facilities and modifications at existing compressor stations that allow for bi-directional flow of gas on Columbia Gulf's system.

²⁵ 18 C.F.R. § 385.214(c) (2016).

²⁶ *See* 18 C.F.R. § 385.214(d) (2016).

²⁷ Although the Commission's Rules of Practice and Procedure generally do not permit answers to protests, 18 C.F.R. § 385.213(a)(2), we will accept Columbia's answer because it clarifies the concerns raised and provides information that has assisted in our decision making.

B. G&B Landowners and E&W Landowners Interventions

19. Emens & Wolper Law Firm Co., LPA (Emens & Wolper) and Goldman & Braunstein, LLP (Goldman & Braunstein) filed timely motions to intervene in Docket No. CP15-514-000 on behalf of affected landowners (E&W Landowners and G&B Landowners, respectively). Both motions to intervene included a “privileged and confidential” list of clients affected by the Leach XPress Project.

20. On July 23, 2015, Columbia filed an answer opposing the motions to intervene. Specifically, Columbia requests that the Commission clarify that the law firms may not intervene as “law firms,” and that the landowners represented by the law firms may become parties to the proceeding upon a proper showing of interest. Columbia asserts that it does not oppose the motions to intervene on behalf of the landowners so long as the list of landowners filed by each law firm is publically disclosed.²⁸

21. The motions to intervene did not request that the law firms themselves become parties to the proceeding. Each motion to intervene clearly states that the motion is “on behalf of” the landowner clients. Thus, the motions to intervene requested party status for the landowner groups as a whole. Further, individual landowners do not have intervenor status through the consolidated group since such status was not requested, and, in any event, the names of the individual landowners were not publicly identified.²⁹ With respect to the motions to intervene of the landowner groups, we find that E&W Landowners and G&B Landowners have sufficiently demonstrated that they represent interests that may be affected by the outcome of the proceeding as required by Rule 214 of the Commission’s Rules of Practice and Procedure.³⁰ Therefore, we grant E&W Landowners’ and G&B Landowners’ timely motions to intervene.

III. Discussion

22. Since the proposed facilities will be used to transport natural gas in interstate commerce, subject to the jurisdiction of the Commission, the construction and operation of the facilities are subject to the requirements of subsections (c) and (e) of section 7 of the NGA. In addition, Columbia’s proposed abandonment of facilities is subject to the requirements of section 7(b) of the NGA.

²⁸ Columbia also opposed the law firms’ request to “supplement” the landowner list throughout the proceeding. However, neither law firm has filed a supplemental list to include additional landowners. Therefore, Columbia’s concern is moot.

²⁹ See *Southern Natural Gas Co.*, 79 FERC ¶ 61,280 (1997).

³⁰ See 18 C.F.R. § 385.214(b) (2016).

A. Certificate Policy Statement

23. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new pipeline construction.³¹ 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 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.

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

1. Leach XPress Project

25. As stated, the threshold requirement for pipelines proposing new projects is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. The Certificate Policy Statement further provides that it is not a subsidy for existing customers to pay for projects designed to replace existing capacity or improve the reliability or flexibility of existing service.³²

³¹ *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *clarified*, 90 FERC ¶ 61,128, *further clarified*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

³² Certificate Policy Statement, 88 FERC at 61,746 n.12.

26. Columbia proposes to recover the costs for the Leach XPress Project through a combination of incremental rates, rolled-in rates, and its CCRM.³³ Columbia's proposed incremental rate is designed to recover the costs associated with the expansion portion of the proposed project, thus eliminating any risk of subsidization by its existing customers of that component of the project.³⁴ With respect to the abandonment of Line R-501, the construction of the R-801 Loop, and replacement of one compressor unit at the Ceredo Compressor Station, this aspect of the project will replace facilities that are deteriorated due to age and condition. Existing shippers will benefit from the enhanced reliability and flexibility these activities will enable. Under these circumstances, we find there will be no subsidization of the project by existing shippers.

27. The Leach XPress Project will enable Columbia to provide 1,530,000 Dth/d of firm natural gas transportation service on its system from Appalachian Basin receipt points to delivery points in Ohio, the TCO Pool, and an interconnection with Columbia Gulf near Leach, Kentucky. None of Columbia's existing shippers have indicated that the proposed project will adversely affect existing services. Nor is there any evidence that the proposed project will adversely affect any other pipelines or their customers. Thus, we find that there will be no adverse impact on existing customers or other existing pipelines and their captive customers.

28. While we are mindful that Columbia has been unable to reach easement agreements with some landowners, for purposes of our consideration under the Certificate Policy Statement, we find that Columbia has taken sufficient steps to minimize adverse impacts on landowners and surrounding communities. Columbia participated in the Commission's pre-filing process and has been working to address landowner and community concerns and input.³⁵ Specifically, Columbia incorporated

³³ Approximately \$1.38 billion is supported by Leach XPress shippers and \$0.14 billion is borne by Columbia's existing shippers. Specifically, existing shippers will be allocated a portion of costs associated with the abandonment of Line R-501, the construction of the R-801 Loop, and replacement of one compressor unit at the Ceredo Compressor Station. Leach XPress shippers will not be charged the CCRM surcharge.

³⁴ See *Transcontinental Gas Pipe Line Corp.*, 98 FERC ¶ 61,155, at 61,552 (2002) (noting that the Commission has previously determined that where a pipeline proposes to charge an incremental rate for new construction, the pipeline satisfies the threshold requirement that the project will not be subsidized by existing shippers) (citations omitted); see also, *Dominion Transmission, Inc.*, 155 FERC ¶ 61,106 (2016) (same).

³⁵ To the extent landowners have raised concerns regarding the level of compensation offered, the Commission expects companies under its jurisdiction to respect the rights of property owners along the paths of their projects and to negotiate

(continued ...)

a total of 31 route variations into its proposed route for various reasons, including landowner requests, avoidance of sensitive resources, or engineering considerations.³⁶ Approximately 40 percent of Columbia's pipeline rights-of-way will be collocated with Columbia's existing pipeline rights-of-way or parallel to existing utility corridors.³⁷ Columbia has also acquired the land and surrounding parcels for the three new compressor stations proposed as part of the project.³⁸

29. Last, we find that Columbia's proposed abandonment of facilities is permitted by the public convenience and necessity.³⁹ Overall, Columbia's abandonment and replacement will increase the capacity of its system and replace facilities experiencing integrity issues due to age and condition. Although some consumers served from the certain facilities to be abandoned will be affected by the abandonment, Columbia states that it will compensate those consumers by either facilitating the transition to an alternative source of energy or reconnecting service to another natural gas pipeline. No consumer affected by the proposed abandonment has filed comments in opposition to Columbia's proposed abandonment.

30. We find that the benefits that the Leach XPress Project will provide to the market outweigh any adverse effects on existing shippers, other pipelines and their captive customers, and on 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 Columbia's proposal, as conditioned in this order.

2. Rayne XPress Project

31. The Rayne XPress Project will enable Columbia Gulf to provide an additional 621,000 Dth/d of natural gas transportation service in a north-to-south direction. Columbia Gulf proposes to utilize its existing rates under Rate Schedules FTS-1 and ITS-1 as the initial recourse rates for service on the Rayne XPress Project facilities and, as is discussed below, Columbia Gulf has demonstrated that the revenues from its

in good faith for any necessary property rights. However, we do not play a direct role in such negotiations. *Chestnut Ridge Storage LLC*, 128 FERC ¶ 61,210, at P 20 (2009).

³⁶ *See infra* Section C.1.

³⁷ Final EIS at 2-1.

³⁸ Final EIS at 2-18.

³⁹ 15 U.S.C. § 717f(b) (2012).

contracts for service using the proposed facilities will exceed the project's estimated cost of service. Therefore, we find that Columbia Gulf's existing customers will not subsidize the proposed project, and the threshold requirement of no subsidization is met.

32. The Rayne XPress Project also meets the remaining criteria set forth in the Certificate Policy Statement. There will be no adverse effect on existing customers because Columbia Gulf will continue to be able to meet its contractual commitments to its existing firm shippers. In addition, no other pipeline companies or their captive customers filed adverse comments regarding the proposal.

33. While the project will include construction of two new compressor stations, we find that Columbia Gulf has designed its project to minimize impact on landowners and surrounding communities. The two new compressor stations will be located adjacent to Columbia Gulf's existing pipeline right-of-way and there is no indication that Columbia Gulf will not be able to obtain the necessary land without the use of eminent domain.

34. We find that the benefits that the Rayne XPress Project will provide to the market outweigh any adverse effects on existing shippers, other pipelines and their captive customers, and on 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 Columbia Gulf's proposal, as conditioned in this order.

B. Rates

1. Leach XPress Project

35. Columbia proposes a monthly maximum incremental firm recourse reservation charge of \$14.033 per Dth for service on the Leach XPress Project. Columbia submitted a cost of service and rate design study showing the derivation of the project recourse rate based on a total first year cost of service of \$252,588,450 and billing determinants of 18,000,000 Dth.⁴⁰ The proposed cost of service was calculated using Columbia's existing transmission depreciation rate of 1.50 percent,⁴¹ and pre-tax rate of return.⁴² The proposed new incremental rate will be designated as Rate Schedule FTS-LXP.

⁴⁰ Columbia's Application, Exhibit P at 1.

⁴¹ Columbia's current depreciation rate was established in Docket No. RP95-408-000. *See Columbia Gas Transmission LLC*, 79 FERC ¶ 61,044 (1997).

⁴² Columbia's current pre-tax rate of return was established in Docket No. RP12-1021-000. *Columbia Gas Transmission LLC*, 142 FERC ¶ 61,062.

36. As part of its cost of service, Columbia allocated a total of \$2,984,220 in non-labor Operation and Maintenance expenses to FERC account numbers 853 and 864.⁴³ Consistent with the Commission's regulations requiring the use of straight fixed-variable rate design,⁴⁴ these costs are classified as variable costs and should be recovered through a usage charge, not through the reservation charge as proposed. Accordingly, Columbia is directed to classify its costs consistent with a straight fixed-variable rate design and to recalculate its Leach XPress incremental recourse reservation charge to recover only fixed costs when it files actual tariff records.

37. In its application, Columbia states that it will only need to utilize the third compressor unit to be installed at the proposed Lone Oak Compressor Station at approximately 62 percent capacity in order to provide the maximum level of service subscribed by the Leach XPress shippers.⁴⁵ Thus, in developing the project's incremental charge, Columbia excluded approximately 38 percent of the costs of constructing the third unit.⁴⁶ However, in its February 24, 2016 data response, Columbia updated the estimated utilization rate of the third unit to 54 percent. This change in utilization results in a reduction in allocated costs of approximately \$3.1 million.⁴⁷ Given that this revision would lower the overall Leach XPress cost of service and result in a lower incremental recourse charge, the Commission directs Columbia to include this reduced cost allocation when it recalculates its incremental recourse charge.⁴⁸

38. In addition, Columbia has designed its incremental reservation charge based on billing determinants of 1,500,000 Dth/d. However, the facilities that Columbia is constructing allow the pipeline to provide up to 1,530,000 Dth/d of additional firm transportation service. Therefore, Columbia's incremental reservation charge should be designed using billing determinants based on that capacity. Accordingly, when Columbia recalculates its incremental reservation charge, it is directed to do so using billing determinants of 1,530,000 Dth/d.

⁴³ February 24, 2016 Data Response at 4.

⁴⁴ 18 C.F.R. § 284.7(e) (2016).

⁴⁵ Columbia's Application at 10.

⁴⁶ Columbia's Application, Exhibit K.

⁴⁷ February 24, 2016 Data Response at 3.

⁴⁸ With respect to the \$3.1 million not recovered through the Leach XPress incremental recourse rate, Columbia would be responsible for those costs.

39. Columbia's proposed incremental recourse reservation charge for the Leach XPress Project of \$14.033 per Dth is higher than the system charge of \$4.771 per Dth for firm transportation service contained in Columbia's tariff.⁴⁹ Although we have not recalculated the Leach XPress reservation charge as directed above, the required changes do not appear to result in a reservation charge less than Columbia's system charge. Because the resulting incremental reservation charge will be higher than Columbia's existing Rate Schedule FTS system charge, we will approve, subject to the conditions discussed above, Columbia's proposed incremental reservation charge as the initial recourse charge for firm service for the Leach XPress Project.

40. Columbia did not propose an incremental usage charge since the initial filing included no variable costs. An incremental usage charge calculated to recover the \$2,984,220 in variable costs would appear to be lower than the current applicable maximum base system usage charge of \$0.0104 per Dth. Therefore, the Commission will require Columbia to charge its currently applicable system usage charge for the project.

41. Columbia states that shippers using the Leach XPress capacity will be subject to the generally applicable system surcharges to recover the costs of fueling and powering the project's compressor units, and lost and unaccounted for gas. These surcharges consist of the Retainage Adjustment Mechanism, the Electric Power Cost Adjustment, the Transportation Cost Rate Adjustment, and the Operational Transaction Rate Adjustment. As shown in Exhibit Z-5 of Columbia's Application, the Leach XPress Project will result in an overall decrease in the cost of operating compression for Columbia's existing shippers.⁵⁰ Additionally, the project will result in lower Transportation Cost Rate Adjustment and Operational Transaction Rate Adjustment surcharges as a result of the added billing determinants from the Leach XPress Project. Based on the overall benefits attributable to the Leach XPress Project, the Commission approves Columbia's proposal to assess its generally applicable system-wide surcharges and grants the request to roll in the project's fuel costs into its Retainage Adjustment Mechanism and Electric Power Cost Adjustment fuel recovery mechanisms.

42. Columbia states that the development of Leach XPress Project afforded Columbia opportunities to address system integrity issues on its R-System and that portions of the Leach XPress Project – the abandonment of a segment of the R-501 pipeline and the replacement of that line with the R-801 Loop – were added as eligible facilities to its

⁴⁹ Columbia Gas Transmission, LLC, FERC NGA Gas Tariff, Baseline Tariffs, Currently Effective Rates, FTS Rates, 38.0.0.

⁵⁰ Columbia's Application, Exhibit Z-5.

CCRM.⁵¹ Columbia states that based upon an agreement with its customers, 54.3 percent of the R-501 replacement costs will be recovered through the CCRM mechanism and the remaining 45.7 percent will be included in the incremental recourse rate for Leach XPress Project service. Based upon the agreement between Columbia and its customers to include the above described construction as an Eligible Facility of the CCRM, the Commission will approve the recovery of these costs through the CCRM.

43. Finally, Columbia proposes to replace Unit #8 at the Ceredo Compressor Station with a new 11,000 horsepower electric motor driven compressor unit at a cost of \$33.2 million. Columbia requests approval to recover the costs of Ceredo Unit #8 in its system rates in its next NGA section 4 general rate proceeding. As described above, Columbia states that replacement of the compressor unit is due to its age and condition and will ensure more reliable operation of the existing station.

44. In considering a request for a pre-determination that a pipeline may roll the costs of a project into its system-wide rates in its next NGA section 4 general rate proceeding, 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. As discussed above, the Commission's Certificate Policy Statement recognizes, however, that increasing the costs to existing customers to pay for a project designed to improve reliability or flexibility of service for existing customers is not a subsidy.⁵² For the reasons stated above, we will grant Columbia's request for a pre-determination of rolled-in treatment for the recovery of the costs to replace Unit #8 at the Ceredo Compressor Station in a future NGA section 4 general rate proceeding.

45. Section 154.309 of the Commission's regulations includes bookkeeping and accounting requirements applicable to all expansions for which incremental rates are approved to ensure that costs are properly allocated between pipelines' existing shippers and incremental expansion shippers.⁵³ Therefore, Columbia must keep separate books and accounting of costs and revenues attributable to Leach XPress capacity and incremental services using that capacity as required by section 154.309. The books should be maintained with applicable cross-references. This information must be in

⁵¹ Columbia states that its shippers voted to support a modification to the CCRM's Eligible Facilities Plan to include the replacement of a segment of R-501 into the modernization program.

⁵² Certificate Policy Statement, 88 FERC at 61,746 n.12.

⁵³ 18 C.F.R. § 154.309 (2016).

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. 710.⁵⁴

2. Rayne XPress Project

46. Columbia Gulf proposes to utilize its existing rates under Rate Schedules FTS-1 and ITS-1 as the initial recourse rates for service on the Rayne XPress Project facilities. Columbia Gulf states that the incremental reservation charge for the Rayne XPress Project would be \$3.684 per Dth and the commodity charge would be \$0.0080 per Dth.⁵⁵ The calculated incremental recourse charges for the Rayne XPress Project are lower than Columbia Gulf's existing monthly reservation charge of \$4.2917 per Dth and existing commodity charge of \$0.0109 per Dth, respectively; therefore, Columbia Gulf's use of its existing system rates as the recourse rates for the Rayne XPress Project is appropriate.

47. Columbia Gulf also requests that the Commission make a preliminary determination that the costs associated with the project can be rolled into its system-wide rates in Columbia Gulf's next NGA section 4 general rate proceeding. In support, Columbia Gulf provides an analysis showing the revenues from the Rayne XPress Project exceed the cost of service in each year over a four year period.⁵⁶

48. As indicated above, to receive authorization for rolled-in rate treatment for expansion facilities, 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 project costs. For purposes of making a determination in a certificate proceeding as to whether it would be appropriate to roll the costs of a project into the pipeline's system rates in a future NGA section 4 general rate proceeding, we compare the cost of the project to the revenues generated using actual contract volumes and either the maximum recourse rate or, if the negotiated rate is lower than the recourse rate, the actual negotiated rate.⁵⁷

⁵⁴ *Revisions to Forms, Statements, and Reporting Requirements for Natural Gas Pipelines*, Order No. 710, FERC Stats. & Regs. ¶ 31,267, at P 23 (2008).

⁵⁵ February 24, 2016 Data Response to Question 2.

⁵⁶ Columbia Gulf's Application, Exhibit N at 1.

⁵⁷ *See Tennessee Gas Pipeline Co., L.L.C.*, 144 FERC ¶ 61,219, at P 22 (2013).

49. The Commission finds that Columbia Gulf has properly calculated revenues for the Rayne XPress Project and that the revenues will exceed its costs for each of the first four years of operation. Therefore, we will grant Columbia Gulf's request for a pre-determination supporting rolled-in rate treatment for the project's costs in a future NGA section 4 general rate proceeding, absent any significant change in material circumstances.

50. Columbia Gulf proposes to apply its generally applicable system fuel retention rate to shippers on the Rayne XPress Project and requests rolled-in treatment of the project's fuel costs through its Transportation Retainage Adjustment mechanism. Based on a study designed to determine the impact of the additional fuel required to operate the project facilities, Columbia Gulf determined that system fuel use is expected to decrease on a percentage basis as a result of the Rayne XPress Project, thereby resulting in lower fuel costs to existing customers.⁵⁸ Based on the benefits attributable to the Rayne XPress Project, the Commission approves Columbia Gulf's proposal to charge its generally applicable system-wide fuel retention percentage and grants the request to roll-in the project's fuel cost into the system-wide fuel recovery mechanism.

51. Columbia Gulf states that it will maintain a separate record of capital costs for the project facilities in its books and accounts.⁵⁹ In addition, Columbia Gulf states that that it will maintain separate and identifiable accounts for volumes transported, billing determinants, rate components, surcharges, and revenues associated with the negotiated rates in sufficient detail so that they can be identified in Statements G, I and J in any future NGA section 4 general rate case. Consistent with Order No. 710, the Commission directs Columbia Gulf to keep separate books and accounting of costs attributable to the Rayne XPress Project.⁶⁰

3. Negotiated Rate Agreements

52. Columbia and Columbia Gulf both propose to provide service to their shippers under negotiated rate agreements. Columbia and Columbia Gulf must file either the negotiated rate agreements or tariff records setting forth the essential elements of the

⁵⁸ Columbia Gulf's Application, Exhibit Z-1.

⁵⁹ Columbia Gulf's Application at Page 11.

⁶⁰ *Revisions to Forms, Statements, and Reporting Requirements for Natural Gas Pipelines*, Order No. 710, FERC Stats. & Regs. ¶ 31,267, at P 23 (2008).

agreements in accordance with the Alternative Rate Policy Statement⁶¹ and the Commission's negotiated rate policies.⁶² Columbia and Columbia Gulf must file the negotiated rate agreements or tariff records at least 30 days, but no more than 60 days, before the proposed effective date for such rates.⁶³

C. Environmental Analysis

1. Pre-filing and Application Review

53. On October 19, 2014, Commission staff granted Columbia's request to use the pre-filing process in Docket No. PF13-23-000. As part of the pre-filing review in that docket, the Commission issued on January 13, 2015, a *Notice of Intent to Prepare an Environmental Impact Statement for the Planned Leach XPress Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings* (NOI). The notice was published in the Federal Register on January 20, 2015,⁶⁴ and mailed to more than 1,300 interested parties including federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American Tribes; affected property owners; other interested parties; and local libraries and newspapers.

54. The NOI briefly described the project and the environmental review process, provided a preliminary list of issues identified by Commission staff, invited written comments on the environmental issues that should be addressed in the draft Environmental Impact Statement (EIS), listed the date and location of five public

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

⁶² *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 denied clarification*, 114 FERC ¶ 61,304 (2006).

⁶³ 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. *See, e.g., Texas Eastern Transmission, LP*, 149 FERC ¶ 61,198, at P 33 (2014).

⁶⁴ 80 Fed. Reg. 2697 (2015).

scoping meetings to be held in the project area,⁶⁵ and established February 12, 2015, as the deadline for comments. As a result of a route modification proposed by Columbia on March 17, 2015, the Commission issued a supplemental public scoping notice to potentially affected landowners on April 1, 2015, which was mailed to more than 300 individuals. Commission staff also continued to accept comments past the comment period.

55. Twenty-three speakers provided comments on the Leach XPress Project at the scoping meetings. In addition, 22 written comments were filed during the public scoping period by federal, state, and local agencies; elected officials; environmental and public interest groups; potentially affected landowners; and other interested stakeholders regarding the project.⁶⁶

56. The pre-filing review ended on June 8, 2015, when Columbia filed its application with the Commission under sections 7(b) and 7(c) of the NGA seeking authorization to construct and operate the Leach XPress Project.

57. Following Columbia Gulf's application filing on July 29, 2015, the Commission issued a Notice of Intent to Prepare an Environmental Impact Statement for the Rayne XPress Expansion Project and Request for Comments on Environmental Issues (NOI) on September 4, 2015. The NOI was published in the *Federal Register* on September 11, 2015,⁶⁷ and mailed to more than 230 stakeholders, including federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American Tribes; affected property owners; and local libraries and newspapers. The notice briefly described the project and the environmental review process, provided a preliminary list of issues, invited written comments on the environmental issues that should be addressed in the environmental document, and established a closing date for receipt of comments of October 5, 2015. In this notice, Commission staff announced that it would evaluate the environmental impacts of the Rayne XPress Project in the EIS being prepared for the related Leach XPress Project.

⁶⁵ Commission staff held the public scoping meetings between January 27 and February 4, 2015, in Moundsville, West Virginia; Caldwell, Ohio; Oak Hill, Ohio; Logan, Ohio; and Huntington, West Virginia.

⁶⁶ Table 1.3-2 of the final EIS provides a detailed and comprehensive list of issues raised during scoping.

⁶⁷ 80 Fed. Reg. 54,783 (2015).

58. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA),⁶⁸ Commission staff evaluated the potential environmental impacts of the proposed Leach XPress and Rayne XPress Projects in an EIS. The U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service (FWS), the Ohio Environmental Protection Agency, the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Conservation and Natural Resources, the West Virginia Department of Environmental Protection, the West Virginia Division of Natural Resources, and the Kentucky Department for Environmental Protection participated as cooperating agencies in the preparation of the EIS.

59. Commission staff issued the draft EIS for the Leach XPress and Rayne XPress Projects on April 21, 2016, which addressed the issues raised during the scoping period and prior to issuance of the document.⁶⁹ Notice of the draft EIS was published in the *Federal Register* on April 27, 2016, establishing a 45-day public comment period ending on June 13, 2016.⁷⁰ The draft EIS was mailed to the environmental mailing list for the projects, including additional interested entities that were added since issuance of the NOIs. Commission staff held five public comment meetings between May 18 and May 26, 2016, to receive comments on the draft EIS.⁷¹ Approximately 10 speakers provided oral comments at these meetings, and 25 individual comments were filed from federal, state, and local agencies; companies and organizations; and individuals in response to the draft EIS. The transcript of the public comment meetings and all written comments on the draft EIS are part of the public record for the projects.

60. On September 1, 2016, Commission staff issued the final EIS for the Leach XPress and Rayne XPress Projects, and a public notice of the availability of the final EIS was published in the *Federal Register*.⁷² The final EIS addresses timely comments

⁶⁸ 42 U.S.C. §§ 4321 *et seq.* (2012). *See also* the Commission's NEPA-implementing regulations at Part 380 of Title 18 of the Code of Federal Regulations.

⁶⁹ Comments received from one federal agency and four individuals immediately prior to issuance of the draft EIS were addressed later in the final EIS.

⁷⁰ 81 Fed. Reg. 24,806 (2016).

⁷¹ Commission staff held these public comment meetings in Huntington, West Virginia; Moundsville, West Virginia; Caldwell, Ohio; Logan, Ohio; and Oak Hill, Ohio.

⁷² 81 Fed. Reg. 62,498 (2016).

received on the draft EIS.⁷³ The final EIS was mailed to the same parties as the draft EIS, as well as to additional parties that commented on the draft EIS.⁷⁴ The final EIS addresses geology; soils; water resources; wetlands; vegetation; wildlife and fisheries; special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; cumulative impacts; and aboveground site alternatives and minor route variations incorporated into the projects' design.

61. Throughout the pre-filing and post-filing process, Columbia incorporated a large number of minor route variations to its initially proposed LEX and R-801 Loop pipelines. The variations were developed primarily in response to comments and consultations with landowners, often to accommodate constructability concerns, but also to accommodate landowner preferences. Columbia filed seven route variations during pre-filing and 24 additional variations after the project's application was filed. In all, the above-mentioned variations result in a net increase of approximately one mile in length of the LEX pipeline. Columbia adopted all the above-mentioned variations into its proposed LEX pipeline route, and the final EIS concludes that none of the above-mentioned variations would result in environmentally adverse impacts.⁷⁵

62. The final EIS analyzes an additional 11 minor route variations for the LEX pipeline route that were requested by landowners during the draft EIS comment period. The final EIS does not recommend adoption of five of them, as they would result in additional environmental and constructability concerns.⁷⁶ Environmental Recommendation 13 in the final EIS recommends that Columbia incorporate the six outstanding variations into its route or explain why the variation cannot be practically accommodated.

63. Through consultation with the U.S. Army Corps of Engineers, Commission staff determined that the minor route variation requested by Steve Roley, an affected landowner, was not adequately addressed in the final EIS. Steve Roley commented on the draft EIS noting that the proposed alignment would parallel an existing pipeline

⁷³ Volume II of the final EIS includes responses to comments on the draft EIS received through July 21, 2016. Comments received after July 21, 2016, that raise new issues not previously identified are addressed in this order.

⁷⁴ The distribution list is provided in appendix A of the final EIS.

⁷⁵ See Final EIS at 1-8 through 1-10.

⁷⁶ Final EIS at 3-11.

easement and cut through a portion of his property containing a scenic rock cliff and spring, likely involving blasting. He identifies a route variation using the opposite side of the existing pipeline easement that would avoid these impacts. Additionally, on December 5, 2016, Mr. Jerry Day filed comments on the final EIS requesting the Commission consider a new route variation that had not been analyzed in the final EIS. Mr. Day suggests that this new route variation may be environmentally beneficial because it could potentially avoid four stream crossings, impact less forest, and avoid impacting a waterfall on Mr. Day's property.⁷⁷ In order to study the feasibility of the additional route variations described by Mr. Roley and Mr. Day, Environmental Recommendation 13 is revised in Environmental Condition 13 of this order to include the six outstanding minor route variations described in the final EIS and Steve Roley's and Jerry Day's minor route variations.

64. The final EIS concludes that construction and operation of the projects would result in limited adverse environmental impacts, with the exception of impacts on forested land along the Leach XPress Project. This determination is based on a review of the information provided by Columbia and Columbia Gulf and further developed from data requests; field investigations; scoping; literature research; alternatives analyses; and contacts with federal, state, and local agencies as well as individual members of the public.

65. James Lehman, a Switzerland Township Trustee, and Oil Change International filed late comments on the draft EIS while the final EIS was in final production, beyond the time of which it could be reasonably updated. Debra and Christian LoFrumento,

⁷⁷ In his comments, Mr. Day also notes that the proposed route for the LEX pipeline deviates from an existing right-of-way for approximately 6,000 feet before paralleling the same right-of-way. Mr. Day implies that the proposed alignment results in an additional 5,000 feet of greenfield tree clearing that would be avoided if the route stayed on the existing corridor. Based on our review of alignment sheets in the area Mr. Day describes, it appears that Columbia's proposed route avoids crossing a reach of congested pipelines and aboveground facilities and does not involve steep sideslope conditions. Although construction of the proposed route through this area would impact additional forest and springs, we find that paralleling existing rights-of-way in this particular area is not technically preferable.

Phillip Smith, Jerry Day,⁷⁸ EPA - Region 5, and the FWS - Midwest Region filed comments on the final EIS. The major environmental issues raised during this proceeding, which include forested land, visual impacts, and indirect impacts, and comments from the above listed stakeholders are addressed below.

2. Major Environmental Issues and Comments on the Final EIS

a. Water Resources and Wetlands

66. Debra and Christian LoFrumento comment they have never been notified of the LEX pipeline alignment location adjacent to their property, and that accurate detailed maps of the pipeline route have not been published. The LoFrumentos are concerned that the pipeline will be within 500 feet of their water well and that any sedimentation, pollution, spills, or disturbance of the water table will ruin their water. Mr. Jerry Day states that the final EIS fails to list a private water well and septic system that is located within 150 feet of the proposed LEX pipeline. Columbia filed detailed alignment mapping with its application on the public record for this project, showing the proposed pipeline route. The LoFrumentos have been on the project environmental mailing list since the project entered the pre-filing process and have had adequate opportunity to review project materials, attend informational open houses, scoping, and public comment meetings, and review the EIS documents. In any event, section 4.3.1 of the final EIS, which addresses groundwater impacts, including impacts on wells, is applicable to water wells on the LoFrumento's and Day's properties. Specifically, section 4.3.1.6 of the final EIS addresses the water well impacts from construction activities, including clearing, trench excavation and detwatering, soil mixing and compaction, fuel handling and storage, and blasting, and the associated mitigation measures proposed by Columbia. These mitigation measures should be sufficient to prevent contamination of nearby wells. In the event that wells or springs within 150 feet of the edge of workspace are discovered during construction, Columbia would conduct pre- and post-construction water supply well and spring testing and compensate landowners for the repair of the well, installation of a new well, or otherwise arrange for provision of suitable water supplies should significant differences arise in the results of testing that cannot be attributed to naturally occurring events.⁷⁹ Columbia would also repair any septic systems damaged by its

⁷⁸ In addition to his comments discussed below, Mr. Day states that the final EIS fails to include six natural gas wells located within ¼ mile of the project. As the final EIS acknowledges, every well may not have been accounted for in our analysis. Final EIS at 4-4. However, we note that Environmental Condition 14 is applicable here, as it requires Columbia to report any unlisted wells to the Commission prior to the start of construction.

⁷⁹ Final EIS at 4-32.

construction activities. With the implementation of the measures discussed above and in the final EIS, we find that impacts on ground water and wells has been sufficiently addressed.

67. The EPA reiterates its previous requests for supporting materials on the avoidance and minimization of impacts on aquatic resources to be included in the NEPA document. The final EIS responds to the request explaining that the EIS is a summary document disclosing impacts and avoidance or mitigation measures, and that details or supporting materials are incorporated by reference.⁸⁰ The EPA provides no justification on why this approach is insufficient, and we continue to find referencing, rather than including, voluminous materials available to the public appropriate.⁸¹

68. The final EIS explains that Columbia intends to request a waiver from the West Virginia Division of Natural Resources, allowing it to cross West Virginia state-designated high quality waters during seasonal timing restrictions.⁸² Consequently, the final EIS recommends and this order includes Environmental Condition 15, requiring Columbia to file with the Commission the West Virginia Division of Natural Resources' final approval of the proposed instream work timing windows. The EPA requests that we require Columbia to comply with the existing instream work timing restrictions, and not allow Columbia to obtain a waiver from the West Virginia Division of Natural Resources. The EPA also argues that because it is uncertain whether the West Virginia Division of Natural Resources would grant this waiver, it is unclear whether the final EIS supports the conclusion that impacts on waterbodies would be adequately minimized.

69. The Commission's *Wetland and Waterbody Construction and Restoration Procedures* (Wetland Procedures) includes generic requirements on seasonal instream work timing restrictions as a baseline measure applicable to projects across the United States. However, applicants are encouraged to revise the Wetland Procedures to address site- or project-specific conditions. As such, we find it appropriate for Columbia to consult with the West Virginia Division of Natural Resources and request project specific timing restrictions. The West Virginia Division of Natural Resources has the

⁸⁰ Final EIS, Volume II – Comment Responses at page FA-25.

⁸¹ 40 C.F.R. § 1500.4(j) (2016) (directing agencies to reduce length of NEPA documents by incorporating by reference); *see also Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1172–73 (10th Cir.1999) (“Congress did not enact the National Environmental Policy Act to generate paperwork or impose rigid documentary specifications.”).

⁸² Final EIS at 4-39.

jurisdictional authority to determine whether to grant such timing restrictions as part of its West Virginia Division of Natural Resources Stream Activity Permit, and would ensure adequate protection of the waterbodies should it grant a waiver. Should the West Virginia Division of Natural Resources deny this waiver request, the instream timing windows currently in the applicants' Environmental Construction Standards, which incorporates the Wetland Procedures, will apply to the project. As such, regardless of the West Virginia Division of Natural Resources' final determination, impacts on waterbodies will be adequately minimized.

70. The EPA is also concerned about the potential combined impacts from water withdrawals for hydrostatic testing, instream construction (including blasting), and vegetation removal, and requests that this order ensure continuous flow of water downstream of water withdrawal zones and minimize or avoid loss of habitat, change in water temperature and dissolved oxygen levels, and entrainment of fish. The final EIS adequately addresses aquatic resources, including clear requirements to ensure the maintenance of downstream water flow during water withdrawals, avoidance of fish entrainment, and instream window compliance for construction.⁸³ Columbia has also prepared a Blasting Plan to address mitigation measures should blasting occur within any sensitive waterbodies. The final EIS also includes reference to the applicants' Environmental Construction Standards that provide best management practices to minimize impacts on aquatic resources from vegetation removal and erosion.⁸⁴ As such, we conclude that these measures work together to minimize impacts to aquatic resources.

71. Last, the EPA requests that Columbia be required to provide a copy of the wetland compensatory mitigation plan to the EPA such that it may coordinate review with the U.S. Army Corps of Engineers. The EPA also asks that the Commission include a condition to the order requiring this plan be completed and approved prior to construction of the projects. The final EIS concludes that implementation of the mitigation measures outlined in the Environmental Construction Standards will minimize impacts on wetlands and ensure the successful restoration of wetlands.⁸⁵ However, the U.S. Army Corps of Engineers and applicable state agencies have wetland permitting authority under Sections 401 and 404 of the Clean Water Act, including the approval of mitigation requirements. As such, Environmental Condition 16 of this order requires Columbia to file the final wetland compensation plan, developed in consultation with the appropriate agencies, prior to construction, and Environmental Condition 9 requires the applicants to

⁸³ See Final EIS at 4-43 through 4-49.

⁸⁴ Final EIS at 4-30.

⁸⁵ Final EIS at 4-57.

file, prior to construction, documentation that they have received all applicable federal authorizations. The final plan will be publicly available for the EPA to review with this filing.

b. Vegetation, Forested Land, and Migratory Bird Impacts

72. The EPA reiterates its request for implementation of an Invasive Species Management Plan applicable to upland areas. The final EIS response appendix explains that in addition to invasive species management in wetland areas, section 4.5.5 of the EIS provides information on minimization of invasive species in the construction corridor (including upland areas) based on implementation of the Environmental Construction Standards, and that an Invasive Species Management Plan is under development, in consultation with the appropriate agencies.⁸⁶ Since an Invasive Species Management Plan has not yet been provided, we are including as Environmental Condition 33 the requirement for Columbia to file, prior to construction, an Invasive Species Management Plan to minimize and control the spread of noxious and invasive species in both upland and wetland habitats.

73. While the EPA supports the final EIS recommendation to require a revised Environmental Construction Standards with provisions for the use of native pollinator plant species seed mix, it requests that the revised Environmental Construction Standards be considered prior to a Commission order. We believe this is unnecessary. Environmental Condition 17 requires that a revised Environmental Construction Standards inclusive of native pollinator plant species seeds be filed for review and written approval, prior to construction. Moreover, Environmental Condition 2 provides the Director of the Office of Energy Projects delegated authority to design and implement any additional measures deemed necessary to ensure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impacts resulting from construction and operation of the projects.⁸⁷ Therefore, the Commission is satisfied, based on the findings of the final EIS, that these impacts are sufficiently addressed through the imposition of these conditions.

74. Several comments were received during the NEPA review process concerning the impact of the Leach XPress Project on forest and migratory bird habitat. Construction of the Leach XPress Project would clear 1,381 acres of upland forest, of which 516 acres

⁸⁶ Final EIS, Volume II – Comment Responses at page FA-26.

⁸⁷ See *Transcontinental Gas Pipe Line Co.*, 126 FERC ¶ 61,097, at P 29 (2009) (noting that Environmental Condition 2 includes authority to impose additional mitigation measures).

would remain in the permanent pipeline right-of-way and would not return to forested condition during pipeline operations.⁸⁸ The final EIS calculates that the Leach XPress Project would directly or indirectly impact a total of 1,143 acres of interior forest block habitat, and concludes that forest clearing resulting from the Leach XPress Project would result in significant impacts.⁸⁹ However, given the prevalence of forested habitats within the Leach XPress Project area; the expected regrowth of forest within the temporary construction right-of-way; and Columbia's proposed avoidance, minimization and mitigation, the permanent conversion of interior forest block habitat would be reduced to less than significant levels.⁹⁰

75. The final EIS also states that potential impacts on migratory birds could be greatly reduced with appropriate vegetation clearing dates, implementation of measures from Columbia's Multi-Species Habitat Conservation Plan, and with mitigation measures included from the Leach XPress Project design.⁹¹ The Leach XPress Project design includes implementation of provisions of Columbia's Environmental Construction Standards, which incorporates measures of the Commission's Wetland Procedures, *Upland Erosion Control, Revegetation and Maintenance Plan*, resulting in a less than significant impact on migratory bird species. As discussed in the final EIS, Columbia was also developing a draft Migratory Bird Conservation Plan to address migratory bird habitat.⁹²

76. The FWS comments on the final EIS indicate that the draft Migratory Bird Conservation Plan was not prepared with FWS input, per the intent of the final EIS environmental recommendation. The FWS disagrees with the methodology used by Columbia to estimate impacts and mitigation on bird habitats, and states it is not consistent with mitigation ratios used on other Commission-regulated projects. The FWS also asserts that Columbia's plan is deficient because it does not provide adequate compensatory mitigation for impacts to migratory bird habitat. The EPA requests that the Commission consider the final Migratory Bird Conservation Plan in its determination on the project.

⁸⁸ Final EIS at 4-234.

⁸⁹ Final EIS at 5-5.

⁹⁰ Final EIS at 5-6.

⁹¹ Final EIS at 4-84 through 4-86.

⁹² Final EIS at 4-86. Columbia filed their draft Migratory Bird Conservation Plan after issuance of the final EIS.

77. In its October 7, 2016 response to the FWS letter, Columbia provides a summary of its communications with the FWS and contends that its activities to avoid and minimize impacts on migratory birds through routing and tree clearing restrictions are compliant with the Migratory Bird Treaty Act,⁹³ FWS recommendations during consultation, and the Memorandum of Understanding between the Commission and the FWS. Columbia indicates that its draft plan proposes to compensate for impacts on migratory bird habitat via a voluntary contribution of funds to a chosen conservation organization based on the results of a forest habitat quality evaluation. Columbia also contends that compensatory mitigation is a voluntary action and is not required by regulations or interagency agreements to demonstrate compliance with the Migratory Bird Treaty Act.⁹⁴

78. The final EIS discusses numerous measures that Columbia would implement to avoid and minimize impacts on migratory bird habitat, per the intent of the Migratory Bird Treaty Act.⁹⁵ Specifically, Columbia will minimize impacts by conducting tree clearing activities during the non-nesting season to the extent practicable, avoiding fragmenting large tracts, and co-locating activities with disturbed areas where possible, as recommended by the FWS.

79. Although Columbia and the FWS have not yet reached a consensus on the methodology to estimate impacts and potential mitigation for bird habitats, Columbia and the FWS will continue to collaborate to develop a final Migratory Bird Conservation Plan that could include additional avoidance, minimization, and mitigation measures to reduce the potential population-effects on migratory birds and their habitat. Environmental Condition 19 of this order requires Columbia to file for the Commission's review, the final Migratory Bird Conservation Plan and documentation of consultation with the FWS prior to construction, consistent with the FWS request.⁹⁶ Environmental Condition 2 provides the Director of the Office of Energy Projects delegated authority to implement any additional measures necessary to avoid or mitigate adverse environmental impacts

⁹³ 16 U.S.C. §§ 703-712 (2012).

⁹⁴ Columbia October 7, 2016 Letter at 7-9 (citing Executive Order 13186 and the 2011 Memorandum of Understanding between FERC and FWS).

⁹⁵ See Final EIS at 4-84.

⁹⁶ Specifically, when Columbia files their final plan, it will include the comments made by the FWS on the plan and Columbia's responses.

resulting from construction and operation of the projects.⁹⁷ Thus, after the final Migratory Bird Conservation Plan is filed, the Commission may require, if necessary, additional mitigation measures be included. However, the Commission neither requires mitigation funding nor recommends a specific model, methodology, or mitigation ratio for calculating voluntary mitigation funding for Commission-jurisdictional projects. Instead, voluntary funding is a project-specific agreement based on habitat and related factors that the applicant and the FWS agree are important, that should take into consideration the avoidance and minimization measures already proposed by an applicant.

80. With respect to EPA's request that we consider the final Migratory Bird Conservation Plan in this order, we find that requiring the Migratory Bird Conservation Plan to be completed prior to construction, together with the additional mitigation measures described above, will adequately minimize any impacts on forest habitat and migratory bird populations and, thus, completion of a final Migratory Bird Conservation Plan prior to issuance of this order is unnecessary.

c. Visual Impacts

81. Construction and operation of compressor stations and meter stations will result in visual resource impacts. Construction of new aboveground facilities, at existing and newly-sited aboveground facilities, will result in conversion of 133.6 acres of forest to industrial land, thereby potentially exposing nearby residences and businesses to new views of the facilities.⁹⁸ Some of these residences have existing visual buffers that will screen their view of the aboveground facilities, while others will experience altered view sheds.⁹⁹ In general, visual impacts will be greatest for residences and businesses closest to the above ground facilities. The Lone Oak Compressor Station, Oak Hill Compressor Station, R-System Regulator Station, Grayson Compressor Station, and Means Compressor Station will be less than 0.25 mile from the nearest residence.¹⁰⁰

82. During the NEPA review process, commenters expressed concern over the potential sight impacts on residential communities of the Oak Hill Compressor Station

⁹⁷ See *Transcontinental Gas Pipe Line Co.*, 126 FERC ¶ 61,097, at P 29 (2009) (noting that Environmental Condition 2 includes authority to impose additional mitigation measures).

⁹⁸ Final EIS at 4-126.

⁹⁹ Final EIS at ES-9.

¹⁰⁰ Final EIS at 4-141.

proposed in the Leach XPress Project and the Means Compressor Station proposed in the Rayne XPress Project. Phillip Smith's comment on the final EIS notes that the Oak Hill Compressor Station will be within the line of sight of his residence and requests that the station not be visible. The Oak Hill Compressor Station site will place a new compressor station into an agricultural site in plain view of five residences that are located within 1,400 feet north and west of the proposed facility. Overall the new compressor station will pose new permanent visual impacts on the view shed of nine nearby residences. In response to residential comments, Columbia committed to planting evergreen trees and shrubs around the northwest side of the facility.¹⁰¹ In order to aid in achieving meaningful reduction in visual impact of the proposed location of the Oak Hill Compressor Station, the final EIS recommends, and Environmental Condition 24 of this order requires, that Columbia file a visual screening plan for the Oak Hill Compressor Station for the Commission's review and approval prior to construction.

83. While Columbia Gulf sited the Means Compressor Station adjacent to its existing Means Meter Station, it will pose new permanent visual impacts on the view shed of nine nearby residences. The final EIS concludes that visual screening of the proposed Means Compressor Station will minimize these visual impacts to nearby residences.¹⁰² Therefore, Environmental Condition 25 requires Columbia Gulf to provide a visual screening plan for the Means Compressor Station for the Commission's review and approval prior to construction.

84. We agree with the final EIS's conclusions that overall impacts on land use and visual resources will be adequately minimized, with adherence to Columbia's and Columbia Gulf's proposed impact avoidance, minimization, and mitigation plans, and our environmental conditions.

d. Environmental Justice

85. The EPA contests the final EIS's conclusion that the projects would not cause a disproportionate share of adverse environmental or socioeconomic impacts on any racial, ethnic, or socioeconomic group, particularly the identified low-income population in the area of the proposed Means Compressor Station.¹⁰³ The EPA expresses concern that the discussion of adverse impacts was limited to air and noise quality, suggesting that low income populations may experience disproportionately high and adverse impacts as a

¹⁰¹ Final EIS at 4-141.

¹⁰² Final EIS at 4-141.

¹⁰³ Final EIS at 4-156.

result of the Means Compressor Station because of infrastructure vulnerabilities (such as older housing stock) and proximity.

86. The final EIS finds that although some counties traversed by the projects have poverty rates that are greater than the rates for their respective states, there is no evidence that the projects would cause a disproportionate share of adverse environmental or socioeconomic impacts on any racial, ethnic, or socioeconomic group.¹⁰⁴ The primary health issues related to the proposed projects would be the temporary increases in dust, equipment emissions, noise, and traffic from project construction.¹⁰⁵ These impacts would occur along the entire pipeline route and in areas with a variety of socioeconomic backgrounds. The final EIS discusses short-term and long-term mitigation measures that address the most direct impacts related to construction (noise, air quality, dust, local traffic and access) and sight impacts related to operations. For example, Columbia and Columbia Gulf would implement proven construction-related practices to control fugitive dust as outlined in the Fugitive Dust Control Plan.¹⁰⁶ Noise control measures would be implemented during project operation to ensure that noise attributable to the new aboveground facilities would be less than 55 dBA L_{dn} at nearby noise sensitive area.¹⁰⁷ Traffic Management Plans,¹⁰⁸ residential mitigation measures,¹⁰⁹ and environmental complaint resolution procedures¹¹⁰ have also been developed for the projects. The final EIS also found that construction and operation of the projects would positively benefit local communities through increased sales and property tax revenues, increased construction payroll, local material purchased (e.g., stone and concrete), and the use of local vendors.¹¹¹

¹⁰⁴ Final EIS at 4-155 through 4-156.

¹⁰⁵ Final EIS at 4-156.

¹⁰⁶ Final EIS § 4.11.1.3.

¹⁰⁷ See *infra* Environmental Conditions 30 and 31.

¹⁰⁸ Final EIS § 4.9.4.

¹⁰⁹ Final EIS at 4-132 (requiring, among other things, construction during daytime whenever feasible; installation of temporary fencing; coverage of open trenches; avoidance of utility service interruption, when possible; and revegetation as soon as feasible).

¹¹⁰ Final EIS at 4-136.

¹¹¹ Final EIS at 4-151.

87. With respect to the Means Compressor Station, which is sited adjacent to the existing Means Meter Station, the final EIS acknowledges that 56 percent of the population in the vicinity of the proposed Means Compressor Station was identified as low-income, which is 16 percent higher than the state average.¹¹² However, as discussed throughout the final EIS, potentially negative environmental effects associated with the Means Compressor Station would be minimized and/or mitigated, as applicable. In addition to the mitigation measures highlighted in the preceding paragraph,¹¹³ the final EIS recommends, and we will require, visual screening of the proposed Means Compressor Station to minimize the new, permanent visual impacts on the view-shed of nearby residences.¹¹⁴ Thus, we find that with the mitigation described above and in the final EIS, coupled with the environmental benefits attained from using an existing facility, as opposed to a greenfield site, the proposed siting of the Means Compressor Stations does not impose a disproportional share of impacts on this lower-income population.

88. The EPA recommends that further clarification be given as to what overall attempts the Commission made to meaningfully involve the Means Compressor Station-area low-income community in the decision-making process. Commission staff's outreach efforts have included a number of publically disclosed and available notices, environmental analysis reports, and associated comment periods, all of which were mailed directly to identified landowners, residents, local elected officials and representatives, trade publications, and libraries, as well as made available through the Commission's eLibrary public record system. Participation was encouraged with instructions on how to submit comments using written and electronically-filed methods.

e. Air Quality and Noise Impacts

89. The EPA recommends that the Commission ensure that any modification of the Crawford Compressor Station not result in a violation of the allowable pollutant levels and states that this is best ensured by procuring an air permit for the facility. The final EIS explains that the modifications to the Crawford Compressor Station are not subject to air permitting because there will be no increase in operating emissions since Columbia does not propose to increase compression at the station.¹¹⁵ The final EIS repeatedly

¹¹² Final EIS at 4-156.

¹¹³ These mitigation measures are detailed in the final EIS and in Columbia Gulf's proposed Fugitive Dust Control and Traffic Management Plans.

¹¹⁴ See *infra* Environmental Condition 25.

¹¹⁵ See Final EIS at 4-165.

identifies that the work associated with the Crawford Compressor Station is limited to minor modifications to accommodate the capacity increase at the station, and the addition of a regulator building. The EPA appears to misinterpret the final EIS's response to the EPA's comment regarding the T- and SM- expansion system alternative analysis, as applying to the Leach XPress Project's proposal for the Crawford Compressor Station, which it does not.

90. Phillip Smith states his belief that information from Columbia related to the type of compressor station and amount of pollution expected during operations of the Oak Hill Compressor Station changed over the course of time, resulting in a poorly informed Oak Hill-area community. In particular, his impression was that relatively quiet electric-driven compressor station units would be built instead of louder gas-driven compressor station units. Since the Commission began its pre-filing review of the project, all publicly filed information from Columbia and all notices and NEPA documents issued by the Commission identified the compression at the Oak Hill Compressor Station as being gas-driven.

91. Mr. Smith also contends that the Commission should have held a well-publicized meeting to present the amount of GHGs expected to be produced from operation of the Oak Hill Compressor Station. We note the Commission staff publicly announced scoping and draft EIS comment meetings to receive comments from the public on the scope of issues to be addressed and stakeholder comments on the information presented in the draft EIS, which included detailed GHG information.¹¹⁶ These public meetings were held in the Oak Hill area on November 19, 2014, January 29, 2015, and May 25, 2016.¹¹⁷

92. Phillip Smith also states that based on the estimated emissions, the Oak Hill Compressor Station will require a Title V air permit from the Ohio Environmental Protection Agency and is concerned about the air impacts on the individuals living in the valley near the compressor station. The final EIS acknowledges that Columbia will need to obtain a Title V permit for the Oak Hill Compressor Station.¹¹⁸ To address site-specific impacts from operation of the compressor station, Columbia performed detailed air dispersion modeling, including site-specific terrain and meteorological data. The final EIS explains that the results of this modeling effort demonstrate that the Oak Hill

¹¹⁶ Draft EIS Section 4.11 (Air Quality and Noise).

¹¹⁷ Mr. Smith also provided comments at the public meeting in Oak Hill, Ohio on May 26, 2016.

¹¹⁸ See Final EIS at 4-165.

Compressor Station will not result in an exceedance of the National Ambient Air Quality Standards, which were established by EPA to protect human health and public welfare.¹¹⁹ As such, we find air quality impacts from operation of the Oak Hill Compressor Station will not be significant.

93. To ensure that noise impacts from operation of the compressor stations are not significant, the final EIS recommends that Columbia and Columbia Gulf perform post-construction noise surveys at each station to ensure that noise from the compressor stations remains below our day-night sound (L_{dn}) requirement of 55 decibels on the A-weighted scale (dBA) at nearby noise sensitive areas. The L_{dn} is weighted to penalize noise levels during nighttime hours when individuals are more sensitive to sound, and the level is equivalent to a 24-hour equivalent noise level (L_{eq}) of 48.6 dBA. Should an initial survey show that this criterion is exceeded, the final EIS recommends that the operator must file a report on the changes needed, and install those changes within one year of placing the facility into service.

94. The EPA and Phillip Smith argue that any facility modifications to mitigate noise levels or other noise controls should be completed immediately, not in one year. The EPA argues that allowing one year to make changes to reduce the noise imposes an unnecessary burden on the nearby noise sensitive areas, referencing the Noise Control Act of 1972 which states that “the inadequately controlled noise presents a growing danger to health and welfare of the population.”¹²⁰

95. Historically, it is rare that an applicant is unable to demonstrate compliance with our 55 dBA L_{dn} requirement upon commercial operation and needs to take additional mitigation measures. However, in such cases, depending on the cause of the excess noise, it may take up to a year to identify and install additional mitigation or rectify compressor station noise levels, even when applicants begin working to resolve the issue immediately. However, this order now requires in Environmental Conditions 30 and 31 that should an initial survey show that the 55 dBA L_{dn} criterion be exceeded, the operator must install the necessary changes as soon as reasonably practical, but no later than one year after placing the facility into service. Further, our selected noise criterion of 55 dBA L_{dn} (or 48.6 L_{eq}) is based on a 1974 EPA study, which determined that this level would not interfere with indoor or outdoor activity.¹²¹ This level is well below the continuous

¹¹⁹ See Final EIS at 4-175 through 4-177.

¹²⁰ Noise Control Act of 1972, 42 USC § 4901(a)(1) (2012).

¹²¹ EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (1974) (identifying an L_{dn}

exposure to noise level, as identified by the EPA, that would result in hearing loss or damage (72.8 L_{dn} or 66.4 dBA L_{eq}). The EPA and Mr. Smith provide no information to demonstrate that exceeding 55 dBA L_{dn} , but not the 66.4 dBA L_{eq} , will result in a danger to the health or welfare of the population. Further, Environmental Condition 2 of this order provides the Director of the Office of Energy Projects delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the projects, including stop-work authority. Thus, we find that with Environmental Conditions 30 and 31 modified to require changes as soon as reasonably practical, as well as Environmental Condition 2 to provide for additional protection should a serious noise situation arise that may impact the health or welfare of the public, the nearby public is adequately protected from noise impacts during operation of the compressor stations.

96. Phillip Smith argues that noise impacts from operation of the Oak Hill Compressor Station will be greater than the final EIS states. Mr. Smith argues that the closest point on his property line to the compressor station is 350 feet, not the 1,100 feet presented in the final EIS. Mr. Smith also cites numerous decibel levels and argues that at night, noise levels will appear to have quadrupled, instead of doubled as the final EIS states. Mr. Smith also argues that noise levels from the compressor station would be 112 decibels at his home.

97. It is unclear what methodology Mr. Smith uses in making his assertions. Mr. Smith appears to misunderstand the Commission's definition of a noise sensitive area. Noise sensitive areas do not comprise the closest points on a residential property line, but instead, the closest residential structure. Therefore, the final EIS accurately identifies this distance to be 1,100 feet. The final EIS also uses the appropriate logarithmic methodology to combine the measured ambient noise levels (35.4 dBA L_{dn} at Mr. Smith's residence) with the estimated maximum noise levels from operation of the compressor station (47.7 dBA L_{dn}) to project a combined noise level of 48.0 dBA L_{dn} , a 12.6 decibel increase over background levels.¹²² The final EIS accurately explains that this increase would result in the perception that noise levels are twice as loud as they

of 55 dBA as necessary to protect against speech interference and sleep disturbance for residential, educational, and healthcare activities).

¹²² Final EIS at 4-182.

currently are.¹²³ However, the combined 48.0 dBA L_{dn} noise level is still well below the Commission's criterion of 55 dBA L_{dn}.¹²⁴

f. Climate Change

98. The EPA requests that we remove the comparison of the projects' GHG emissions with state-wide GHG emission levels to provide a frame of reference. The EPA argues that although this type of comparison was included in the CEQ's draft guidance document,¹²⁵ it has been removed from the CEQ's final guidance document.¹²⁶ Although this comparison was removed as a recommendation in the CEQ final guidance document, that guidance does not indicate that an EIS cannot include such information. We find that providing this frame of reference helps to better understand the magnitude of GHG emissions. Further, the final EIS responds to the EPA's comment by explaining that while it compares project GHG emissions with state GHG emissions, the EIS does not dismiss climate change impacts based on this comparison. Instead, the EIS includes a discussion of climate change impacts in section 4.13.6.11, identifies that the projects will contribute GHG emissions and the climate change impacts occurring in the projects' region, and notes the projects' consistency with climate goals in the Midwest.¹²⁷

99. The EPA also reiterates its comments on the draft EIS regarding the discussion of the projects' susceptibility to climate change impacts (e.g., the risk of pipeline exposure due to increased flooding, scouring, and/or erosion from heavy precipitation events). The final EIS responds to these comments stating that "[b]uried natural gas pipelines across the United States are routinely exposed to heavy rainfall events and flooding. During operation of pipelines, pipeline operators conduct routine monitoring of the rights-of-way to ensure the integrity of their pipelines, including checking for pipe exposure from

¹²³ See Final EIS at 4-178.

¹²⁴ Final EIS at 4-178 (citing EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (1974)).

¹²⁵ CEQ, *Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews* (December 2014).

¹²⁶ CEQ, *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (August 1, 2016) (2016 GHG Guidance).

¹²⁷ Final EIS at 4-172 through 4-176 and 4-233 through 4-235.

scouring or erosion.”¹²⁸ The EPA asks that we substantiate that the projects’ design, construction, and routine monitoring plans and incorporate measures to address increased heavy rainfall events and flooding due to climate change. Design criteria, construction, and monitoring efforts are addressed through the U.S. Department of Transportation (DOT) pipeline safety regulations. Regardless of the cause for potential pipeline exposure, these regulations ensure routine monitoring and safety measures; and Columbia and Columbia Gulf must comply with these regulations. Concerns regarding whether the DOT pipeline safety regulations consider potential impacts of future climate change should be raised with DOT.

g. Indirect Impacts

100. The EPA and Oil Change International¹²⁹ request that the final EIS include the greenhouse gas (GHG) emissions associated with the upstream production and downstream combustion of the natural gas to be transported by the projects. The commenters cite the CEQ’s *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* issued on August 1, 2016 (2016 CEQ Guidance),¹³⁰ noting that the final guidance document includes end use fossil fuel combustion as an example of an indirect emission that should be considered.

101. The CEQ’s final guidance was issued one month prior to issuance of the final EIS. CEQ’s final guidance recognizes this potential issue, recommending that the final guidance apply “to all new proposed agency actions when a NEPA review is initiated” and that “[a]gencies should exercise judgment when considering whether to apply this guidance to the extent practicable to an on-going NEPA process.”¹³¹ The CEQ’s final guidance document also emphasizes that “this guidance is not a rule or regulation, and the recommendations it contains may not apply to a particular situation based upon the

¹²⁸ See Final EIS, Volume II – Comment Responses at page FA-35.

¹²⁹ Oil Change filed comments on behalf of the Sierra Club, Earthworks, Appalachian Voices, Chesapeake Climate Action, 350.org, Bold Alliance, EnvironmentalAction, Blue Ridge Environmental Defense League, Protect Our Water, Heritage and Rights (Virginia & West Virginia), Friends of Water, Mountain Lakes Preservation Alliance, Sierra Club West Virginia, and Sierra Club Virginia.

¹³⁰ 2016 GHG Guidance.

¹³¹ *Id.* at 33.

individual facts and circumstances,” and “agencies should provide the public and decision makers with explanations of the basis for agency determinations.”¹³²

102. CEQ’s regulations direct federal agencies to examine the indirect impacts of proposed actions.¹³³ 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.”¹³⁴ Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.”¹³⁵ 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.

103. With respect to causation, “NEPA requires ‘a reasonably close causal relationship’ between the environmental effect and the alleged cause”¹³⁶ in order “to make an agency responsible for a particular effect under NEPA.”¹³⁷ As the Supreme Court explained, “a ‘but for’ causal relationship is insufficient [to establish cause for purposes of NEPA].”¹³⁸ 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.¹³⁹ Further, the Court has stated that “where an agency has no ability to

¹³² *Id.* at 1-2.

¹³³ *See* 40 C.F.R. § 1508.25(c) (2016).

¹³⁴ *Id.* § 1508.8(b).

¹³⁵ *Id.*

¹³⁶ *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752 at 767 (2004) (quoting *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 (1983)).

¹³⁷ *Id.*

¹³⁸ *Id.*; *see also* *Sierra Club v. FERC*, 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 “are not the legally relevant cause” of increased production of natural gas).

¹³⁹ *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.”¹⁴⁰

104. 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.”¹⁴¹ 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.”¹⁴²

105. The Commission does not have jurisdiction over natural gas production. The potential impacts of natural gas production, with the exception of greenhouse gas emissions and climate change, would be on a local and regional level. Each locale includes unique conditions and environmental resources. Production activities are thus regulated at a state and local level. In addition, deep underground injection and disposal of wastewaters and liquids are subject to regulation by the EPA under the Safe Drinking Water Act. The EPA also regulates air emissions under the Clean Air Act. On public lands, federal agencies are responsible for the enforcement of regulations that apply to natural gas wells.

106. We have previously concluded in natural gas infrastructure proceedings, based on the specifics of the project being proposed in each proceeding, that the environmental effects resulting from natural gas production are generally neither sufficiently causally related to specific natural gas infrastructure projects nor are the potential impacts from gas production reasonably foreseeable such that the Commission could undertake a meaningful analysis that would aid our determination.¹⁴³ A causal relationship sufficient

¹⁴⁰ *Pub. Citizen*, 541 U.S. at 770; *see also* Freeport LNG, 827 F.3d at 47 (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 Department of Energy); Sabine Pass LNG, 827 F.3d at 68 (same); *EarthReports, Inc. v. FERC*, 828 F.3d 949, 956 (D.C. Cir. 2016) (same).

¹⁴¹ *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).

¹⁴² *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1078 (9th Cir. 2011).

¹⁴³ *See, e.g., Cent. N.Y. 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), *pet. for review dismissed sub nom., Coal. for Responsible Growth v. FERC*, 485 App’x. 472, 474-75 (2d Cir. 2012).

to warrant Commission analysis of the upstream production activity as an indirect impact would only exist if a proposed pipeline or Commission-jurisdictional infrastructure project would transport new production from a specified production area and such production would not occur in the absence of the proposed project facilities (i.e., there will be no other way to move the gas).¹⁴⁴ To date, the Commission has not been presented with a proposed pipeline project that the record shows will cause the predictable development of gas reserves. In fact, the opposite causal relationship is more likely, i.e., once production begins in an area, shippers or end users will support the development of a pipeline to move the produced gas.

107. Even accepting, *arguendo*, that a specific pipeline project will cause natural gas production, to date, we have found that the potential environmental impacts resulting from such production are not reasonably foreseeable. As we have explained, generally there is not sufficient information available to determine the origin of the gas that will be transported. It is the states, rather than the Commission, that have jurisdiction over the production of natural gas and thus would be most likely to have the information necessary to reasonably foresee future production. We are aware of no such forecasts by the states or any other entities, rendering the Commission unable to meaningfully predict production-related impacts, many of which are highly localized. Thus, even if the Commission knows the general source area of gas likely to be transported on a given pipeline, a meaningful analysis of production impacts would require more detailed information regarding the number, location, and timing of wells, roads, gathering lines, and other appurtenant facilities, as well as details about production methods, which can vary per producer and depending on the applicable regulations in the various states. Accordingly, to date, the impacts of natural gas production are not reasonably foreseeable because they are “so nebulous” that we “cannot forecast [their] likely effects” in the context of an environmental analysis of the impacts related to construction and modification of natural gas pipeline facilities.¹⁴⁵

¹⁴⁴ *Cf. Sylvester v. U.S. Army Corps of Eng’rs*, 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 Transp.*, 123 F.3d 1142, 1162 (9th Cir. 1997) (acknowledging that existing development led to planned freeway, rather than the reverse, notwithstanding the project’s potential to induce additional development).

¹⁴⁵ *Habitat Educ. Ctr. v. U.S. Forest Serv.*, 609 F.3d 897, 902 (7th Cir. 2010) (agency need not discuss projects too speculative for meaningful discussion).

108. Nonetheless, we note that, although not required by NEPA, a number of federal agencies have 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. 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 to water resources.¹⁴⁶ The EPA has concluded that hydraulic fracturing can impact drinking water resources under some circumstances and identified conditions under which impacts from hydraulic fracturing activities can be more frequent or severe.¹⁴⁷ 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.¹⁴⁸ It also found that such emissions may contribute to climate change.¹⁴⁹ But to the extent that natural gas production replaces the use of other carbon-based energy sources, DOE found that there may be a net positive impact in terms of climate change.¹⁵⁰

i. Causation

109. The record in this proceeding does not demonstrate the requisite reasonably close causal relationship between the Leach XPress Project and the Rayne XPress Project and the impacts of future natural gas production to necessitate further analysis. The fact that

¹⁴⁶ U.S. Department of Energy, *Addendum to Environmental Review Documents Concerning Exports of Natural Gas From The United States* (Aug. 2014) (DOE Addendum), <http://energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf>.

¹⁴⁷ See U.S. EPA, *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, at ES3-4 (Dec. 2016) (final report), http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=529930 (finding significant data gaps and uncertainties in the available data prevented EPA from calculating or estimating the national frequency of impacts on drinking water resources from activities in the hydraulic fracturing water cycle). See also *Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands*, 80 Fed. Reg. 16,128, 16,130 (Mar. 26, 2015) (BLM promulgated regulations for hydraulic fracturing on federal and Indian lands to “provide significant benefits to all Americans by avoiding potential damages to water quality, the environment, and public health”).

¹⁴⁸ DOE Addendum at 32.

¹⁴⁹ *Id.* at 44

¹⁵⁰ *Id.*

natural gas production and transportation facilities are all components of the general supply chain required to bring domestic natural gas to market is not in dispute. This does not mean, however, that the Commission's approval of these particular pipeline projects will cause or induce the effect of additional or further shale gas production. The proposed projects are responding to the need for transportation, not creating it.

110. Here, commenters, like the environmental groups in *Central New York Oil and Gas Co., LLC* case,¹⁵¹ seek review of impacts (induced production of natural gas from the Marcellus Shale gas play) that are not “caused by” the construction and operation of the proposed projects. In *Central New York*, the Commission authorized construction and operation of a 39-mile long pipeline traversing Northeast Pennsylvania, which was intended, in part, to “provide access to interstate markets for natural gas produced from the Marcellus [s]hale in northeast Pennsylvania”¹⁵² In that case, environmental groups, before the Commission and the Second Circuit, argued that the pipeline would “serve[] as a ‘catalyst’ for Marcellus shale development in the Bradford, Lycoming and Sullivan Counties crossed by the pipeline, and would ‘facilitate the development of Marcellus [s]hale.’”¹⁵³

111. In *Cent. N.Y. Oil & Gas, LLC*, the Commission examined the purpose of the pipeline project, and found that Marcellus shale development activities were not “an essential predicate” for that project because “it is not merely a gathering system for delivery” of Marcellus shale gas.¹⁵⁴ Rather, the proposed pipeline in that proceeding enabled gas to flow onto three major interstate pipeline systems.¹⁵⁵ Thus, the Commission concluded, and the Second Circuit agreed, that under NEPA, Marcellus shale development activities are not sufficiently causally-related to the project to warrant in-depth consideration of the gas production impacts.¹⁵⁶

¹⁵¹ *Cent. N.Y. Oil & Gas Co., LLC*, 137 FERC ¶ 61,121, *order on reh'g*, 138 FERC ¶ 61,104, *pet. for review dismissed sub nom. Coal. for Responsible Growth v. FERC*, 485 App'x 472.

¹⁵² *Cent. N.Y. Oil & Gas Co., LLC*, 138 FERC ¶ 61,104 at P 5.

¹⁵³ *Id.* P 81.

¹⁵⁴ *Cent. N.Y. Oil & Gas Co., LLC*, 137 FERC ¶ 61,121 at P 91.

¹⁵⁵ *Id.*

¹⁵⁶ *See Cent. N.Y. Oil & Gas Co., LLC*, 138 FERC ¶ 61,104 at P 37, 84 (finding no causal connection between pipeline and shale gas production in part “because the Commission plays no role in, nor retains any control over,” well development); *Coal. for*

112. Similarly here, gas produced in the Marcellus Shale region may flow from existing facilities into the Leach XPress Project facilities, which is then transported to local users or into other interconnected interstate pipelines. Moreover, the Commission has not found any evidence that future gas development is an essential predicate for these two projects. Finally, whether or how much *induced* gas will travel through the projects cannot be known given that a significant amount of unconventional natural gas production currently exists.¹⁵⁷ Commenters fail to identify any new production specifically associated with the proposed projects.

113. As we have explained in other proceedings, a number of factors, such as domestic natural gas prices and production costs drive new drilling.¹⁵⁸ If the proposed projects were not constructed, it is reasonable to assume that any new production spurred by such factors would reach intended markets through alternate pipelines or other modes of transportation.¹⁵⁹ Again, any such production would take place pursuant to the regulatory authority of state and local governments.

Responsible Growth, 485 F. App'x at 474 (“FERC reasonably concluded that the impacts of that [shale gas] development are not sufficiently causally-related to the project to warrant a more in-depth [NEPA] analysis”).

¹⁵⁷ For example, in 2014, unconventional natural gas production in Pennsylvania was approximately 11.15 Bcf/d. Penn. Dep't of Env'tl. Prot., *2014 Oil and Gas Annual Report* at 7 fig. (July 2015), http://www.portal.state.pa.us/portal/server.pt/community/annual_report/21786 (aggregate 2014 unconventional production divided by 365 days yields 11.15 billion cubic feet per day).

¹⁵⁸ See e.g., *Rockies Express Pipeline LLC*, 150 FERC ¶ 61,161, at P 39 (2015) (*Rockies Express*). 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).

¹⁵⁹ *Rockies Express*, 150 FERC ¶ 61,161 at P 39.

ii. Reasonable Foreseeability

114. In addition, even if a causal relationship between our action here and additional production were presumed, the scope of the impacts from any such induced production in this case is not reasonably foreseeable. Knowing the identity of a producer of gas to be shipped on a pipeline, and the general area where that producer's existing wells are located, does not alter the fact that the number of and precise location of any additional wells cannot be identified in this proceeding. As we have explained previously, factors such as market prices and production costs, among others, drive new drilling.¹⁶⁰ These factors, combined with the immense size of the Marcellus and Utica shale formations and the highly localized impacts of production would result in general estimates. Thus, a broad analysis, based on generalized assumptions will not meaningfully assist the Commission in its decision making, e.g. evaluating potential alternatives. Thus, unless the Commission can ascertain specific factual information regarding the nature of the induced production, such induced production is not reasonably foreseeable.

115. We acknowledge that the CEQ's final guidance includes the end use combustion of coal as an example of an indirect emission from coal production. However, that example also notes that the indirect effects would vary with the circumstances of the proposed action. The final EIS explains that the upstream production and downstream combustion of gas is not causally connected because the production and end-use would occur with or without these specific projects. Therefore, the circumstances in this case do not warrant the inclusion of production or end-use as an indirect effect of the projects. Although EPA disagrees with this justification, this explanation does meet the CEQ's final guidance in considering specific project circumstances and explaining the basis for the analysis that was performed. Further, beyond a generic recommendation that we include upstream and end-use emission in our NEPA document, EPA provides no information to refute our justification that these emissions are not causally connected.

116. As noted above, upstream and downstream 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 and to inform our public convenience and necessity determination under section 7(e) of the Natural Gas Act,¹⁶¹ Commission staff, after reviewing publicly-available DOE and EPA methodologies, has prepared the following analyses regarding the potential impacts associated with unconventional gas production and downstream combustion of natural gas. As summarized below, these analyses provide only an upper-

¹⁶⁰ *Dominion Transmission, Inc.*, 153 FERC ¶ 61,284 (2015).

¹⁶¹ 15 U.S.C. § 717f(e) (2012).

bound estimate of upstream and downstream effects. In addition, these estimates are generic in nature and reflect a significant amount of uncertainty.

117. 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 Leach Xpress and Rayne Xpress Expansion Projects, on an annual basis for GHGs, and for the life of the project for land-use and water use within the Marcellus shale basin.¹⁶² According to a 2016 study by the DOE and National Energy Technology Laboratory (NETL), approximately 1.48 acres of land is required for each natural gas well pad and associated infrastructure (road infrastructure, water impoundments, and pipelines).¹⁶³ Based upon the project capacity and the expected estimated ultimate recovery of Marcellus shale wells,¹⁶⁴ between 3,200 and 6,300 wells would be required to provide the gas over the estimated 30-year lifespan of the project. Therefore, on a normalized basis over the life of the project,¹⁶⁵ these assumptions lead us to estimate an upper bound between 160 and 310 additional acres per year may be impacted for well drilling.¹⁶⁶ This estimate of the number of wells is imprecise and subject to a significant amount of uncertainty.

118. We also estimated the amount of water required for the drilling and development of these wells over the 30 year period using the same assumptions. The 2014 DOE/NETL Study finds that an average Marcellus shale well requires between 3.88 and

¹⁶² Staff assumed a 30-year life for the project.

¹⁶³ Dep't of Energy and Nat'l Energy Tech. Laboratory, *Life Cycle Analysis of Natural Gas Extraction and Power Generation*, DOE/NETL-2015/1714, at 22, Table 3-6 (August 30, 2016) (2016 DOE/NETL Study).

¹⁶⁴ U.S. Energy Info. Admin., *The Growth of U.S. Natural Gas: An Uncertain Outlook for U.S. and World Supply* (June 15, 2015), <http://www.eia.gov/conference/2015/pdf/presentations/staub.pdf>; Dep't of Energy and Nat'l Energy Tech. Laboratory, *Environmental Impacts of Unconventional Natural Gas Development and Production*, DOE/NETL-2014/1651, (May 29, 2014) (2014 DOE/NETL Study).

¹⁶⁵ Normalized yearly impacts are estimated based on the overall impacts for the life of the project averaged on a per year basis.

¹⁶⁶ The 2016 DOE/NETL Study estimates the land-use fractions of the Appalachian Shale region to be 72.3 percent forested lands, 22.4 percent agricultural land, and 5.3 percent grass or open lands. 2016 DOE/NETL Study at 24, Table 3-8.

5.69 million gallons of water for drilling and well development, depending on whether the producer uses a recycling process in the well development.¹⁶⁷ Therefore, the production of wells required to supply the project could require as much as 420 million to 1.2 billion gallons of water per year on a normalized basis over the 30 year life of the project.

119. With respect to impacts from GHGs, the final EIS discusses the direct GHG impacts from construction and operation of the projects and other projects that were considered in the Cumulative Impacts analysis, the climate change impacts in the region, and the regulatory structure for GHGs under the Clean Air Act. The final EIS also quantifies GHG emissions from the projects construction (87,890 metric tons, CO₂-equivalent [metric tpy CO_{2e}]) and operation (806,000 metric tpy CO_{2e}).¹⁶⁸ The final EIS does not include upstream emissions, however, we have conservatively estimated the upstream GHG emissions have an upper bound of: 1.2 million metric tpy CO_{2e} from extraction, 2.4 million metric tpy CO_{2e} from processing, and 610,000 metric tpy CO_{2e} from the non-Project upstream pipelines.¹⁶⁹ Again, this is an upper-bound estimate that involves a significant amount of uncertainty.

120. With respect to downstream GHG emissions, Commission staff used an EPA-developed methodology to estimate the downstream GHG emissions from a project, assuming all of the gas to be transported is eventually combusted. As such, in response to EPA's comments, we conservatively estimated the GHG emissions from the end-use combustion of the natural gas to be transported by the projects. Over 65 percent of the Leach XPress Project volumes will be delivered to the Rayne XPress Project. Therefore, avoiding the double counting of volumes delivered to the Rayne XPress Project from the Leach XPress Project, and the volumes that would utilize known existing available

¹⁶⁷ 2014 DOE/NETL Study at 76, Exhibit 4-1.

¹⁶⁸ Final EIS at 4-174 to 4-175.

¹⁶⁹ The upstream GHG emissions were estimated using the methodology in a 2014 study conducted by the DOE and NETL. Dep't of Energy and Nat'l Energy Tech. Laboratory, *Life Cycle Analysis of Natural Gas Extraction and Power Generation*, DOE/NETL-2014/1646, (May 29, 2014). Generally, the average leak and emission rates identified in the analysis for each segment of extraction, processing, and transport were used. The method is outlined in Section 2 of the DOE/NETL Study, and the background data used for the model is outlined in Section 3.1. GHG emission estimates were based on the results identified in Tables 4.3, 4.4, and 4.5. New NSPS Oil & Gas rules or other GHG mitigation was not account for. Additionally, the length of non-project pipeline prior to the gas reaching project components was conservatively estimated.

capacity on the Columbia Gulf system together, the projects are designed to deliver up to 1,301,000 Dth/d of overall new volumes, which can produce 25,177,342 metric tpy CO_{2e} per year from end-use combustion.¹⁷⁰ We note that this 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, which could actually lower total CO_{2e} emissions. It may also displace gas that otherwise would be transported via different means, resulting in no change in CO_{2e} emissions. 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. Also, much of the gas flowing on the Rayne XPress Project would be delivered to mainline pool areas. As such, this gas may already be accounted for through existing available capacity or new available capacity of other transmissions systems. As such, it is unlikely that this total amount of GHG emissions would occur, and emissions are likely to be significantly lower than the above estimate and downstream GHG emissions may in fact fall due to fuel displacement.

121. On August 8, 2016, Oil Change International filed comments, consisting of one paragraph and an attached 32-page report, in 11 pipeline certificate proceedings, including the matter at hand. Oil Change International asserts that there should be a climate test for all natural gas infrastructure, that, in light of CEQ's 2016 GHG Guidance, "the alignment of natural gas infrastructure permitting with national climate goals and plans should become a priority for FERC and other federal government agencies," and that the Commission should "conduct full Greenhouse Gas impact analysis as part of the NEPA process for all listed projects."¹⁷¹ The report asserts generally that increased U.S. natural gas production in the Appalachian Basin is not consistent with safe climate goals, and that proposed pipeline projects will increase takeaway capacity from the basin and provide financial incentives for increased production.

122. The comments and the report provide no specific information about the Leach and Rayne XPress Projects (or any of the other listed projects). Accordingly, this material does not assist us in our analysis of the projects. As discussed above, we indeed do analyze the greenhouse gas impacts of proposed projects as part of our NEPA and NGA review, and we have carefully reviewed CEQ's Final Guidance and are using it to assist us in refining our future analyses.

¹⁷⁰ Estimated using EPA's GHG Equivalencies Calculator - Calculations and References *available at* <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references>.

¹⁷¹ Oil Change International August 8, 2016 Comments at 1.

123. As to the more global issues raised by Oil Change International, while the Commission does not utilize a specific “climate test,” we do examine the impacts of the projects before us, including impacts on climate change. Under NEPA, we are required to take a “hard look” at the environmental impacts of the proposed project and we have done so. To the extent that Oil Change International suggests an alignment of project permitting with national climate change goals, we note that it is for Congress, the Executive Branch, and agencies with jurisdiction over broad environmental issues to establish such goals; our role under the NGA is considerably more limited, and we have no authority to establish national environmental policy.

h. Alternatives

124. The EPA expresses concern that the final EIS lacks the supporting documentation that Commission staff relied on to rule out the need for considering the Mountaineer XPress Pipeline Project as a viable alternative. The EPA recommends that the Commission’s order for the Leach XPress and Rayne XPress Projects contain specific purpose and need supporting information, including delivery points, receipt points, and precedent agreements. The final EIS rejected the proposed Mountaineer XPress Pipeline Project as a viable system alternative because of the projects’ distinct purposes and needs, including the lack of commonality among the associated delivery and receipt points. Rather than providing information detailing each individual receipt and delivery point in the final EIS, this material is accessible in the Columbia’s and Columbia Gulf’s filed materials for the projects and is part of the record.¹⁷² Further, when evaluating if the proposed projects are in the public convenience and necessity, the Commission considers information filed in the proceedings, including signed precedent agreements with shippers, that describes the need for the proposed projects. As for disclosing in NEPA documents supporting information in future projects wherein Commission staff would study the environmental preferability of alternate routings, locational information relevant to these discussions has always been sufficiently outlined in our final EISs, typically in the introductory and alternative analysis sections (sections 1.1 and 3 of final EIS for this project).

125. The EPA requests that future project-specific Commission NEPA documents include greater information and analysis related to comparing and ruling out alternate aboveground facility components, so as to increase public understanding of Commission staff’s siting considerations. Similarly, Phillip Smith requests that specific details and maps of the alternative site locations for the Oak Hill Compressor Station be included.

¹⁷² Information detailing the receipt and delivery points associated with the Mountaineer XPress Pipeline Project can be found in Columbia’s filed materials in Docket No. CP16-357-000.

Figure 3.4.1.1 of the final EIS includes a map of the proposed and alternate sites from the Oak Hill Compressor Station. In ruling out above-ground facility siting alternatives from further consideration, the final EIS includes comparisons of resource impacts to demonstrate environmental preferability in sufficient detail for the Lone Oak, Summerfield, Crawford, Ceredo, Oak Hill, and Means Compressor Stations.¹⁷³

i. Comment by Switzerland Township

126. We received a comment from the Switzerland Township (located from Mileposts (MP) 26 to 33 on the Leach XPress LEX pipeline near the Ohio River crossing) concerning the additive impacts that the Leach XPress Project will have on local traffic and forested scenery. The Township believes the sum total of natural gas industry-related temporary and permanent facilities in their area has resulted in extensive adverse impacts on the quality of life and safety for residents, including disruption of traffic, increased road damage and traffic accidents, and disturbed landscapes. The Township requests Columbia participate in some form of compensation to help restore aesthetic and historic character of the Township.

127. The final EIS's discussion regarding impacts on forest and wildlife, disruptions to residents, and risks to safety and increased traffic impacts is accompanied by numerous mitigation measures and environmental recommendations. These comprehensive measures will minimize the amount of forest clearing, encourage forest growth within temporary construction use areas, retain forested riparian zones at stream crossings, maintain traffic flow and vehicle access for residences, ensure Columbia clears debris from public roads, and restores private access roads to previous or better conditions. The Township does not challenge the final EIS's direct, indirect or cumulative impacts analysis. Rather, the Township generally requests compensation. The Commission typically does not require or encourage applicants to participate in compensatory mitigation to groups, governments, or agencies. Mitigation measures proposed or recommended in the final EIS's analysis target specific natural resources. The final EIS recommends, and this order requires, Columbia provide a wetland compensation plan, Migratory Bird Conservation Plan, Construction Emission Plan aimed at limiting construction air emissions, and a horizontal directional drilling noise mitigation analysis for the Ohio River crossing of the proposed LEX pipeline near MP 26 at the eastern end of Switzerland Township (Environmental Conditions 16, 19, 27, and 28, respectively).

¹⁷³ Final EIS §§ 3.4, 4, and 4.1.2.1.

j. EPA – Web Site Links

128. The EPA reiterates its request that Commission-issued NEPA documents provide direct links to a web address for specific files referenced as being on the record (eLibrary), if that information is not included in the final EIS. Commission staff's practice is to provide the links to accessions numbers to voluminous materials identified or incorporated in the NEPA documents for the reader to find in the Commission's eLibrary system. We currently do not have an alternate method to enable our issued documents to directly link to another web-based location other than our stored documents on eLibrary.

3. Environmental Analysis Conclusion

129. We have reviewed the information and analysis contained in the final EIS regarding potential environmental effects of the Leach XPress and Rayne XPress Projects. Based on our consideration of this information and the discussion above, we agree with the conclusions presented in the final EIS and find that the projects, if constructed and operated as described in the applications and final EIS, are environmentally acceptable actions. We are accepting the environmental recommendations in the final EIS and are including them as conditions in Appendix B to this order.

130. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of these certificates. 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.¹⁷⁴

131. At a hearing held on January 19, 2017, the Commission on its own motion received and made a part of the record in this proceeding all evidence, including the applications, and exhibits thereto, and all comments and upon consideration of the record.

¹⁷⁴ See 15 U.S.C. § 717r(d) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); see also *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 310 (1988) (state regulation that interferes with FERC's regulatory authority over the transportation of natural gas is preempted) and *Dominion Transmission, Inc. v. Summers*, 723 F.3d 238, 245 (D.C. Cir. 2013) (noting that state and local regulation is preempted by the NGA to the extent it conflicts with federal regulation, or would delay the construction and operation of facilities approved by the Commission).

The Commission orders:

(A) A certificate of public convenience and necessity is issued authorizing Columbia to construct and operate the Leach XPress Project, as described in this order and in the application in Docket No. CP15-514-000.

(B) A certificate of public convenience and necessity is issued authorizing Columbia Gulf to construct and operate the Rayne XPress Project, as described in this order and in the application in Docket No. CP15-539-000.

(C) Permission and approval of the proposed abandonment by Columbia is granted, as described in this order and in the application in Docket No. CP14-514-000.

(D) The certificate authority issued in Ordering Paragraphs (A) and (B) shall be conditioned on the following:

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

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

(3) applicants' compliance with the environmental conditions listed in the Appendix B to this order;

(4) execution, prior to commencement of construction, of firm contracts for the volumes and service terms equivalent to those in the precedent agreements.

(E) Columbia's proposed incremental firm reservation charge for the Leach XPress Project is accepted, subject to Columbia filing to revise the charge as discussed in the body of this order.

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

(G) Columbia's request to use its system-wide fuel retention percentage and electric power charges, and its Transportation Cost Rate Adjustment and the Operational Transaction Rate Adjustment is approved.

(H) Columbia's request to recover 54.3 percent of its Line R-501 costs through its Capital Cost Recovery Mechanism, as described in the body of this order, is approved.

(I) Columbia's request for a pre-determination supporting rolled-in rate treatment for the costs to replace Unit #8 at the Ceredo Compressor Station in its next NGA section 4 general rate proceeding is granted, as more fully described in the body of this order, absent a significant change in material circumstances.

(J) Columbia Gulf's existing system rates are approved as initial rates for the Rayne XPress Project.

(K) Columbia Gulf's request for a pre-determination supporting rolled-in rate treatment for the costs of the Rayne XPress Project in its next NGA section 4 general rate proceeding is granted, as more fully described in the body of this order, absent a significant change in material circumstances.

(L) Columbia Gulf's request to use its generally applicable system fuel retention rate is approved.

(M) The timely motions to intervene filed by E&W Landowners and G&B Landowners are granted.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix A

Intervenor List

Intervenors in CP15-514-000:

- Anadarko Energy Services Company
- Atmos Energy Marketing LLC
- Calpine Energy Services, L.P.
- Chevron U.S.A. Inc.
- ConocoPhillips Company
- Cross Timbers Energy Services, Inc.
- Direct Energy Business Marketing, LLC
- Duke Energy Kentucky, Inc.
- E&W Landowners
- Exelon Corporation
- G&B Landowners
- Independent Oil & Gas Association of West Virginia, Inc.
- Interstate Gas Supply, Inc.
- Debra and Christian LoFrumento
- National Fuel Gas Distribution Corporation
- National Grid Gas Delivery Companies
- New Jersey Natural Gas Company
- New York State Electric & Gas Corporation
- NiSource Distribution Companies
- NJR Energy Services Company
- Ohio Farm Bureau Federation, Inc.
- Orange and Rockland Utilities, Inc.
- Peoples TWP LLC
- Piedmont Natural Gas Company, Inc.
- PSEG Energy Resources & Trade LLC
- Public Service Company of North Carolina
- Range Resources-Appalachia, LLC
- Rover Pipeline LLC
- Sequent Energy Management, L.P.
- Shell Energy North America (US), L.P.
- SWEPI LP
- UGI Distribution Companies
- United States Gypsum Company
- Vectren Energy Delivery of Ohio, Inc.
- Washington Gas Light Company

Intervenors in CP15-539-000:

- Anadarko Energy Services Company
- Atmos Energy Marketing LLC
- Calpine Energy Services, L.P.
- Chevron U.S.A. Inc.
- ConocoPhillips Company
- Direct Energy Business Marketing, LLC
- Duke Energy Corporation
- Exelon Corporation
- Independent Oil & Gas Association of West Virginia, Inc.
- New Jersey Natural Gas Company
- New York State Electric & Gas Corporation
- NJR Energy Services Company
- Orange and Rockland Utilities, Inc.
- Piedmont Natural Gas Company, Inc.
- Range Resources-Appalachia, LLC
- Sequent Energy Management, L.P.
- Shell Energy North America (US), L.P.
- Tennessee Valley Authority
- Virginia Natural Gas, Inc.

Appendix B

Environmental Conditions for the Leach XPress and Rayne XPress Projects

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

1. Columbia and Columbia Gulf shall each follow the construction procedures and mitigation measures described in its application and supplements, including responses to staff data requests and as identified in the EIS, unless modified by the Order. Columbia and Columbia Gulf 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 has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Projects. This authority shall allow:
 - a. the modification of conditions of this Commission's Order; and
 - b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to ensure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from construction and operation of the Projects.

3. **Prior to any construction,** Columbia and Columbia Gulf shall each file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EIs' authority and have been or will 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 final EIS, as supplemented by filed alignment sheets. **As soon as they are available and before the start of construction**, Columbia and Columbia Gulf shall file any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by this order. All requests for modifications of environmental conditions of this order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

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

5. Columbia and Columbia Gulf shall file 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 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, and 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 Columbia's and Columbia Gulf's Environmental Construction Standards (ECS) 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**, Columbia and Columbia Gulf shall file their respective Implementation Plans for review and written approval by the Director of OEP. Columbia and Columbia Gulf must file revisions to their plans as schedules change. The plans shall identify:

- a. how Columbia and Columbia Gulf will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by this Order;
- b. how Columbia and Columbia Gulf 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 per spread, 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 Columbia and Columbia Gulf will give to all personnel involved with construction and restoration (initial and refresher training as the Projects progress and personnel change) with the opportunity for OEP staff to participate in the training sessions;
- f. the company personnel (if known) and specific portion of Columbia's and Columbia Gulf's organization having responsibility for compliance;
- g. the procedures (including use of contract penalties) Columbia and Columbia Gulf will follow if noncompliance occurs; and

- h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - i. the completion of all required surveys and reports;
 - ii. the environmental compliance training of onsite personnel;
 - iii. the start of construction; and
 - iv. the start and completion of restoration.
7. Columbia shall employ at least one EI per construction spread and Columbia Gulf shall employ one EI for the Rayne XPress Project. The EIs shall be:
 - a. responsible for monitoring and ensuring compliance with all mitigation measures required by this order and other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of this order, and any other authorizing document;
 - d. a full-time position, separate from all other activity inspectors;
 - e. responsible for documenting compliance with the environmental conditions of this order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.
8. Beginning with the filing of its Implementation Plan, Columbia shall file updated status reports with the Secretary **on a weekly basis until all construction and restoration activities are complete**. Columbia Gulf shall file updated status reports with the Secretary **on a monthly basis until 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 efforts to obtain the necessary federal authorizations;
 - b. the construction status of the their respective Project facilities, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;

- c. a listing of all problems encountered and each instance of noncompliance observed by the EIs during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - d. a description of corrective actions implemented in response to all instances of noncompliance, and their cost;
 - e. the effectiveness of all corrective actions implemented;
 - f. a description of any landowner/resident complaints that may relate to compliance with the requirements of this order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by Columbia and Columbia Gulf from other federal, state, or local permitting agencies concerning instances of noncompliance, and Columbia's and Columbia Gulf's responses.
9. **Prior to receiving written authorization from the Director of OEP to commence construction of their respective Project facilities**, Columbia and Columbia Gulf shall file documentation that they have received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Columbia and Columbia Gulf must receive written authorization from the Director of OEP **before placing their respective Projects into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of areas affected by the Projects are proceeding satisfactorily.
11. **Within 30 days of placing the authorized facilities in service**, Columbia and Columbia Gulf shall file an affirmative statement with the Secretary, certified by a senior company official:
- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the conditions in this order Columbia and/or Columbia Gulf has complied or will comply with. This statement shall also identify any areas affected by their respective Projects where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
12. **As part of its Implementation Plan**, Columbia shall confirm the location of the Leach XPress Project's LEX Pipeline between Mileposts (MP) 34.6 to 52.2 within its non-exclusive easement and identify any locations where the LEX Pipeline

along this segment would deviate from the non-exclusive easement in accordance with recommendation 5.

13. **Prior to construction,** Columbia shall further assess any outstanding minor route variations in coordination with the landowners, including those at LEX Pipeline MPs 0.6, 15.4, 31.0, 35.8, 62.8, 86.6, and 109.7, and R-801 Loop MP 0.9. Columbia shall either incorporate a route within the same landowner's property that addresses or avoids the resources or issue of concern, or otherwise explain how potential impacts on resources have been effectively avoided, minimized, or mitigated to the extent practical.

Columbia shall file with the Secretary, for the review and written approval by the Director of OEP, revised alignment sheets, documentation of its landowner consultations, and a summary of the resources (e.g. forests, wetlands, sensitive species, and cultural resources) affected by the revised routes.

14. **Prior to construction,** Columbia shall file with the Secretary the results of civil surveys identifying the location of any conventional or unconventional oil and gas well locations (including permitted, drilled, producing and abandoned oil and gas wells) within the Leach XPress Project footprint, as well as identify measures to minimize hazards for any wells located within 100 feet of the proposed Leach XPress Project pipelines.
15. **Prior to construction,** Columbia shall file with the Secretary a copy of the final West Virginia Department of Natural Resources Stream Activity Permit for the Leach XPress Project documenting the state agency's approval of instream work windows and incorporate these time windows into its final construction plans.
16. **Prior to construction,** Columbia shall file with the Secretary its final wetland compensation plan, developed in consultation with the appropriate agencies.
17. **Prior to construction,** Columbia shall file with the Secretary, for review and written approval of the Director of OEP, a revised project-specific ECS that addresses the agencies requests to apply seed mixes identified in state standards specific to the project region, as well as the use of seeds for native pollinator species so as to benefit pollinating insect, bird, and bat species.
18. **Prior to construction,** Columbia shall file with the Secretary documentation of its correspondence with the Ohio Department of Natural Resources and any avoidance or mitigation measures developed to cross the Sunfish Creek State Forest.
19. **Prior to construction,** Columbia shall file with the Secretary its final Migratory Bird Conservation Plan along with documentation of its consultation with U.S.

Fish and Wildlife Service (FWS) regarding avoidance, minimization, and mitigation measures.

20. Columbia **shall not begin construction** of the Leach XPress Project within lands not covered by the Multiple Species Habitat Conservation Plan in Ohio **until**:
 - a. FERC staff completes any necessary Endangered Species Act Section 7 consultation with the FWS for the Indiana bat and northern long-eared bat; and
 - b. Columbia has received written notification from the Director of OEP that construction and/or use of mitigation (including implementation of conservation measures) may begin.
21. **Prior to construction in water in Ohio and West Virginia**, Columbia shall continue consultations with the applicable state agencies to identify any additional mitigation measures for state-protected mussel species and the need for additional surveys in Ohio and West Virginia. The results of such consultations and any state recommended mitigation measures shall be filed with the Secretary.
22. **Prior to construction in Pennsylvania**, Columbia shall file with the Secretary survey results and any mitigation measures developed in consultation with the Pennsylvania Department of Conservation and Natural Resources for single-headed pussytoes.
23. **Prior to construction**, Columbia shall file with the Secretary, for the review and written approval of the Director of OEP, evidence of landowner concurrence with the site-specific residential construction plans for all locations identified by MP in table 4.8.3-1 of the final EIS where the Leach XPress Project construction work areas are 10 feet of a residence.
24. **Prior to construction**, Columbia shall file with the Secretary, for review and written approval by the Director of OEP, a visual screening plan for the proposed Oak Hill Compressor Station.
25. **Prior to construction**, Columbia Gulf shall file with the Secretary, for review and written approval by the Director of OEP, a visual screening plan for the proposed Means Compressor Station.
26. Columbia and Columbia Gulf **shall not begin construction** of facilities and/or use of (all) staging, storage, or temporary work areas and new or to-be improved access roads in Ohio, West Virginia, or Kentucky **until**:
 - a. Columbia and Columbia Gulf file with the Secretary:

- i. Cultural resource identification survey reports for any previously unreported areas in Ohio, and West Virginia;
 - ii. Evaluation studies, as necessary, to provide National Register of Historic Places-eligibility recommendations for historic aboveground resources Site 103, Site 136, and Site 140 in Ohio and archaeological sites 15MF490 and 15MF492 in Kentucky;
 - iii. Any other reports, evaluation studies, or plans (monitoring, avoidance, etc.) not yet submitted; and
 - iv. Comments on survey reports, Unanticipated Discovery Plans and any other studies or plans from the Ohio, West Virginia, and Kentucky State Historic Preservation Office and any other consulting parties.
- b. The Advisory Council of Historic Preservation is afforded an opportunity to comment if historic properties would be adversely affected; and
- c. FERC staff reviews and the Director of OEP approves the cultural resources reports and plans, and notifies Columbia and Columbia Gulf in writing that treatment plans/mitigation measures may be implemented and/or construction may proceed.

All material filed with the Commission containing location, character, and ownership information about cultural resources must have a cover and any relevant pages therein clearly labeled with the following in bold lettering: "CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE."

27. **Prior to construction**, Columbia shall file with the Secretary, for review and written approval by the Director of OEP, a Construction Emission Plan identifying how Columbia would track its construction schedule for each component of the Leach XPress Project within the Wheeling, WV-OH PM_{2.5} Maintenance Area and ensure construction emissions of oxides of nitrogen (NO_x) would remain under the General Conformity applicability threshold. If a change in the construction schedule or project results in emissions of NO_x greater than the General Conformity applicability threshold of 100 tons per year, Columbia shall provide and document all mitigation measures under 40 CFR 93.158 it would implement to comply with the General Conformity Regulations.
28. **Prior to construction**, Columbia shall file with the Secretary, for review and written approval by the Director of OEP, a revised horizontal directional drilling (HDD) noise mitigation analysis for the Ohio River #2 Entry location. The revised plan shall identify additional mitigation measures that Columbia commits to implementing and the resulting projected noise level at the NSA with implementation of the mitigation measures.

29. Columbia shall file **in the weekly construction status reports** the following for each HDD entry and exit site:
 - a. the noise measurements from the nearest NSA for each drill entry/exit site, obtained at the start of drilling operations;
 - b. the noise mitigation that Columbia implements at the start of drilling operations; and
 - c. any additional mitigation measures that Columbia will implement if the initial noise measurements exceeded an day-night sound level (L_{dn}) of 55 decibels on the A-weighted scale (dBA) at the nearest NSA and/or increased noise is over ambient conditions greater than 10 decibels.
30. Columbia and Columbia Gulf shall file a noise survey with the Secretary **no later than 60 days** after placing Lone Oak, Summerfield, Oak Hill, Grayson, and Means Compressor Stations in service. If a full load condition noise survey of the entire station is not possible, Columbia and Columbia Gulf shall instead file an interim survey at the maximum possible horsepower load and file the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at any compressor station under interim or full horsepower load conditions exceeds 55 dBA L_{dn} at any nearby NSAs, Columbia and Columbia Gulf shall file a report on what changes are needed and shall install the additional noise controls to meet the level as soon as reasonably practical but **no later than 1 year** after the in-service date. Columbia and Columbia Gulf shall confirm compliance with the 55 dBA L_{dn} requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
31. Columbia shall file noise surveys with the Secretary **no later than 60 days** after placing the authorized units at the modified Crawford and Ceredo Compressor Stations in service. If a full load condition noise survey of the entire station is not possible, Columbia shall file an interim survey at the maximum possible horsepower load and file the full load surveys **within 6 months**. If the noise attributable to the operation of the modified compressor station at full or interim power load conditions exceeds 55 dBA L_{dn} at any nearby NSAs, Columbia shall file a report on what changes are needed and shall install the additional noise controls to meet the level as soon as reasonably practical but **no later than 1 year** after the in-service date. Columbia shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
32. **Prior to construction**, Columbia shall file with the Secretary, for the review and written approval of the Director of OEP, a construction coordination plan that identifies the specific construction measures (such as retention of the same

contractor, re-use of equipment bridges, coordinated installation of erosion control devices, or restoration commitments) that Rover Pipeline LLC and Columbia have agreed to implement in the construction of the parallel portions of their respective projects in the non-exclusive easement.

33. **Prior to construction,** Columbia shall file with the Secretary an Invasive Species Management Plan to minimize and control the spread of noxious and invasive species, in both upland and wetland habitats, developed in consultation with the appropriate agencies.