APPENDIX I.1

Comments on the Draft EIS and Responses

Southgate Project
Comments on the Draft EIS and Responses

INTRODUCTION

Between the issuance of the Notice of Availability (NOA) for the draft Environmental Impact Statement (EIS) on July 26, 2019, and the close of the comment period on September 16, 2019, the Federal Energy Regulatory Commission (FERC) received approximately 98 individual written letters commenting on the draft EIS, including 3 letters from federal agencies, 3 letters from state agencies; 1 letter from state representatives; 2 letters from a local government agencies and officials; 5 letters from Native American tribes; 33 letters from companies and organizations (including submittals that combined letters from different organizations/individuals under one accession number); and 51 letters from individuals. In addition, we held 3 public comment sessions during the draft EIS comment period, which provided interested parties with an opportunity to present verbal comments on our analysis of the environmental impacts of the Project as described in the draft EIS. A total of 49 verbal comments and 16 written comments were provide at the sessions. We also received several (14) comment letters filed after the close of the official comment period, which we have considered and included in the analysis to the extent possible1.

This appendix presents our responses to relevant comments provided on the draft EIS. Comments are classified as follows:

- FA: Federal agencies and elected officials
- NAT: Native American Tribes
- EO: Elected Officials
- SA: State/Commonwealth agencies
- TA: Town/City agencies
- CO: Companies and Organizations
- IND: Individuals

Appendix I.1 includes an index of comments on the draft EIS, including the FERC accession number, agency/organization/name of the commenter, date the comments were filed, and a comment code. Appendix I.2 provides our responses to the majority of comments that were filed utilizing general comment codes, which are defined as follows:

- GEN: General comments
- ALT: Alternatives

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[1] Note that our response to comment includes some comments filed after the end of the official comment period.

- GEO: Geology
- SOIL: Soils
- GW: Groundwater
- SURF: Surface Waters
- WET: Wetlands
- WILD: Wildlife
- AQU: Aquatic Resources
- SOCIO: Socioeconomics
- CULT: Cultural Resources
- AIR: Air Quality
- NOISE: Noise
- SAFE: Reliability and Safety
- CI: Cumulative Impacts
- T&E: Threatened, Endangered, and Other Special Status Species
- LU: Land Use, Recreation, Special Interest Areas, and Visual Resources

Some comments were addressed via a "side-by-side" approach due to the complexity or scope of the comments, or for which our responses in appendix I.2 did not apply. These additional comments are addressed individually in appendix I.3. Most of the comment letters addressed via the side-by-side approach also contained attachments and appendices that were not direct comments on the draft EIS or the Project. These attachments have not been included in this final EIS appendix, but can be found on the FERC eLibrary filed under the applicable accession numbers.

Appendix I.1 Index of Commenters on the Southgate Draft EIS			
Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
Federal Agencies			
FA-1	U.S. Environmental Protection Agency	20190913-5090	Appendix I.3 Side by Side Responses
FA-2	U.S. Fish and Wildlife Service	20190916-5160	Appendix I.3 Side by Side Responses
Elected Officials			
EO-1	State Rep. Riddell and Ross	20190916-5090	Appendix I.3 Side by Side Responses
State Agencies			
SA-1	NC Economic Development Association	20190826-0031	GEN-3
SA-2	Virginia DEQ	20190911-5102	Appendix I.3 Side by Side Responses
SA-4	North Carolina DEQ	20190916-5167	Appendix I.3 Side by Side Responses
SA-5	NC Wildlife Resource Commission	20190916-5189	Appendix I.3 Side by Side Responses
SA-6	NC Dept. of Natural and Cultural Resources	20190930-0238	Appendix I.3 Side by Side Responses
Town/City Agencies and Elected Officials			
TA-1	Town of Carrboro of Alderman	20190916-5034	GEN-6, CI-2, SURF-1, SOCIO-1, GEN-2
TA-2	City of Burlington	20190916-5076	Appendix I.3 Side by Side Responses
Native American Tribes			
NAT-1	Catawba Tribe - Caitlin Rogers	20190815-5093	CULT-8
NAT-2	Sappony Tribe	20190917-5006	Appendix I.3 Side by Side Responses
NAT-3	Sappony Tribe	20190917-5009	Same letter as NAT-2
NAT-4	Monacan Indian Nation	20190917-5014	Appendix I.3 Side by Side Responses
NAT-5	Sappony Tribe	20190917-5018	Same letter as NAT-2
NAT-6	Choctaw Nation of Oklahoma	20190918-5064	CULT-6
NAT-7	Monacan Indian Nation	20191112-5077	Appendix I.3 Side by Side Responses

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
NAT-8	Sappony Tribe	20191212-5122	Appendix I.3 Side by Side Responses
Companies and Organizations			
CO-1	Virginia Petroleum Council	20190821-5131	GEN-3
CO-2	Virginia Foundation for Research and Economic Education	20190904-0100	GEN-3
CO-3	VA Oil and Gas Association	20190906-0006	GEN-3
CO-4	Teamsters National Pipeline Labor Management Trust	20190909-0027	GEN-3
CO-5	NC Chamber	20190910-0025	GEN-3
CO-6	Mountain Valley Pipeline	20190913-5134	Appendix I.3 Side by Side Responses
CO-7	Blue Ridge Environmental Defense League	20190916-5022	Appendix I.3 Side by Side Responses
CO-8	Friends of the Shenandoah	20190916-5024	Appendix I.3 Side by Side Responses
CO-9	Good Stewards of Rockingham	20190916-5030	Appendix I.3 Side by Side Responses
CO-10	Dan River Basin Association	20190916-5035	ALT-2, GEN-2, GEN-6
CO-11	Food & Water Watch	20190916-5043	CI-1
CO-12	Sierra Club	20190916-5054	GEN-1, GEN-6, SAFE-1, GEN-2, CI-1, GW-1
CO-13	VA chamber of commerce	20190916-5069	GEN-3
CO-14	Southern Environmental Law Center	20190916-5074	Appendix I.3 Side by Side Responses
CO-15	Sierra Club	20190916-5084	GW-1, GEN-1, GEN-4, GEN-6, CI-1
CO-16	Food & Water Watch	20190916-5105	GEN-1, SURF-1, GEN-6
CO-17	Blue Ridge Environmental Defense League	20190916-5106	Appendix I.3 Side by Side Responses
CO-18	Consumer Energy Alliance	20190916-5128, 20190923-0030	GEN-3
CO-19	Pipeliner's Union	20190916-0010	GEN-3
CO-20	Protect Our Water Heritage Rights	20190916-5143	GEN-6
CO-21	Chesapeake Climate Action Network	20190916-5147	GEN-2, GEN-4, GEN-6, CI-1

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
CO-22	Haw River Assembly	20190916-5155	Appendix I.3 Side by Side Responses
CO-23	Institute for Policy Integrity - NYU	20190916-5158	CI-1
CO-24	Appalachian Mountain Advocates	20190916-5161	Appendix I.3 Side by Side Responses
CO-25	Blue Ridge Environmental Defense League	20190917-5178	Appendix I.3 Side by Side Responses
CO-26	Appalachian Voices	20190917-5007	Appendix I.3 Side by Side Responses
CO-27	Atlantic Coast Pipeline	20190916-5191	Appendix I.3 Side by Side Responses
CO-28	Appalachian Voices	20190917-5010	Appendix I.3 Side by Side Responses
CO-29	Transcontinental Gas Pipe Line Corporation	20190918-5032	Appendix I.3 Side by Side Responses
CO-30	VA Forest Conservation Partnership	20190809-5084	Appendix I.3 Side by Side Responses
CO-31	Blue Ridge Environmental Defense League	20191016-5100	GEN-8
CO-32	Consumer Energy Alliance	20190916-5128, 20190923-0030	GEN-3
CO-33	Eden Chamber of Commerce	20190906-3055	GEN-3
CO-34	Jorge Aguilar - Food & Water Watch	20190923-4001	CI-1, CI-3, GEN-4
CO-35	Chatham Resident	20190906-3055	GEN-2, SOCIO-1
CO-36	Rachel Velez: Clean Water for NC	20190923-4002	GW-1, SURF-1, GEN-6
CO-37	Mr. Joyner: Danville Historical Society	20190923-4001	Appendix I.3 Side by Side Responses
CO-38	Sonja Ingram: Preservation Virginia	20190923-4001	Appendix I.3 Side by Side Responses
CO-39	Deep Creek Church & Cemetery	20190906-3055	Appendix I.3 Side by Side Responses
CO-40	NC Economic Development Association	20190826-0031	GEN-3
CO-41	Public Service Company of North Carolina	20191017-5115	GEN-3

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
Individuals			
IND-1	Katie Whitehead	20190808-5029	GEN-5
IND-2	Mark Stevens	20190812-5003	ALT-1
IND-3	Janak Patel	20190814-5005	Appendix I.3 Side by Side Responses
IND-4	David Hill	20190816-5054	Appendix I.3 Side by Side Responses
IND-5	Mary E D Ryan	20190820-5065	GEN-1
IND-6	Denise DerGarabedian	20190821-5035	GEN-2, GEN-1, CULT-1, GEO-2, GEO-3
IND-7	Cheryl Garrity	20190821-5041	GEN-1, GW-1, ALT-1, SOCIO-2, LU-2
IND-8	Eleanor M Amidon	20190823-5141	Appendix I.3 Side by Side Responses
IND-9	Eleanor M Amidon	20190823-5142	GEN-6, CI-1, ALT-2, SURF-2
IND-10	Joshua Lobe	20190826-5001	GEN-1, AIR-1, GEN-7
IND-11	Angela Herbin	20190826-5003	GEN-2, LU-1, LU-5, SAFE-1
IND-12	Jeanne Eichinger	20190826-5025	SURF-7, SAFE-1, SURF-2
IND-13	Lori Thorn	20190826-0032	GEN-6, GEN-7, SAFE-2, SOCIO-1, GEN-2
IND-14	John Runkle	20190828-5094	GEN-2
IND-15	David Naylor	20190827-0013	SAFE-1, SAFE-2, GEN-2, SOCIO-1, LU-1
IND-16	John Heise & Lori Dyer	20190830-5013	Appendix I.3 Side by Side Responses
IND-17	Lewise Busch	20190904-0099	CI-2
IND-18	Wayne Kirkpatrick	20190910-5005	GEN-1, GEN-7, GEN-2
IND-19	Katie Whitehead	20190910-5007	Appendix I.3 Side by Side Responses
IND-20	Beth Kreydatus	20190912-5000	GEN-1, GEN-6
IND-21	Larry Shambley	20190912-5090	ALT-3
IND-21a	Larry Shambley	20190912-5100	ALT-3
IND-22	Jean Robinson	20190912-5093	GEN-1, GEN-2, GEN-4, GEN-6

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
IND-23	Perry Slade	20190912-0017	GEN-1, LU-1, GEN-7, ALT-4, SAFE-1, GW-1, SURF-1
IND-24	DeNeika Barnard	20190916-5000	GEN-1
IND-25	Pamela Taylor Turner	20190916-5003	GEN-1, SOCIO-3
IND-26	Karen Bearden	20190916-5004	CI-1, ALT-2
IND-27	Patsy Madren	20190916-5007	ALT-2, LU-1, GW-1, LU-4, GEN-1, GEN-2, GEN-6, SOCIO-1
IND-28	Maury Johnson	20190916-5031	Appendix I.3 Side by Side Responses
IND-29	Robert Pollok	20190916-5038	LU-1, LU-5
IND-30	Christopher Lish	20190916-5029	Appendix I.3 Side by Side Responses
IND-31	Richie & Penny Richmond	20190916-5108	GEN-2, GEN-4, GEN-6
IND-32	Fred Lehman	20190916-5130	GEN-2
IND-33	Thelma Sharon Garbutt	20190916-5174	GEN-2, SURF-1, SOCIO-2, GW-1, GEN-6, GEO-2
IND-34	Lisa Glassco	20190917-5000	GEN-1
IND-35	Sandra Cook	20190917-5004	GEN-1, GEN-2, SURF-1
IND-36	Katie Whitehead	20190916-5190	Appendix I.3 Side by Side Responses
IND-37	Jeannie Ambrose	20190917-0006	Appendix I.3 Side by Side Responses
IND-38	Joseph Brancoti	20190919-0007	GEN-1, GEN-2, GEN-6
IND-39	Jesse Epperson	20190910-5132	GEN-2, CI-1
IND-41	Katie Whitehead	20191118-5029	Appendix I.3 Side by Side Responses
IND-42	T Butler	20190906-3055	GEN-6
IND-43	Andrea Cook	20190906-3055	WET-1, GEN-1
IND-44	Randy & Lisa Hall	20190906-3055	GEN-2, GEN-6, SAFE-1, SURF-1, GW-1, SAFE-2, SOCIO-1
IND-45	Herman Johnson	20190906-3055	GEN-7
IND-46	Carroll Lassiter	20190906-3055	CI-1, GEN-1
IND-47	Owen Ray McKenzie Jr	20190906-3055	LU-1

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
IND-48	Deborah Smith	20190906-3055	AIR-2, GEN-1
IND-49	Dr, J William & Kenan Walker	20190923-4000	GEN-7, GEN-1, LU-1, SAFE-1
IND-50	Mr. Hughes	20190923-4000	GEN-2, GEN-6, ALT-4
IND-51	Ms. Hutchby	20190923-4000	SURF-1, SURF-6, SAFE-1, SURF-7, GEN-1, GEN-6, CULT-1, GEO-2, GEO-3
IND-52	Ann Rogers	20190923-4001	GEN-12
IND-53	Joan Hendricks	20190923-4001	GEN-1, SAFE-1, SURF-7
IND-54	Pamela Taylor Turner	20190923-4001	GEN-1, SOCIO-3, GEN-2
IND-55	Richard G Motley	20190923-4001	GEN-7, SURF-1, SOIL-1, SAFE-1
IND-56	Susan Virginia Mead	20190923-4001	SAFE-3, GEN-6, GEN-4
IND-57	Maury Johnson	20190923-4001	GEN-6, GEN-1
IND-58	Jessica Sims	20190923-4001	GEO-1, GEN-1, GEN-6, GEN-WET-1, AIR-2, GEN-8
IND-59	Graham Rex	20190906-3055	GEN-1
IND-60	Stacy Lovelace	20190923-4001	GEN-6, AIR-2, SURF-1, SAFE-1, CI-1, GEN-2, SAFE-4
IND-61	Irene Leech	20190923-4001	GEN-1, GEN-7, SAFE-1, AIR-1, GEN-2, SAFE-4
IND-62	William Davies	20190923-4001	GEN-9, SOCIO-1, SOCIO-2, GEN-2, GEN-1, CI-1
IND-63	Eric Anspaugh	20190923-4001	GEN-1, GEN-6, GEN-10, GEN-9
IND-64	Lee Williams	20190923-4001	CI-1, GEN-1, SAFE-3
IND-65	Freeda Cathcart	20190923-4001	GEN-6, GEN-10, GEN-2
IND-66	Douglas Lee Bryan	20190923-4001	SURF-2, GW-1, LU-1, GEN-1, GEN-7, NOISE-1
IND-67	Tina Badger	20190923-4001	SURF-2, T&E-3, GEO-6, GEN-6, GEN-1
IND-68	Eric Stamps	20190923-4001	GEN-6, SAFE-1, GEN-2, ALT-4, ALT-2, CI-4
IND-69	Penina Harte	20190923-4001	GEN-1, GEN-2, CI-1
IND-70	Robert Pollok	20190923-4001	LU-5

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
IND-71	Emily Keel	20190923-4002	GEN-1, GW-1, GEN-6, CI-2, SAFE-1
IND-72	Margaret Herring	20190923-4002	SAFE-1, GEN-1, SOCIO-1, SOIL-2, SURF-1, CI-2, ALT-2, SOCIO-4
IND-73	Harry Phillips	20190923-4002	SURF-1, SOCIO-1, AIR-2, GEN-1, SURF-2, GEO-5, GEN-2, GEN-6, GEN-1
IND-74	Suzanne Smith	20190923-4002	GEN-1, GEN-4, GW-1, ALT-3, SAFE-1
IND-75	Wayne Apple	20190923-4002	ALT-3, GEN-1, WILD-1, GW-1, SAFE-1
IND-76	Patsy Madren	20190923-4002	GEN-1, ALT-3, SAFE-1, GEN-6, SURF-2
IND-77	Mark & Lisa Hill	20190923-4002	GEN-2, ALT-4, ALT-1, GEN-6, SOCIO-1, GEN-7
IND-78	Carolyn Hansley-Mece	20190923-4002	GEN-1, GEN-2, GEN-4, GEN-6, GEN-9, SURF-6, CULT-1, CI-1, SAFE-1
IND-79	Herman Johnson	20190923-4002	GEN-1, GEN-7, ALT-4, SOCIO-1
IND-80	Ruth Zalph	20190923-4002	GEN-1, GEN-2, GEN-6, SOCIO-1, NOISE-1
IND-81	Carroll Lassiter	20190923-4002	ALT-1, GEN-1, GEN-2
IND-82	Joan Hendrix	20190906-3055	GEN-1, SURF-7
IND-83	Sandra Cook	20190923-4002	GEN-1, GEN-2, SURF-1
IND-84	Anne Casselbaum	20190923-4002	ALT-1, GEN-4, GEN-6, GEN-7, SURF-1
IND-85	Carleton Bass	20190923-4002	ALT-3, LU-1, GEN-7
IND-86	Jason Crazy Bear	20190923-4002	GEN-4, SOCIO-5, GEN-7, GEN-1, SOCIO-2
IND-87	Daniel & Kelly Bollinger	20190906-3055	GEN-7, GEN-9, SAFE-1
IND-88	John Heise & Lori Dyer	20190906-3055	Appendix I.3 Side by Side Responses
IND-89	Aimee Tilley	20190923-4000	GEN-1, SURF-1, GEN-6, SAFE-1, CULT-4, SOIL-1, SOCIO-2, GEN-7

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Letter Code	**Commenter Name/Affiliation**	**Accession Number**	**Comment Code(s)**
IND-90	Patricia Taylor	20190923-4001	SURF-1, ALT-3, GEN-2, GEN-14
IND-91	Deborah Smith	20190923-4002	AIR-1, AIR-2, GEN-1, SURF-1, SOCIO-4
IND-92	Robert W. Haskins	20190906-3055	ALT-3, CULT-1, SURF-1
IND-93	Michael & Pamela Wallace	20190923-4002	ALT-3, LU-3
IND-94	John Heise & Lori Dyer	20190923-4002	GEN-2, LU-5, ALT-3, ALT-4
IND-95	Robert & Margaret Smith	20190923-4002	ALT-3, GEN-7, SOCIO-1, LU-14
IND-96	Nancy Rosborough	20190923-4002	GEN-1, GEN-2, GEN-7, LU-1, SAFE-2, SAFE-4, ALT-2
IND-97	Crystal Cavalier	20190923-4002	CUL-1, CULT-7, SAFE-1, WET-1, LU-5, GEN-2, SOCIO-5
IND-98	Donna & Larry Shambley	20190923-4002	ALT-3, SAFE-1
IND-99	Patricia Taylor	20190906-3055	GEN-2, GEN-6, ALT-2, ALT-4, GEN-10

APPENDIX I.2

General Comments on the Draft EIS and Responses

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
General Comments		
GEN-1	Comments expressing general opposition to the Project and non-specific concerns about environmental impacts (e.g., statements of general concern for impacts on wetlands or wildlife; air quality impacts; safety; statements that quoted text from the draft EIS but provided no additional comments).	The draft and final EISs describe the potential impacts on environmental resources resulting from construction and operation of the Project. Staff considered measures to avoid, reduce, and mitigate impacts on the environment, and as appropriate, are including recommendations in the final EIS. As discussed throughout the environmental analysis section of the EIS, the staff concludes that with implementation of Mountain Valley's impact avoidance, minimization, and mitigation measures, as well as their adherence to our recommendations, Project impacts would not be significant.
GEN-2	Comments that the need of the Project has not been established and that the Project would not benefit local areas crossed by the route. Additionally, commenters contend that the Project would not be consistent with North Carolina's renewable energy initiative.	The Commission will consider the need for the Project and may address these comments in any Order it issues. FERC environmental staff reviews applications for interstate natural gas pipeline projects in accordance with an applicant's stated objective(s) to disclose the environmental impacts of a proposal, to inform the decision makers, and, in accordance with NEPA, evaluate reasonable alternatives to a project.
GEN-3	Comments in support of the Project, including comments related to the need for the Project, economic benefits, the proposed route, and the potential for the Project to meet regional energy goals.	Comments noted.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
GEN-4	Numerous comments concerning the adequacy of the draft EIS; the EIS was "flawed" and "inadequate", our conclusions in the EIS are not appropriate or correct, and the scope of the environmental analysis was too limited. Commenters contend that our analysis and conclusions in the draft EIS are not adequate because Mountain Valley has not yet provided certain environmental data and due to lack of information, the Mountain Valley Pipeline Southgate project does not comply with NEPA.	The EIS discloses the potential impacts on environmental resources resulting from construction and operation of the Project. The EIS was prepared in accordance with NEPA, CEQ guidelines, and other applicable requirements. The EIS includes sufficient detail to enable FERC staff to conclude the significance of the full range of possible impacts on the environment. Duration and significance of impacts are discussed throughout the various EIS resource sections. The EIS identifies and evaluates feasible mitigation measures to reduce those effects whenever possible. Mountain Valley's construction and restoration plans contain numerous mitigation measures to avoid or reduce Project-related impacts. The EIS addresses stakeholder comments and incorporates information as applicable.
GEN-5	Comments that there was insufficient time to review the draft EIS and associated information and requests to extend the draft EIS comment period. Commenters noted that there was a substantial amount of information missing from the EIS that the public did not have a chance to comment on.	A 45-day comment period was opened with the issuance of the draft EIS. The Commission's standard draft EIS comment period is 45 days, which is consistent with the Council for Environmental Quality's (CEQ) regulations implementing NEPA. NEPA does not require every study or aspect of an analysis to be completed before an agency can issue a draft EIS. The public docket for the Project was open for review and comment by stakeholders on all supplemental materials provided after issuance of the draft EIS.
GEN-6	Comments related to the performance of erosion control devices and Mountain Valley contractors during the construction of the Mountain Valley Pipeline Project. We also received comments stating that the draft EIS fails to adequately analyze impacts because it unreasonably relies on minimization and mitigation measures that have previously been ineffective.	Each proposal reviewed by the Commission is considered on its own merits irrespective of other projects. FERC's professional judgement, based on decades of experiences on hundreds of projects is that the Plan and Procedures are sufficient to minimize impacts to resources. See revised section 1.3 of the EIS for a more detailed response to these concerns.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
GEN-7	Many commenters provided general comments regarding their opposition to the use of eminent domain for the Project and Mountain Valleys land acquisition methods.	As discussed in section 4.8.2, if an easement cannot be negotiated with a landowner and the project has been certificated by the FERC, the company may use the right of eminent domain granted to it under Section 7(h) of the NGA and the procedures set forth under the Federal Rules of Civil Procedure (Rule 71A) to obtain the right-of-way and extra workspace areas.
GEN-8	Comments that Project has been segmented from the environmental review of the Mountain Valley Pipeline Project.	Although the Project would be owned and operated by Mountain Valley, it is a separate project from the Mountain Valley Pipeline Project due to the fact that Southgate Project has a different stated purpose and anchor shipper and the Project would have separate facilities. Therefore, the Project requires its own Environmental Analysis.
GEN-9	Commenters stated that the reliance on mitigation measures to conclude that the project will cause no significant impacts is inadequate because many of the mitigation measures proposed are unspecified. Commenters noted that in many instances in the draft EIS we instruct Mountain Valley to come up with mitigation measures that are currently not defined; and that mitigation cannot prevent significant impacts on environmental resources.	Mitigation measures related to the reduction of impacts on specific resources are provided throughout the EIS. To determine the significance of an impact, we consider the duration of the impact; the geographic, biological, and/or social context in which the impact would occur; and the magnitude and intensity of the impact. We also consider the measures that would be implemented by the applicant to avoid, reduce, and mitigate impacts. For most impacts analyzed, Mountain Valley has provided final or draft mitigation measures.
GEN-10	One commenter noted that there was a lack of government oversight, allowing pipelines to be installed without permits and a disregard to Endangered Species Act.	Applicants cannot begin construction of the Project until all state, federal, and local permits are received including completion of consultation under Section 7 of the Endangered Species Act. Federal agency compliance for the Endangered Species Act (ESA) Section 7 is described in section 4.7.1 of the EIS.

Appendix I.2 General Comments on the Draft EIS and Responses		
Comment Code	**Comment Summary**	**Response**
GEN-11	Commenters suggested that state permit requirements and recommendations should be adhered to by the applicant and included in the EIS.	The Commission encourages cooperation between 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 and operation of facilities if approved by the Commission. The applicant would be required to comply with all federal and federally-delegated permits. These permits along with other state and local permits are identified in table 1.4-1 of the EIS.
GEN-12	One commenter voiced concerns that the description of the project in Mountain Valley's application does not match the description provided in the draft EIS.	Comment Noted. The current project description as proposed by Mountain Valley in its application and supplemental filings is provided in section 2.1 of the EIS.
Alternatives		
ALT-1	Comments regarding the inadequacy of the alternatives analysis, the limited range of alternatives considered, and a lack of analysis of the No Action Alternative.	As required by NEPA, we have identified and evaluated reasonable alternatives to the Project to determine whether the implementation of an alternative would be environmentally preferable to the proposed action. The EIS also evaluates the No Action Alternative. See section 3.0 of the EIS.
ALT-2	Commenters stated that the alternatives analysis in the EIS needs to consider renewable energy options and an assessment of non-gas energy alternatives and/or energy conservation or efficiency.	The Project would transport natural gas. As explained in the introduction to section 3.0, because renewable energy sources and energy conservation alternatives are alternatives to natural gas consumption, but not natural gas transportation, they do not meet the Project purpose and were not analyzed in our alternatives analysis.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
ALT-3	Several landowners affected by the Project requested alternative routes to avoid their properties and expressed concerns regarding the alignment of the route and access roads on their property.	Section 3.4.3 of the EIS provides an analysis of minor route variations developed based on landowner input and requests. FERC staff asked Mountain Valley to evaluate specific properties based on comments received not only during the draft EIS comment period, but also throughout the entire environmental review process. All alternatives and variations requested by landowners were considered by FERC staff. Not all variations considered were discussed in detail in the draft EIS due to staff determinations that the alternative was not feasible or did not provide a significant environmental advantage. Mountain Valley made several changes to the route in response to landowner concerns and continues to work with landowners to reduce impacts on their property.
ALT-4	Some commenters expressed concerns that Mountain Valley did not fully consider the co-location of the alignment with Transco and other public rights-of-way or transportation corridors.	Mountain Valley has collocated the route with other utility and transportation rights-of-way for about 49 percent of the route. We evaluated alternatives in section 3.0 to evaluate other options to increase collocation; however, these routes did not offer a significant environmental advantage over the proposed route. See section 3.3.2.1 of the EIS for an analysis of the Transco Alternative.
Geology		
GEO-1	Comments concerning the potential of the construction of the pipeline to encounter and disturb uranium deposits.	Section 4.1.4.8 of the EIS has been updated, and includes a more detailed discussion on the geologic setting and potential for uranium occurrence and mobilization in Pittsylvania County, Virginia.
GEO-2	We received comments that blasting of bedrock increases danger of landslides. Commenters requested a landslide mitigation plan.	See section 4.1.4.6 of the EIS for updated information regarding blasting. Blasting would follow the procedures in Mountain Valley's General Blasting Plan, and would be limited in depth, width, and length to minimize disturbances. Mountain Valley would additionally implement control measures within their Landslide Mitigation Report during construction and operation to minimize landslides and potential associated impacts.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
GEO-3	Commenters expressed concern regarding the presence of caves and sinkholes that the pipeline would cross and the potential for blasting to cause sinkhole formation.	As described in section 4.1.4.5 of the EIS, Mountain Valley completed desktop and targeted field assessment of the proposed alignment and no karst features (e.g., caves, sinkholes) were identified.
Soils		
SOIL-1	Commenters expressed concern regarding dust control during construction.	As described in section 4.2.2 of the EIS, Mountain Valley would implement dust suppression measures.
SOIL-2	A few commenters expressed concern about how soil compaction would be abated.	Section 4.2.4 of the EIS discusses measures Mountain Valley would implement to decompact soils and ensure all disturbed areas are returned to pre-construction conditions.
Groundwater		
GW-1	Comments related to groundwater impacts and impacts on private wells. Commenters expressed concerns that the locations of wells are unknown and that blasting and heavy equipment can damage infrastructure, such as wells, underground utilities, and septic systems.	Section 4.3.1 of the EIS includes a detailed discussion of the potential impacts that construction and operation of the Project could have on groundwater resources, including water supply wells, and describes the measures that Mountain Valley would implement to avoid or minimize these impacts. In section 4.3.1.2 of the EIS, we recommend that any Order that may be issued by the Commission require Mountain Valley to file a final table identifying field-verified wells and springs within 150 feet of the Project prior to construction.
Surface Water		
SURF-1	Comments regarding impacts of the project on surface waters, including concerns regarding impacts on water quality.	Section 4.3.2 of the EIS discusses the Project's impacts on surface water resources and describes measures that Mountain Valley would implement to reduce potential impacts.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
SURF-2	Commenters expressed concerns regarding the increase of erosion and transport of sediment into streams from the removal of vegetation and disturbance of stream banks.	Impacts on surface waters and erosion control measures are discussed in sections 2.4, 2.7, and 4.3.2 of the EIS. Mountain Valley would adhere to its Plan and Procedures, and E&SCP to minimize the amount of sediment leaving the immediate area affected by construction. The Plan and Procedures contain requirements for erosion and sediment control during the construction and restoration of the Project. The Plan and Procedures also contain performance based standards that seek to contain soils within the limits of disturbance. As a standard construction practice, the Project would establish a 50-foot-wide wetland and waterbody buffer with erosion and sediment control devices. The buffer would not be grubbed during the initial right-of-way clearing and grubbing sequence. These buffers would remain undisturbed (aside from hand felling trees) until the pipeline crossing is ready to be installed. See also response GEN-6.
SURF-3	Commenters expressed concern about impacts on the Jordan Lake Watershed and that the Project is not adhering to Jordan Lake Rules.	Section 4.3.2.4 of the EIS discusses the Jordan Lake Riparian Buffer.
SURF-4	Several commenters argued that the draft EIS did not appropriately assess the full scope of downstream impacts. Some commenters contend that the three-mile downstream distance used in the draft EIS does not adequately access water quality impacts since many contaminants can travel longer distances.	We analyzed potential impacts to waterbodies crossed by the Project within the HUC-10 watershed geographic scope, as described in section 4.13 of the EIS. Section 4.3.2.7 of the EIS discusses impacts on surface waters, including downstream impacts. We identified 3 streams that are considered impaired for the presence of *Escherichia coli*. No contaminants were identified in streams crossed by the Project. Therefore, we would not expect the introduction of contaminants to occur as a result of in-stream construction. The Project would implement an SPCC Plan and follow measures contained in Mountain Valley's Plan and Procedures to avoid the introduction of contaminants by construction equipment.
SURF-5	Commenters expressed concerns regarding the impact of hydrostatic test water discharges on surface waters	Measures regarding hydrostatic test water discharge are provided in section 4.3.2.7 of the EIS and VII.D.1 of Mountain Valley's Procedures.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
SURF-6	Several commenters contend that Mountain Valley has not fully identified sources of water for use during construction.	Water sources are addressed in section 4.3.2.6 of the EIS. Since the issuance of the draft EIS, Mountain Valley has proposed to use the Dan River as the primary source of water for construction, and water from municipalities as the secondary source.
SURF-7	Commenters expressed concern regarding construction in floodplains, including the safety of the public and workers during flood events that could occur during construction. In addition, commenters expressed concerns that the volume and velocity of water from flooding will increase with less buffer protection due to un-vegetated riparian areas and compacted soils from heavy machinery.	During construction, Mountain Valley would monitor weather conditions. Sections 4.1.4.7 and 4.3.2.7 of the EIS have been updated to include measures Mountain Valley would implement during construction in the event of seasonal or flash flooding. Section 4.3.1.5 discusses the restoration of floodplains and waterbodies to pre-construction contours, Section 4.3.2.2 has been updated to include a discussion of a 50-ft-wide wetland and waterbody buffer, when applicable.
SURF-8	Commenters contend that Mountain Valley has not provided the feasibility studies for trenchless crossings of waterways, such as Deep Creek.	Mountain Valley completed geotechnical investigations and provided crossing plans for each waterbody that would be crossed by HDD or conventional bore. We have updated section 4.3.2.2 of the EIS with this information.
SURF-9	Commenters noted the potential for spills and leaks to occur, and that Mountain Valley should employ measures to prevent spills of fuels or lubricants into state waters.	Section 4.3.2 of the EIS discusses the Project's impacts on surface water resources and measures that Mountain Valley would implement to avoid or reduce potential impacts, including potential impacts from spills and leaks.
Wetland		
WET-1	A commenter expressed concerns regarding impacts on wetlands, specifically noting some proposed workspaces were located within 50 feet of a wetland.	As described in section 4.4.3 of the EIS, Mountain Valley's Procedures specify that all areas of additional temporary workspaces (ATWS) should be set back at least 50 feet from wetlands. Mountain Valley has requested modifications to their Procedures at specific locations within 50 feet of a wetland boundary. Appendix B.3 provides the locations where Mountain Valley proposes less than a 50-foot setback from a wetland and the site-specific rationale for the requested modification from Mountain Valley's Procedures. We have reviewed these ATWS locations and find them acceptable. Mountain Valley has reduced the number of ATWS location within 50 feet of a wetland from 23 to 15 locations.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
Vegetation		
VEG-1	Many commenters expressed concern about deforestation and forest fragmentation, including permanent loss of forested areas.	See section 4.5.4 for a discussion of impacts on vegetation communities, including interior forested areas and forest fragmentation in section 4.5.4.3.
VEG-2	Commenters expressed concerns about the Project potentially causing the spread of invasive species.	Potential impacts related to invasive species are discussed in section 4.5.4.1 of the EIS.
Wildlife		
WILD-1	Commenters expressed concerns regarding temporal and direct impacts on wildlife and habitat.	Section 4.6 of the EIS discusses impacts on wildlife and habitat.
WILD-2	Commenters expressed concerns regarding impacts on migratory birds and avoidance of clearing and construction activities within migratory bird nesting season.	Section 4.6.3.2 of the EIS discuss impacts on migratory birds.
WILD-3	Commenters expressed concern about how the draft EIS characterized downstream impacts on aquatic species. Commenters did not agree with the draft EIS analysis, which mentioned species may migrate away from wildlife-threatening impacts caused by the construction.	Aquatic species immediately downstream of disturbed areas may experience increased rates of stress, injury, and mortality. Impacts on aquatic species with less mobility are discussed in section 4.6.5 of the EIS.
Threatened and Endangered Species		
T&E-1	We received comments that observed bald eagles within the Project area were not noted in the draft EIS.	As noted in section 4.6.3.3 of the EIS, there are no currently documented bald eagle nests within 0.5 mile of the Project footprint, Section 4.6.3.4 discusses the measures that Mountain Valley would follow if bald eagles are observed. Section 4.7 of the EIS notes waterbodies and lands where protected species are known to occur.
T&E-2	Commenters stated that FERC has not provided sufficient information in the draft EIS for the public to assess the actual impacts to listed species, or to assess the *not likely to adversely affect* determination that was made for these species.	Section 4.7 of the EIS discusses impacts on listed species. Federal agency compliance with Section 7 of the ESA is described in section 4.7.1 of the EIS.
T&E-3	Commenters expressed concerns that pipeline construction would harm numerous species and their habitats, including the Roanoke logperch, James spineymussel, Atlantic pigtoe and smooth coneflower.	Sections 4.7.3, 4.7.4, and 4.7.5 of the EIS discusses impacts on listed fish, mussels, and plants.
Land use		

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
LU-1	Commenters expressed concerns regarding the pipeline easement and its impact on current land use and future residential development. Commenters are concerned that construction will render land unusable for farming, habitation, or other uses. Several landowners expressed concern about not being able to cross the pipeline easement, which would cutoff usable land. Some landowners are also concerned that Mountain Valley will not replace fences removed for construction.	Impacts on land use are discussed in section 4.8 of the EIS. Most commonly, cultivated properties go back into cultivation following construction and so, the easement does not affect the resumption of farming. A 50-foot-wide permanent right-of-way would be maintained by Mountain Valley. While structures would not be permitted within the permanent right-of-way, they would be permitted in all areas used for the temporary construction workspace. Mountain Valley stated that they would work with landowners to maintain access to cultivated agricultural portions of their property and would provide access across the right-of-way at the request of the landowner. Mountain Valley would work with landowners to replace and return features of their property that needed to be removed for construction, including fences for livestock.
LU-2	Commenters expressed concern about impacts on public use of recreational parks, trails, and rivers, including the Mountains-to-Sea Trail and a proposed trail in Alamance County.	Impacts on recreational and special use lands are discussed in section 4.8.4 of the EIS.
LU-3	General comments regarding the visual impact of the newly cleared sections of the easement on the public and landowners.	Visual impacts from right-of-way clearing are discussed in section 4.8.6.1 of the EIS.
LU-4	Landowners commented that the pipeline would impact residential septic systems.	Section 4.8.3 of the EIS for analyzes impacts on septic systems.
LU-5	Comments regarding the impact of the pipeline easement on agricultural production during and after construction. Landowner commented on the short-term and long-term impacts of easements within traditional and other unique (truffle farm and seed farm) agricultural crops. Some landowners believe that installation of the pipeline will change the composition of the soil, which will impact crops.	Section 4.8.1.1 of the EIS discusses impacts and mitigation measures regarding agricultural land use affected by the Project.
Socioeconomics		
SOCIO-1	Several commenters expressed concern that the pipeline would lead to decreased property values, which would have a negative economic effect on their futures.	As discussed in section 4.9.5 of the EIS, based on our review of numerous studies, there is no conclusive evidence that indicates that the presence of a pipeline would significantly impact the value of a property.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
SOCIO-2	Commenters expressed concerns that the pipeline would impact tourism in the region.	Impacts to tourism are discussed in section 4.9.6 of the EIS.
SOCIO-3	Commenters expressed concerns regarding mental health impacts of the Project, as well as eco-psychology, eco-therapy, and terra-psychology not being considered in the draft EIS.	Impacts on affected resources including public health, and the associated mitigation measures, are discussed throughout the EIS. An individual's response to the short-term and/or long-term changes to their surrounding environments due to construction of the project would vary significantly depending on a variety of factors. Consequently, assessing those responses, which could include no response at all, is not be feasible.
SOCIO-4	Commenters expressed that there was a lack of analysis regarding impacts to environmental justice communities, particularly those located near the Lambert Compressor Station.	Potential impacts (such as air quality, noise, water resources, etc.) on the human environment including environmental justice communities are discussed throughout the EIS. As discussed in section 4.9.8, while there are several low income and minority populations crossed by the pipeline route, we conclude that they would not be disproportionately affected by the pipeline or the compressor station. Section 4.9.8 has also been updated to include a map of the Project and all census blocks crossed by the pipeline route, including those that contain Environmental Justice communities.
SOCIO-5	Commenters expressed concern regarding impacts of pipeline construction on personal safety. Commenters would like to see a plan from local law enforcement to defuse situations that may occur, including protests.	As noted in section 4.9.3 of the EIS, each county within the Project area has numerous police and fire departments. Mountain Valley would work with local police departments, fire departments, and emergency first responders to address any Project safety concerns.
SOCIO-6	To pay for cleanup of spills or accidents along the pipeline, commenters believe that utility rates will increase, which will have a greater impact on low income populations.	Mountain Valley is responsible for the cleanup of spills and accidents during pipeline construction and operation.

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General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
SOCIO-7	Several commenters mentioned that the draft EIS did not account for social services that will be provided to out of town workers and did not account for non-standard socioeconomic effects, such as the loss in ecosystem services that is currently provided by air, water, forest, and other natural resources.	Socioeconomic impacts are addressed in section 4.9 of the EIS. While we are not aware of a standard for assessing quantifiable impacts resulting from loss of ecosystem services, we note that the project impact on the HUC-10 watersheds crossed by the Project is only about 0.1 percent of the area within these watersheds. Consequently, although we did not assess ecosystem services, it would be difficult to conclude that the loss would be discernable.
SOCIO-8	Commenters contend that the draft EIS inflates economic benefits and understates its adverse impacts. They further state that the EIS analysis uses the entire states of North Carolina and Virginia as its impact area, instead of a more appropriate region. Commenters disagreed with the use of INPLAN.	As discussed in sections 4.9.7 and 4.9.9, benefits to the local economy from payroll expenditures, local purchases of consumables Project-specific materials, room rentals, and sales tax would be short-term and minor. Section 4.9.3 discusses impacts of the Project on public services. |
Cultural		
CULT-1	Several commenters stated that the surveys are not yet complete; and that contend not all resources have been identified, and impacts to cultural resources have not been adequately addressed. Commenters also stated that the draft EIS does not provide information on the findings of the archeological sites identified and note that there are sites that have been previously identified but were not included in the draft EIS. Some commenters contend that the impacts to tribes were not considered, and FERC as the federal lead should have reached out to the tribes, not Mountain Valley. Some commenters believe Section 106 has not been completed properly	In section 4.10.4 of the draft EIS, we acknowledge that the entire pipeline route has not yet been completely inventoried for cultural resources, and recommend that the Commission Order authorizing the Project contain an environmental condition that construction may not begin until after all archaeological surveys have been completed and reviewed, and we have completed the process of compliance with the NHPA.
CULT-2	A letter was received from North Carolina SHPO stating the draft EIS has been reviewed and addresses previous comments. They concur with the revised Plan for Unanticipated Discoveries of Historic Properties and Human Remains. Changes in the revised archeological report and addendum will need to be reflected in Table 4.10-11.	The EIS was revised to reflect comments on reports we received from the NCSHPO, in letters dated July 1 and 22, 2019.

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General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
CULT-3	One commenter requested realignment to avoid impacts to Little Cherrystone Property. This site includes a Native American burial ground. The commenter stated that since it is within the LOD, the public will not be able to monitor the site to make sure access is restricted.	Little Cherrystone Manor/Wooding Cemetery/Site 71-36 is mentioned on page 4-166 of the draft EIS as a NRHP-listed property and listed on table 4.10-9, with the recommendation to "avoid or mitigate." In an environmental information request issued by the FERC on October 3, 2019 we asked Mountain Valley to file either an avoidance plan or a treatment plan for Little Cherrystone Manor. In an October 18, 2019 filing, Mountain Valley stated it would be filing an avoidance plan for Little Cherrystone Manor.
CULT-4	A comment was received noting that the Deep Creek Church and Cemetery is located close to the proposed route. They requested avoidance, compensation for impacts, and to return the site to preconstruction conditions	Our EIR #4 requested an avoidance plan for the church/cemetery. An avoidance plan for the Deep Creek Primitive Baptist Church and Cemetery was filed by Mountain Valley on October 23, 2019.
CULT-5	Commenters noted the Mountain View historic 1890s home, located in the Chatham Historic District on Route 20 is located within the proposed route. It is within the proposed route and will be impacted by the project	Historical architectural site 71-25 (Mountain View Manor) was recorded during surveys conducted by TRC for Mountain Valley between September 2018 and June 2019 (Karpynec, September 2019). It was noted as listed on the NRHP. We have revised the EIS to reflect this new information.
CULT-6	The Choctaw Nation of Oklahoma stated the project is outside of their area of interest. Comments are deferred to other Tribes that have been contacted.	Comment noted.
CULT-7	A commenter stated there are undocumented graves in Ossipee in Altamahaw. Locations passed down through oral tradition of Occaneechi Band of the Saponi Nation.	We asked Mountain Valley about these graves in EIR#4. The company responded in an October 18, 2019 filing Mountain Valley indicated that the Chair of the Occaneechi Band of the Saponi Nation had no knowledge of graves in this area.
CULT-8	The Catawba requested to be notified if Native American artifacts and/or human remains are located during the ground disturbance phase of this project.	Comment noted.
Air		
AIR-1	Commenters expressed concerns regarding the Project-related emissions impact on the region's air quality.	Air emission impacts and mitigation measures are discussed in section 4.11.1.7.

Appendix I.2

General Comments on the Draft EIS and Responses

Comment Code	Comment Summary	Response
AIR-2	Commenters were concerned regarding impacts on health resulting from operation of the Lambert Compressor Station. Some commenters requested we study the impacts on more vulnerable populations (environmental justice populations) that are near the Lambert Compressor Station.	Air quality impacts on public health are discussed in detail in section 4.11.1.7. Additionally, potential air quality impacts on vulnerable populations are discussed in section 4.9.8 of the EIS.
Noise		
NOISE – 1	Comments regarding noise and light impacts on humans and wildlife resulting from construction and operation of the pipeline and compressor station.	As described in Section 4.11.2.3, noise from construction and operation of the project, including the Lambert Compressor Station would meet FERC requirements. Effects from chronic noise may vary by species as described in section 4.6.1.1. Mountain Valley would employ noise mitigation measures at the Lambert Compressor Station and the noise levels that wildlife would be exposed to beyond the compressor station property boundary would vary based on the distance from the facility. See section 4.6.1.1 for a discussion of lighting techniques to minimize impacts to wildlife. Lighting impacts on people are discussed in section 4.8.6.2, the Lambert Compressor Station would be surrounded by trees on three sides, shielding it from public view. The vegetative screening would also shield the Lambert Compressor Station from nearby residences, thereby minimizing effects from light.
Safety		
SAFE-1	Commenters expressed concern regarding potential incidents along the pipeline and compressor station facilities, including impacts of natural gas leaks. Commenters also expressed concern regarding the potential for leaks to ignite and subsequent impacts on nearby residences, communities, and the environment.	Section 4.12.1 states that the DOT requires operators to develop and follow a written Integrity Management Program that address the risks on each transmission pipeline segment. In addition, sections 4.12 and 4.9.3 discuss elements of Mountain Valley's emergency response plan and coordination with local first responders in the event of an emergency.
SAFE-2	Concerns were expressed from commenters about how local resources and communities are not equipped to handle an emergency response.	Section 4.9.3 describes the effects that the Project could have to local services (including emergency services). DOT regulations regarding emergency response are described in section 4.12.1

Appendix I.2 General Comments on the Draft EIS and Responses		
Comment Code	**Comment Summary**	**Response**
SAFE-3	Commenters expressed concerned about public safety during construction. Including safety of construction workers. Several commenters mentioned equipment turnovers from past projects.	Sections 4.12 and 4.9.3 of the EIS discuss elements of Mountain Valley's emergency response plan and coordination with local first responders in the event of an emergency.
SAFE-4	A commenter expressed concern regarding possible accidents in less densely populated areas due to thinner pipeline walls.	As described in section 4.12.1, the DOT regulates pipeline safety under 49 U.S.C. 601. Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. Class locations for the Project have been determined based on the relationship of the pipeline centerline to other nearby structures and manmade features.
Cumulative Impacts		
CI-1	Commenters expressed concerns related to climate change, including contentions that the Project will contribute to climate change, sea level rise, and extreme weather events, and subsequently impact other environmental resources, commercial economies, climate refugees, etc. Commenters stated that the EIS failed to adequately utilize available methodologies (Social Cost of Carbon) to assess the Project's climate impact and expressed concern that our failure to address the importance and consequences of GHG emissions undermined several aspects of the overall Project environmental analysis. In addition, commenters contend we did not adequately estimate upstream and downstream GHG emissions that would result from the Project. Commenters also contend that the climate change analysis in the EIS should include GHG emissions from loss of trees and vegetation and burning of brush associated with the Project.	An analysis of the Project's impacts on climate change is discussed in section 4.13.2.9. The social cost of carbon tool is intended for estimating the climate costs and benefits of rulemakings and policy alternatives. The tool cannot predict the actual environmental impacts of a project on climate change. It can only present a monetized global value for the economic costs of climate change and was not considered adequate for the purposes of this EIS. The evaluation of upstream and downstream GHG emissions it outside of the scope of this EIS. Section 4.5.4.3 provides an updated discussion of interior forest impacts; and section 4.13 discusses cumulative impacts on forested areas.

Appendix I.2 General Comments on the Draft EIS and Responses		
Comment Code	**Comment Summary**	**Response**
CI-2	A few commenters contend that there are increased climate change risks from gas sourced from shale formations, as well as stating that methane is initially a more potent GHG than CO2 after release into the atmosphere. Several commenters expressed concern that the project facilities would leak methane, contributing to GHGs, and that these leaks were not accounted for in the analysis of Project impacts on climate change.	As described in section 4.11.1.2, our use of carbon dioxide equivalents (CO_2e) is consistent with the methods for characterizing methane in greenhouse gas estimates, allowing a common standard for comparison across projects. As discussed in section 4.3.1.5, Mountain Valley would regularly monitor the pipeline for signs of leaks. Similarly, as discussed in section 4.11.1.5 Mountain Valley would comply with all applicable leak detection and repair requirements, including the use of optical gas imaging to conduct leak surveys.
CI-3	Many commenters stated that the cumulative impact analysis was inadequate, including a limited analysis of cumulative impacts on forested wetlands, waterbodies, land use, and other aspects of the human and natural environment.	Cumulative impacts on environmental resources affected by the Project, including wetlands, waterbodies, and land use, are discussed in section 4.13 of the EIS. The analysis is consistent with CEQ guidelines and is sufficient.
CI-4	Several commenters expressed concern regarding the cumulative impacts on air quality and human health from three compressor stations located in close proximity.	An analysis of the cumulative impacts on air quality, including nearby compressor stations, is discussed in section 4.13.2.9 of the EIS. Air quality impacts on public health are discussed in section 4.11.1.7.

APPENDIX I.3

Southgate Project Response to Comments Side-by-Side Table

FA-1 United States Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

SEP 1 2 2019

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

Re: Draft Environmental Impact Statement (DEIS) for the Southgate Mountain Valley Pipeline Project, FERC Docket No. CP19-14-000; CEQ #20190176

The U.S. Environmental Protection Agency has reviewed the DEIS for the Southgate Mountain Valley Pipeline ('MVP') Project in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. This DEIS evaluates the potential impacts to natural and human environments resulting from the proposed construction and operation of approximately 73 miles of a new natural gas transmission pipeline, a compressor station, and accompanying facilities that would provide roughly 375 million cubic feet per day (MMcf/d) of natural gas. The proposed pipeline location will traverse through Pittsylvania County, Virginia, and Alamance and Rockingham Counties in North Carolina.

The Federal Regulatory Commission (FERC or the 'Commission') has the decision of whether to issue a Certificate of Public Convenience and Necessity will also serve as the NEPA Section 102(2)(C) lead Federal agency. The EPA is providing the following comments consistent with Section 309 of the Clean Air Act.

The DEIS presented the following alternatives: No Action Alternative, System Alternatives, Major Pipeline Route Alternatives, Pipeline Route Variations, Pipeline Route Realignments, and Alternative Aboveground Facility Sites. Based on our review of the DEIS, the EPA identified several issues that could potentially help to improve the Final Environmental Impact Statement (FEIS). The EPA requests that additional analysis be provided and reported in the FEIS. We also recommend that all relevant permits and consultations be concluded. We have enclosed technical comments and recommendations for your consideration that can potentially strengthen the conclusions in the FEIS (See enclosure).

Effective October 22, 2018, the EPA will no longer include ratings in our comment letters. Information about this change and the EPA' s continued roles and responsibilities in the review of federal actions can be found on our website at: https://www.cpa.gov/ncpa/cnvironmcntal-impact-statcmcnt-rating-system-critcria.

The EPA appreciates the opportunity to review and provide comments on this DEIS. If you have questions or wish to discuss our comments and recommendations, please contact Ms. Maria R. Clark at (404) 562-9513 or clark.maria@epa.gov.

Sincerely,

Christopher A. Militscher
Chief, NEPA Section
Strategic Programs Office

FA-1	United States Environmental Protection Agency

ENCLOSURE

Technical Comments and Recommendations on the Draft Environmental Impact Statement (DEIS) for the Southgate Mountain Valley Pipeline Project, FERC Docket No. CP19-14-000 CEQ #20190176

Purpose and Need: The DEIS was not clear concerning a full description of the purpose and need for the action(s). In the Section 1.1 Purpose and Need, the document stated a description of the proposal and how the Commission bases its decisions. However, the need for this project remained uncertain. The purpose and need of the proposed project stated in the DEIS is: *"...to meet the specific requests for natural gas transportation service of its anchor shipper, Dominion Energy (formerly PSNC Energy), a local natural gas distribution company."* Additionally, the Commission directed the readers to its "Certificate Policy Statement[1]" to try to clarify how the Commission evaluates the need for the project, and as the Commission states in the DEIS: *"...whether there is a need for a proposed project and whether the proposed project would serve the public interest. The Commission decision, in its Order, would review the need for the Project."*

FA-1a	**Recommendations:** The EPA recognizes that this section of the DEIS needs to be further developed as the Commission receives agency and public input. While finalizing this discussion, the EPA has provided some general information regarding NC's demand/consumption regarding three energy sectors (See chart below). It is noted that in NC the natural gas sector has increased by more than 100%, but we also noted that the available volume of gas as of today is already exceeding NC's present consumption[2]. We understand that one of the many issues FERC considers for its decision is market demand and supply. We recommend that the FEIS include a well-defined purpose and need that would address the underlining need for this project that balances the benefits and impacts from the proposal.	See response GEN-2 in appendix I.2.

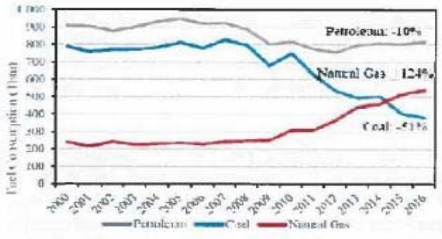

Figure 1 5: Trends in Fossil Fuel Consumption by All Sectors (TBtu)

FA-1b	**Alternatives:** The EPA's earlier scoping comments recommended that FERC expand the evaluation of the alternatives. While we recommended to further evaluate the Duke Power Alterative (included in this DEIS), and to explore further 'co-location' alternatives that would reduce and minimize environmental impacts. **Recommendations:** The EPA recommends expanding the System Alternatives section. The DEIS explanation of why this alternative is not feasible is not clear. The EPA also recommends expanding the Major Pipeline Route Alternatives. We recommend studying a new route for the NC proposed route, specifically where the proposed route deviated from co-location at MP 32.8 (begins co-location with the power lines) and beyond. The EPA recognizes that this suggested co-location alternative route would entail additional mileage, but we also recognize the extent of permanent and temporary impacts the proposed new location route would create. We recommend studying the continuation of co-location from MP 32.8 going south and following co-location (with Cardinal Pipeline) looping to the east until reaching the future delivery point at the Haw River location. The EPA can supply the appropriate maps if FERC requires clarification regarding this recommended environmentally-preferable alternative.	See section 3.4.2 of the EIS for discussion of minor route alternatives. The western portion of this alternative was not preferred due to proximity to residences, terrain, and crossings of surface water features and major wetland systems. The eastern portion of this route was considered and is described under the Haw River Alternative. We concluded that these alternatives do not offer a significant environmental advantage when compared to the proposed route.

[1] Certification of New Interstate Natural Gas Pipeline Facilities, Statement of Policy, 88 FERC ¶ 61,227 (1999). *"...the Commission will evaluate the project by balancing the evidence of the project's public benefits against its residual adverse effects."*

[2] The draft NC Clean Energy Plan was prepared by the North Carolina Department of Environmental Quality, 2019.

NHPA, ESA and CWA Section 404 Compliance: The DEIS states that FERC would complete the

FA-1	United States Environmental Protection Agency	
	process for compliance with the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA) Section 7 consultations prior to construction. It is also noted that FERC was submitting the DEIS as its biological assessment (BA) and requesting informal consultation with the U.S. Fish and Wildlife Service (FWS). We recognize the substantial information related to NHPA consultations and studies that were presented in the DEIS. We recommend that FERC not allow the applicant to begin ground disturbance until these processes are completed. We also note that the Section 404 of the Clean Water Act (CWA) permitting was pending due to the Corps of Engineers indication that the 404 permits could not be finalized until the NHPA and Section 7 processes were completed.	
FA-1c	**Recommendation:** The EPA strongly recommends that all permits, consultations and the biological opinion (if required) be concluded and available in the FEIS or in the Record of Decision (ROD). The required analyses, ground reconnaissance and consultations for these approvals are extremely important in order to adequately make project decisions.	Comment noted. All consultations would be complete and federal permits would be obtained by Mountain Valley prior to construction.
FA-1d	**Hydrostatic Testing and Horizontal Drill Water**: The DEIS states that hydrostatic test water would be discharge into the Roanoke River Basin and Cape Fear River Basin. Also, the DEIS stated that the project will use municipal water for the test, but at the same time, the DEIS (in a different section) also mentioned that Mountain Valley continues to evaluate other sources of water for hydrostatic testing and Horizontal Directional Drill (HDD) operations. The DEIS mentioned the very high probability of having Inadvertent Return (IR) at the Dan River site and Stony Creek Reservoir when performing HDD activities.	As described in section 2.4.1.6 hydrostatic testing would be completed in compliance with DOT's Minimum Federal Safety Standards 49 CFR 192. See also section 4.12 for discussion of regulations for design requirements related to the prevention and detection of corrosion.
FA-1e	**Recommendations**: The DEIS stated that they will not be using chemicals during hydrostatic testing. By not using chemicals during the testing, water might be left in the pipelines that can cause oxygen corrosion and microbiologically influenced corrosion (MIC). Pipelines might become vulnerable and long-term integrity and safety could become an issue. The EPA recommends that plans be included in the FEIS to prevent these issues. The EPA recommends the use of filter covers to use at the end of the output pipe/hose to capture a variety of deposits such as metals before discharging the used water. It is important to note that if the applicant proposes different sources of water after FERC's licensing decision, the project could require additional permits and therefore, the NEPA process might need to be amended for the additional studies from the affected water bodies from the change in plans involving the hydrostatic test water. The EPA also requests a complete Hydrostatic Testing Plan be included in the FEIS.	Water used for hydrostatic testing would be discharged into upland areas through appropriate energy dissipation devices. Any chemical laden water association with cleaning methods would not be discharged to the ground but instead hauled away and disposed of at an approved waste facility. Mountain Valley would conduct sampling to ensure that discharges meet regulatory thresholds. All drilling fluid would be hauled away and disposed of at an approved and properly permitted waste facility.

FA-1	United States Environmental Protection Agency	
FA-1f	As BMPs for the HDD sites where the possibility of IR exists, the EPA strongly recommends the presence of a 'mud engineer' and a trained crew member ('mud man') to work at every HDD location. We understand that most IR incidents happen when experts and highly trained crew are not at the sites helping to manage this technology and the appropriate mix of materials that this involves. The EPA recommends to strongly consider the following components especially when impacting sensitive areas: • Ticker grade of piping material for crossing water bodies. • The installation of automatic shut-off valves or remote-control valves. • The installation of computerized monitoring and leak detection system. • The use of HDD technique should be considered for more water crossings. • The pipeline should be buried deeper in all water bodies locations to avoid future pipe exposures (thus, the applicant could eliminate pipe degradation that could cost constant repairs/maintenance due to high flow events, human interference and environmental stressors). **Aquatic Resources:** The applicant (Mountain Valley) states that the project would impact 26.8 acres of wetlands, though many of these impacts would be temporary and short-term. The project's operational right-of-way would affect 5.9 acres of wetlands, including the conversion of 0.1 acre of palustrine scrub-shrub (PSS) wetland to palustrine emergent (PEM) wetland, and 4.4 acres of palustrine forested (PFO) wetlands to PSS and PEM wetlands.	Comment noted. Class thickness is designated by DOT. HDD is discussed in section 4.1.4.9.
FA-1g	**Recommendations**: Given the extended time-to-maturity of PFO wetland systems, EPA recommends that temporary PFO impacts be treated as permanent impacts. Filling of aquatic resources, particularly with stream loss, is not only a direct impact, but will likely lead to changes in the biogeochemical and hydrologic conditions of the receiving streams. The EPA is concerned with the potential secondary effects of the project including potential water quality degredation, impacts to hydrology, habitat and biodiversity loss, and downstream impacts from the loss of nutrient cycling, organic matter input and processing, and natural hydrology.	Comment noted. Section 4.4.2 of the EIS describes PFO impacts as long term.
FA-1h	Cumulative impacts from indirect impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Although the impact of a particular action may be considered minor, the cumulative effects of numerous piecemeal changes can result in a major impairment of the water resources. Considering MVP Southgate as a single and complete project, the EPA recommends a cumulative impacts analysis be considered in order to fully assess the effects on water quality, hydrology, habitat and biodiversity in the watersheds within the total project area.	A cumulative impacts analysis of the Southgate project can be found in section 4.13 of the EIS.

FA-1	United States Environmental Protection Agency	
FA-1i	The EPA recommends the applicant document the studies that show minimum or non-impact to upper stream or lower stream sections of these water bodies and their ecosystem. Complete documentation should include communications/consultations to the regular users of these waters.	See response SURF-4 in appendix I.2.
FA-1j	The EPA recommends the completion of any ongoing wetland and stream surveys be included in the FEIS. We also request that practicable avoidance and minimization measures be incorporated into the project design and construction. Although wetland impacts in the DEIS are classified by system type, this classification does not provide details regarding the wetland quality or functional assessment currently provided by these resources. The EPA recommends that functional assessments for impacted waterbodies be provided in the mitigation plan. The EPA recommends a comprehensive mitigation plan be developed to assess and assure the functional performance of any proposed stream mitigation. The plan should include identification of specific performance standards, a monitoring plan, and an adaptive management plan with corrective actions identified should the stream mitigation and relocations be unable to achieve performance standards. The EPA recommends that the baseline assessment of the streams be used to guide the development of these performance standards. If a relocated stream is expected to receive full mitigation credit for the impacted resources, the stream relocation should at a minimum be providing equivalent quality and function to that of the pre-impacted stream. Stream relocations should only be considered 'self-mitigating' if the relocation retains or improves the existing condition of the stream system as measured by the baseline assessment methodology.	A description of existing wetland resources in the Project area is provided in section 4.4.1 of the FEIS. See response SA-2a-10 regarding the completion of surveys. The EIS was prepared in accordance with NEPA, CEQ guidelines, and other applicable requirements. In addition Mountain Valley would be required to comply with all federal and federally-delegated permits as identified in table 1.4-1, including the Section 404 CWA permit. The Compensatory Mitigation Plan would be subject to review and approval by the District Engineer for the COE for the Norfolk District in Virginia and Wilmington District in North Carolina.
FA-1k	An important resource to consider is titled, *"The Framework and Risk Matrix"*. The U.S. Fish and Wildlife Service (USFWS), is one of its developers. This is a pipeline crossing framework and risk analysis approach and it is recommended by the USFWS. This approach is also used for wetlands. For detailed technical information regarding this resource, please contact: Janine_M_Castro@fws.gov **Environmental Justice:** The EPA appreciates that a discussion and analysis of environmental justice (EJ) that was included in the DEIS. The EPA has identified census block groups where linguistically isolated populations are present.	Section 4.3.2 describes the effects of the Projects on surface waterbodies. We recognize that in-stream construction would cause temporary and localized impacts on surface water. However, based on the construction techniques and Mountain Valley's commitment to the Plan. Procedures, and their E&SCP we do not anticipate long-term or significant impacts on surface water resources as a result of construction or operation of the Project
FA-1l	**Recommendation:** The EPA recommends expanding the EJ analysis and if linguistically isolated populations are to be impacted by the proposal, the EPA recommends that the applicant should reach out to these communities. All project related documents should be translated into the corresponding languages. **Air Quality:** The DEIS states that emissions from the new compressor station would be greater than 25,000 metric tons per year. The EPA's 40 CFR Parts 86 et al. rule for mandatory reporting of greenhouse gases will potentially require monitoring and reporting of emissions from this new unit. The DEIS indicated that the new compressor unit could produce up to 16 blowdown events per year.	Comment noted. See revised section 4.9.8.

FA-1	United States Environmental Protection Agency	
FA-1m	**Recommendation:** The EPA recommends that the applicant consider new and proven technologies to reduce methane emissions and include these capture technologies into the new compressor station construction. A variety of applicable resources and technologies can be found at: https://www.epa.gov/natural-gas-star-program/recommended-technologies-reduce-methane-emissions and https://www.epa.gov/natural-gas-star-program/blowdown-reductions. In 2014, the EPA estimated that the transmission and storage sector accounts for 13% of the total methane emissions from the oil and natural gas industry. The EPA reported that Reciprocating Compressors account for 35% of the emissions from this sector. The EPA developed the Natural Gas STAR Program that provides a framework for partner companies with U.S. oil and gas operations to implement methane reducing technologies and practices. We would like to encourage the applicant to join this program and find out its many benefits at: https://www.epa.gov/natural-gas-star-program. On August 28, 2019, the EPA proposed policy amendments to the 2012 and 2016 new source performance standards for the oil and gas industry. These new standards can be found at: https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/proposed-policy-amendments-2012-and-2016-new.	Comment Noted. Mountain Valley considered new and proven technologies to reduce methane emissions for the Lambert Compressor Station and included such technologies in the compressor station design. A discussion of technologies being implemented at the Lambert Compressor Station to achieve low emission levels is in section 4.11.1. Climate change impacts are discussed in section 4.13.2.9.
FA-1n	**Forested Land Impacts:** Approximately 582 acres of forested land would be cleared as proposed. The DEIS indicated that some areas would be allowed to naturally revert to forest, but that such process could take 30 or more years. Additional impacts occurred when the land clearing releases greenhouse gases into the atmosphere. Furthermore, the project will potentially produce large amounts of vegetative debris, and consequently the need for either on-site burning and/or transportation and disposal. **Recommendation:** The EPA recommends calculating greenhouse emissions from this activity and it be added to the project emissions. The EPA recommends analyzing the impacts of forest fragmentation and use the results to develop a replanting proposal. Also, the EPA recommends using a tree targeted clearance in order to allow some of the most important old growth to remain. The EPA recommends some additional resources regarding greenhouse gas emissions: https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions; https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references. The EPA recommends that vegetative debris be recycled and/or repurposed to the extent practicable, and it be diverted from landfills.	Comments noted. Forest fragmentation is discussed in section 4.5.4.3. Disposal of vegetative debris is discussed in section 4.5.4.1. Greenhouse gas emissions are discussed in section 4.11.1.7.
FA-1o	**Existing Residential, Commercial and Industrial Facilities:** The DEIS included measurements to reduce impacts to the closest (25 and 50 feet within the project) residents/structures. **Recommnedation:** The EPA recommends to include notices of construction (and blasting) to residents within 250 feet from the pipeline construction. Additionally, we ask to provide community notices in other languages, as apropriate.	Comment noted. See revised section 4.1.4.6.
FA-1p	**Clean Diesel:** The EPA recommends that the applicant consider Implementing diesel controls, cleaner fuel, and cleaner construction practices for on-road and off-road equipment used for transportation, soil movement, or other construction activities, including: • Strategies and technologies that reduce unnecessary idling, including auxiliary power units, the use of electric equipment, and strict enforcement of idling limits; and • Use of clean diesel through add-on control technologies like diesel particulate filters and diesel oxidation catalysts, repowers, or newer, cleaner equipment. For more information on diesel emission controls in construction projects, please see: http://www.northeastdiesel.org/pdf/NEDC-Construction-Contract-Spec.pdf.	Mountain Valley has indicated that they will consider clean diesel technologies and strategies for the project.

FA-1	United States Environmental Protection Agency	
FA-1q	**Pipeline Safety:** The EPA understands that there has been a substantial number of recent articles pertaining to public concerns involving natural gas pipeline projects (in general) around the country and their potential impact radius (high consequence areas) if an incident were to occur. Random leaks or other types of incidents/malfunctions might occur at any time on any segment of the pipeline. The Federal pipeline safety regulations at Title 49 §192.935 identifies the types of areas where additional measures must be taken. **Recommendations**: The EPA suggests the development of a 'Risk Assessment' to inform the public in a more detailed manner. We understand that the Pipeline and Hazardous Materials Safety Administration (PHMSA) oversees pipeline saftey. However, we recommend that FERC share with PHMSA any relevant public concerns received regarding pipeline safety. Please note that we are suggesting a 'Risk Assessment' and not a risk management plan (as they are sometimes confused). We believe that these communication and coordination efforts between the agencies might lessen public and community concerns regarding safety issues from nearby natural gas pipelines. The EPA also recommends the use of the latest technology for leak detection, such as infrared laser detectors, aerial sensing-leak mapping systems, hand-held passive infrared cameras, and infrared laser detectors for leaks detection, as appropriate.	FERC staff are in regular communication with PHMSA and also participate as a member of the USDOT PHMSA's Technical Pipeline Safety Standards Committee, which determines if proposed safety regulations are reasonable, feasible, and practicable. See section 4.11.1.5 in the EIS for discussion on Mountain Valley's leak detection methods.

FA-2 United States Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh ES Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

September 16, 2019

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

Re: Mountain Valley Southgate DEIS (CP19-14-000)

Dear Ms. Bose:

The U.S. Fish and Wildlife Service (Service) has reviewed the July 2019, Draft Environmental Impact Statement (DEIS) for the Mountain Valley Southgate (MVPS) project and the August 16, 2019 letter from James Martin, FERC, to John Ellis, FWS, regarding Status of Consultation for the Proposed Southgate Project (letter). The following comments are provided under provisions of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended, and Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended. The Service has met on a regular basis with the project proponent and the FERC regarding this project.

The Mountain Valley Southgate Project is an interstate natural gas transmission pipeline project that will extend approximately 73.7 miles from Pittsylvania County, Virginia to delivery points in North Carolina ending in Alamance County, North Carolina. The project will have the capacity to transport 375 million cubic feet of natural gas per day.

The Service's overarching comments in regards to the DEIS and the letter are that the Service does not believe there is sufficient information for the FERC to make a determination regarding effects to listed species. This is due to the lack of information regarding things such as stream crossings, lack of completed surveys for listed species and the absence of important information regarding the project such as the Erosion and Sedimentation Control Plan. The Service also believes that this would apply to the Corps determinations for any permits needed for crossing streams and wetlands. The letter mentions that a Biological Assessment (BA) is contained within the DEIS. At this time, there is not sufficient information to decide if formal consultation will be needed, but if it is, the BA as included in the DEIS would not be deemed complete due to the lack of the above referenced information.

FA-2	United States Fish and Wildlife Service	
FA-2a	It is the Service's understanding that most of the listed species surveys have been conducted in areas MVPS has access. As of yet the reports of these surveys have not been released. The reports should contain information regarding what species were found including non-listed species, the habitat conditions, and the dates of the survey. For aquatic species, streamflow and turbidity information should be included.	Mountain Valley provided FWS with outstanding survey results for listed species in October 2019. Mountain Valley would provide its Erosion and Sediment Control Plan (E&SC Plan) once approved by the states. Mountain Valley's draft narrative E&SC Plan was filed on June 21, 2019, see section 2.4 for the location of the this information.
FA-2b	Based on the DEIS, the methods of crossing streams along the route have not been decided upon and geotechnical surveys have not been completed. This information will be integral in assessing impacts to listed species in streams where they occur and the crossings of tributaries just upstream of their confluence with streams with listed species. This information is needed by the FERC and the Corps to make informed effects determinations and the Service to evaluate these determinations.	See response SURF-8 in appendix I.2. See also appendix B.5 for the proposed crossing method of each stream.
FA-2c	Throughout the DEIS there are statements that the MVPS's Erosion and Sedimentation Control Plan will minimize or avoid impacts to surface waters and fish and wildlife resources in them. Based on our conversations with the FERC as recently as September 9, 2019, MVPS has not provided the Plan. This plan is an integral part of assessing impacts to listed species. It should include measures to protect not only streams with species but also tributary streams that have crossings in close proximity to streams containing listed species. It should also address permanent and temporary construction roads and restoration of them in these areas. In similar projects, the Service has recommended measures such as not grubbing within 50 feet of surface waters containing sensitive species outside of the growing season, which is considered to be April 15 - Nov 15 in this area. We have also recommended that at the end of each workday unvegetated fill be stabilized with an acceptable erosion control cloth, blanket or matting until the fill is ready to be permanently stabilized. FERC should evaluate this plan when making its effects determination for listed species. During the construction phase, the Service requests that the FERC monitor construction closely due to issues that have occurred on the MVP mainline.	Mountain Valley's E&SC Plans would be designed to meet Virginia and North Carolina standards for erosion and sediment control. These plans would be reviewed by the VADEQ and the NCDEQ. See response GEN-6 in appendix I.2 for further response. See section 2.0 of the EIS for discussion of project construction including erosion and sediment controls. Mountain Valley also has agreed to participate in FERC's third party monitoring program, in which a FERC representative would be on site monitoring construction activities.
FA-2d	The DEIS states that MVPS intends to utilize municipal water sources for hydrostatic testing but then goes on to say that MVPS is evaluating a variety of sources of water for hydrostatic testing, HDD operations, dust control, etc. This is confusing and thus makes it difficult to evaluate the impacts. The Service recommends that MVPS not withdraw water from streams that contain listed species. In any stream withdrawals should use screens to prevent impingement and entrainment of aquatic organisms. In streams with sensitive species, a mesh size of 1 mm and an intake velocity of 0.25 feet per second is commonly used. Furthermore, sufficient instream flow to maintain aquatic life should be present at all times. This information will be important for the FERC to utilize in making its effects determination.	Water sources are addressed in 4.3.2.6 of the EIS. Since the issuance of the draft EIS, Mountain Valley has proposed to use the Dan River as the primary source of water for construction and water from municipalities would be the secondary source. Mountain Valley would need to obtain written permission from the FWS for any water withdrawal from a waterbody containing federally listed species prior to getting FERC approval to commencing withdrawal activities, which includes the Dan River. As discussed in section 4.7 of the EIS, our effects determinations take into consideration the withdrawal of water from the Dan River.
FA-2e	In regards to the Migratory Bird Treaty Act, it is the Service's understanding that MVP intends, where practicable, to avoid vegetation clearing during the migratory bird nesting season (March 15 – August 15 in Virginia and April 1 – August 31 in North Carolina). We believe that this in conjunction with the FERC's recommendation that MVPS consult with the Service if the removal of vegetation removal during the nesting season, in conjunction with efforts to collocate much of the project along existing rights-of-way should minimize impacts to migratory birds.	Comment noted.

FA-2	United States Fish and Wildlife Service

In summary, the Service believes that there is currently insufficient information in the DEIS to thoroughly review the project or for the FERC or Corps to make an informed effects determination. The above mentioned information should be provided to the agencies with adequate time to evaluate and discuss with MVPS prior to the release of the FEIS so that it the Section 7 process can be completed and included in the FEIS. The Service intends to continue working closely with the MVPS, FERC, and Corps on this project. If you have any questions please contact John Ellis (john_ellis@fws.gov).

Sincerely,

Pete Benjamin
Field Supervisor

EO-1	State Representatives	
	Dennis Riddell, Snow Camp, NC. Combined statement of Alamance County State Representatives Ross and Riddell regarding the proposed MVP Southgate pipeline Since the original announcement of the proposed MVP Southgate project the attention of many property owners along the pipeline path in Alamance County has been galvanized over concerns regarding various aspects of the proposed project. Our offices have been contacted by many Alamance County citizens regarding the impact the project may have on their property. We have visited property sites and spoken with the landowners and representatives from MVP Southgate to learn firsthand what may be the consequences for these landowners.	
EO-1a	We understand that this project is under the supervision of FERC and as a federal project the role of the state is secondary. However, the safety	Section 4.12 of the EIS discusses safety concerns.
EO-1b	and property rights of our constituents, in addition to protecting	Section 4.8 of the EIS discusses property rights.
EO-1c	environmentally sensitive areas are very important to us so it became incumbent for us to learn about the FERC process and what we could do to ensure that everyone's rights under the existing laws and rules would be protected.	The EIS describes the potential impacts on environmental resources resulting from construction and operation of the Project. Staff considered measures to avoid, reduce, and mitigate impacts on the environment, and as appropriate, are including recommendations in the final EIS to the Commission.
EO-1d	We believe that the public hearings that FERC has held regarding the MVP Southgate pipeline were well publicized and well attended. The information available to landowners and other concerned citizens was readily on hand. We noted that professionals representing MVP Southgate were also present to discuss the various issues associated with the project. We had conversations with many concerned property owners, members of special interest groups, engineers and project managers with MVP Southgate, FERC officials and more. We also noted that at each of these public meetings an opportunity was provided for anyone to make a public comment for the record. On several occasions we specifically requested additional time and attention from MVP Southgate representatives to go on site again (if needed) to reconsider constituents' requests regarding their particular land site. In each instance we did find MVP Southgate to be responsive and willing to discuss with the landowners an alternative route for the pipeline. On one occasion a representative from MVP Southgate spent close to an hour walking two property sites with both of us and the landowners. We appreciated their willingness to meet, walk, and hear from the landowners.	Comment noted.
EO-1e	As the project moves from the DEIS stage into subsequent comments and analysis we have the following requests: 1. That our constituents' constitutional rights continue to be protected to the full extent of the law.	Comment noted.

EO-1	State Representatives	
EO-1f	2. We understand that eminent domain is both a necessary and troubling power in the hands of governing bodies. As such we urge great restraint in the exercise of this formidable power to obtain property.	As discussed in section 4.8.2, Mountain Valley would first attempt to reach an easement agreement with each landowner. If an easement cannot be negotiated with a landowner and the project has been certificated by the FERC, the company may use the right of eminent domain granted to it under Section 7(h) of the NGA and the procedures set forth under the Federal Rules of Civil Procedure (Rule 71A) to obtain the right-of-way and extra workspace areas.
EO-1g	3. That MVP Southgate continue to work with our concerned constituents regarding their very real concerns about proposed route paths across existing well/septic lines, proximity to dwellings, historic buildings, tribal burial grounds, ponds, creeks, and other documented critical environmental considerations.	As discussed in section 4.8.3, Mountain Valley has developed a landowner complaint resolution process. Mountain Valley would continue to work with landowners throughout the Project timeline to address their concerns. The Project certificate order would include mandatory environmental conditions, which provide a framework to ensure protection of the human and natural environment during construction of the Project and to address any instances of non-compliance encountered during construction.
EO-1h	4. Finally, if the project is approved and goes forward we believe it is vital that, after all the work is done, the land be returned to its' original appearance and whatever remediation is required be performed quickly and thoroughly. Rep. Dennis Riddell Alamance County North Carolina General Assembly District 64 Rep. Steve Ross Alamance County North Carolina Assembly	Mountain Valley would follow all mitigation and restoration measures as outlined in the Plan and Procedures, including those requiring Mountain Valley to return all areas to preconstruction conditions.

SA-2	Virginia Department of Environmental Quality	
	Part I: Section 5.2 of the FEIS	
SA-2a-1	The Commonwealth of Virginia recommends that Federal Energy Regulatory Commission (FERC or the Commission) include the following recommendations in Section 5.2 of the Final EIS (FEIS) and if the Commission approves the construction and operation of the Southgate Project (the Project), it condition the order on adherence to these recommendations. If FERC does not include these recommendations in Section 5.2, then the Commonwealth of Virginia recommends that they be incorporated in appropriate sections of the FEIS, plans and procedures as mitigation measures.	Comment noted. We expect that any specific construction and restoration measures deemed necessary by the state would be included in the appropriate state authorizations. It has been the policy of FERC staff to not include conditions from other agencies. Largely, this is because staff may not be able to interpret compliance of conditions generated by other agencies.
	1) New Recommendations	
SA-2a-2	**a) Recommendation:** Mountain Valley Pipeline, LLC (Mountain Valley, MVP or the applicant) should identify any public surface water supply intakes that are located within five miles of the project and coordinate as needed with any identified public water supply entity. **Findings to support recommendation:** Virginia's water quality standards regulation 9VAC25-260 classifies 5 miles upstream of a surface water supply intake as public water supplies. However, the draft environmental impact statement (DEIS) (page 4-32) references water supply intakes located within three miles of the project in Virginia. See the Virginia Department of Environmental Quality (DEQ) comments in Attachment B.	FERC standards include identification of public surface water intakes that are within 3 miles of Project workspaces. We have used the 3-mile standard for many years and are not aware of any instance in which a greater distance was necessary. State agencies may enforce their own regulations and requirements under any state authorizations and/or permits that Mountain Valley would need to obtain for the Southgate Project. See response to SA-2a-1 above.
SA-2a-3	**b) Recommendation:** Should Mountain Valley choose to release hydrostatic test water to upland areas, the hydrostatic test water shall be released through energy dissipating dewatering devices. The energy dissipating dewatering devices must be sized to accommodate the rate and volume of release and be monitored and regulated to prevent erosion and over pumping of the energy dissipating dewatering devices. The upland discharge of hydrostatic test water shall be monitored in accordance with the Virginia Pollutant Discharge Elimination System (VPDES) General Permit. Mountain Valley shall record and track the daily volumes of water withdrawn for hydrostatic testing activities and make such records available during inspection or upon request by the DEQ. In the event of an inadvertent indirect discharge to surface waters, Mountain Valley shall be responsible for ensuring that such discharge complies with all requirements of the VPDES General Permit, including the requirement to notify DEQ within 14 days.	Measures regarding hydrostatic test water discharge are provided in section 4.3.2.7 of the EIS and VII.D.1 of Mountain Valley' Procedures. Mountain Valley would be required to comply with state regulations in order to meet state authorization and permitting requirements (See response to SA-2a-1 and SA-2a-2 above).

SA-2	Virginia Department of Environmental Quality	
	Findings to support recommendation: The discharge of hydrostatic test water to surface waters is regulated under the VPDES Permit Regulation, 9VAC25-31-10 *et seq.*, and the VPDES General Permit Regulation for Discharges from Petroleum Contaminated Sites, Groundwater Remediation, and Hydrostatic Tests (VPDES General Permit), 9VAC25-120-10 *et seq*. Prior to discharging hydrostatic test water to surface waters, Mountain Valley must register for coverage under the VPDES General Permit or obtain an individual VPDES permit if the discharge is not eligible for coverage under the VPDES General Permit. See the DEQ comments in Attachment B.	
SA-2a-4	**c) Recommendation:** Mountain Valley should revise plans to dispose of brush and timber to be consistent with the Department of Forestry's (DOF) published Forestry Best Management Practices for Water Quality, which is available online at http://www.dof.virginia.gov/infopubs/BMP-Field-Guide_pub.pdf, and the FERC Upland Erosion Control, Revegetation, and Maintenance Plan, section III.E. See the DOF comments in Attachment B.	Mountain Valley agreed to be compliant with DOF recommendations. See section 4.5.4.1 for further discussion.
SA-2a-5	**d) Recommendation:** Wetland and stream impacts should be avoided and minimized to the maximum extent practicable. Stream impacts should be minimized or avoided by narrowing the active right-of-way to the minimum necessary at each stream and wetland crossing. Where access is required across a wetland, removable mats should be used to reduce compaction and rutting. When excavation for a structure is necessary in a wetland, excess spoil should not be disposed of in adjacent wetland areas unless authorized by a state or federal wetland permit. See the DEQ comments in Attachment B.	Waterbody crossing are discussed in sections 2.4.2.1 and 4.3.2.2 of the EIS. Wetlands are discussed in section 2.4.2.2 and 4.4.1 of the EIS. In addition Mountain Valley would adhere to its Procedures, which limit the construction right-of-way to 75 feet in wetlands (unless specific locations are approved by FERC). Mountain Valley has reduced construction workspace to 75 feet at waterbody crossings where feasible.
SA-2a-6	**e) Recommendation:** Flag or clearly mark all non-impacted surface waters within the project or right-of-way limits that are within 50 feet of any clearing, grading, or filling activities for the life of the construction activity within that area. The project proponent should notify all contractors that these marked areas are surface waters where no activities are to occur. See the DEQ comments in Attachment B.	Mountain Valley would follow measures outlined in its Plan and Procedures, which address the identification and marking of Project workspaces and sensitive resources. Plan III. A.1 and IV.A.1; Procedures V.B.3.f.
SA-2a-7	**f) Recommendation:** Any temporary impacts to surface waters associated with this project should require restoration to pre-existing conditions. Restore all temporarily disturbed wetland areas to pre-construction conditions and plant or seed with appropriate wetlands vegetation in accordance with the cover type (emergent, scrub-shrub, or forested). The applicant should take all appropriate measures to promote revegetation of these areas. Preserve the top 12 inches of trench material removed from wetlands for use as wetland seed and root-stock in the excavated area. Stabilization and restoration efforts should occur immediately after the temporary disturbance of each wetland area instead of waiting until the entire project has been completed. See the DEQ comments in Attachment B.	Waterbody restoration is discussed in sections 2.4.2.1 of the EIS and V.C. of Mountain Valley's Procedures.
SA-2a-8		Wetland restoration methods are discussed in section 2.4.2.2 and VI.C. of Mountain Valley's Plan.

SA-2	Virginia Department of Environmental Quality	
SA-2a-9	g) **Recommendation:** Heavy equipment in temporarily impacted surface waters should be placed on mats, geotextile fabric, or other suitable material, to minimize soil disturbance to the maximum extent practicable. Equipment and materials should be removed immediately upon completion of work. See the DEQ comments in Attachment B.	Waterbody crossing methods are discussed in sections 2.4.2.1 of the EIS and section V.B. of Mountain Valley's Procedures.
SA-2a-10	h) **Recommendation:** Prior to commencing construction, Mountain Valley shall file with the Commission and DEQ Water Permitting Division all outstanding surveys for impacts to surface waters in all disturbed areas of the project in Virginia, including both the construction and operational rights-of-way, all access roads, stockpile and alternative work areas, and materials storage areas, to the extent that landowner access has been granted. See the DEQ comments in Attachment B. • Identify any areas not surveyed in Virginia. Provide any estimates of surface water impacts in these areas and the sources used to make the estimate. • Include all revisions to the wetland and waterbody crossing tables provided in Appendices B.5 and B.6 of the DEIS, including any revised milepost numbering. • Include a copy of all federal jurisdictional determinations, including drawings and graphics, of surveyed surface waters in Virginia, including federal waters of the United States and any state-regulated isolated waters, springs, or open water.	Mountain Valley has indicated that they would file with FERC and VADEQ the results of all outstanding surveys for impacts on surface water when they are able to obtain access to all areas. If the Project receives a Certificate from FERC, Mountain Valley will be granted eminent domain and therefore will be able to complete any remaining surveys.
SA-2a-11	i) **Recommendation:** Prior to commencing construction, Mountain Valley shall file with the Commission and DEQ Water Permitting Division any proposed or final compensatory mitigation plans that are applicable to unavoidable, permanent surface water impacts in Virginia, and the status of the approval of such plans by the United States Army Corps of Engineers (Corps). Compensation for impacts to State Waters, if necessary, should be in accordance with all applicable state wetland regulations, including the compensation for permanent conversion of forested and scrub-shrub wetlands to emergent wetlands. Consider mitigating impacts to forested or converted wetlands by establishing new forested wetlands within the impacted watershed. See the DEQ comments in Attachment B.	Mountain Valley has indicated that they would file with FERC and VADEQ such proposed or final compensatory mitigation plans.
SA-2a-12	j) **Recommendation:** Prior to construction, Mountain Valley shall file with the Commission and DEQ Water Permitting Division all revisions or updates to crossing methodologies for surface waters in Virginia. See the DEQ comments in Attachment B.	Mountain Valley has indicated that they would file with FERC and VADEQ revisions or updates to crossing methodologies for surface waters in Virginia.

SA-2	Virginia Department of Environmental Quality	
SA-2a-13	k) **Recommendation:** No activity may substantially disrupt the movement of aquatic life indigenous to the water body, including those species, which normally migrate through the area, unless the primary purpose of the activity is to impound water. Culverts (if needed) placed in streams must be installed to maintain low flow conditions. No activity may cause more than minimal adverse effect on navigation. The activity must not impede the passage of normal or expected high flows and the structure or discharge must withstand expected high flows. See the DEQ comments in Attachment B.	Waterbody crossing are discussed in sections 2.4.2.1 and 4.3.2.2 of the EIS. In addition Mountain Valley would adhere to its Plan and Procedures.
SA-2a-14	l) **Recommendation:** Activities should be conducted in accordance with any time-of-year restriction(s) as recommended by the United States Fish and Wildlife Service (FWS), Department of Game and Inland Fisheries (DGIF), Department of Conservation and Recreation (DCR), and Virginia Marine Resources Commission (VMRC). The permittee should retain a copy of the agency correspondence concerning the time-of-year restriction(s), or the lack thereof, for the duration of the construction phase of the project. See the DEQ comments in Attachment B.	Based on recommendations from VADGIF, Mountain Valley has committed to adhere to the Virginia warm water fisheries construction window (i.e., no in-water construction between April 15 and July 15). Section 4.3.2.4 has been updated with this information.
SA-2a-15	m) **Recommendation:** Erosion and sedimentation controls should be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. These controls should be placed prior to clearing and grading and maintained in good working order to minimize impacts to state waters. These controls should remain in place until the area is stabilized and should then be removed. Any exposed slopes and streambanks should be stabilized immediately upon completion of work in each permitted area. All denuded areas should be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992. See the DEQ comments in Attachment B.	Mountain Valley has stated that they would comply with the design requirements of the VA E&S Handbook, Third Edition, 1992, for the creation of the state approved erosion and sedimentation control plans.
SA-2a-16	n) **Recommendation:** All construction, construction access, and demolition activities associated with this project should be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters, unless authorized by a permit. Wet, excess, or waste concrete should be prohibited from entering surface waters. Employ measures to prevent spills of fuels or lubricants into state waters. See the DEQ comments in Attachment B.	Mountain Valley would follow measures outlined in its Plan, Procedures, E&SC Plan, SPCC Plan, and Unanticipated Discovery of Contamination Plan.
SA-2a-17		Mountain Valley has stated that no concrete will be actively cured on the right-of-way.
SA-2a-18	o) **Recommendation:** Herbicides used in or around any surface water should be approved for aquatic use by the United States Environmental Protection Agency (EPA) or the FWS. These herbicides should be applied according to label directions by a licensed herbicide applicator. A non-petroleum based surfactant should be used in or around any surface waters. See the DEQ comments in Attachment B.	Mountain Valley's Plan does not allow the use of herbicides within 100 feet of a wetland or waterbody except as allowed by the appropriate land management or state agency. As part of Mountain Valley's Exotic and Invasive Plant Species Control Plan, If specified for use by federal or state agencies near streams or wetlands, the Project will utilize herbicide applications approved for aquatic use.

SA-2	Virginia Department of Environmental Quality	
SA-2a-19	p) **Recommendation:** In the event that the project does not qualify for a Nationwide Permit 12 (NWP12) from the Corps, then a Virginia Water Protection (VWP) permit may be necessary for project activities in Virginia. Also, should isolated waters be impacted, a VWP permit may be necessary unless otherwise excluded. See the DEQ comments in Attachment B.	Comment noted. See response SA-2a-1.
SA-2a-20	q) **Recommendation:** Removal of riparian buffers not directly associated with the Project's construction activities is prohibited. Disturbance and removal of riparian buffers from Project-related land disturbing activities that would occur within 50 feet of any perennial, intermittent, or ephemeral surface waters shall be avoided where possible, and minimized to the maximum extent practicable if 50 feet is not possible. DEQ shall be notified of any and all instances in which 50 feet is not possible and approval shall be granted by DEQ prior to continuing with an alternate width. Removal of riparian buffers not associated with crossings shall not be allowed where stream bank stability under normal flow conditions would be compromised. See the DEQ comments in Attachment B.	Mountain Valley has stated that as a standard construction practice, the Project will establish a 50' wetland and waterbody buffer with erosion and sediment control devices. The buffer will not be grubbed during the initial right-of-way clearing and grubbing sequence. These buffers will remain undisturbed (aside from hand felling trees) until the pipeline crossing is ready to be installed in the ephemeral, intermittent, or perennial stream. The state may request notifications or additional information from Mountain Valley under state permitting requirements (see response to SA-2a).
SA-2a-21	r) **Recommendation:** The construction limit of disturbance (LOD) in upland areas approaching waterbody and wetland crossings shall be reduced to 75 feet wide and shall apply 50 feet from each side of the stream or wetland crossing to minimize the extent of riparian buffer disturbance. For any area approaching a waterbody or wetland crossing where this reduced LOD is not possible, notification of Commission approval (and Corps approval, if required) shall be provided to the DEQ prior to initiating land disturbing activity in that area. See the DEQ comments in Attachment B.	Mountain Valley would adhere to its Procedures, which limit the construction right-of-way to 75 feet in wetlands (unless specific locations are approved by FERC). Mountain Valley has reduced construction workspace to 75 feet at waterbody crossings where feasible. The state may request additional restriction from Mountain Valley under state permitting requirements
SA-2a-22	s) **Recommendation:** No refueling, hazardous materials storage, equipment maintenance, or equipment parking shall take place within 100 feet of the waterbody or wetland crossing, except as allowed by any applicable and approved Annual Standards and Specifications. See the DEQ comments in Attachment B.	In accordance with Mountain Valley's Procedures, fuel will not be stored within 100 feet of wetlands or waterbodies during construction with the exception of pumps and HDD equipment where secondary containment would be used.

SA-2	Virginia Department of Environmental Quality	
SA-2a-23	t) **Recommendation:** Any surface water withdrawals for the purposes of hydrostatic testing shall not violate applicable Water Quality Standards and shall be managed so that no more than 10% of the instantaneous flow rate from the channel is removed, the intake screens shall be designed so that screen openings are not larger than 1 millimeter, and the screen face intake velocities are not greater than 0.25 feet per second. See the DEQ comments in Attachment B. u) **Recommendation:** Any surface water withdrawals for the purposes of horizontal directional drilling or dust control that do not exceed 10,000 gallons per day from non-tidal waters or two million gallons per day from tidal waters shall not violate applicable Water Quality Standards and shall be managed so that no more than 10% of the instantaneous flow rate from the channel is removed, the intake screens shall be designed so that screen openings are not larger than 1 millimeter and the screen face intake velocities are not greater than 0.25 feet per second. See the DEQ comments in Attachment B. v) **Recommendation:** Daily withdrawals for horizontal directional drilling or dust control activities that exceed 10,000 gallons per day from non-tidal waters and two million gallons per day from tidal waters must comply with the requirements of the Virginia Water Protection Permit Program Regulation. The daily volumes of water withdrawn for horizontal directional drilling or dust control activities shall be tracked and recorded and such records shall be made available during inspection or upon request by DEQ. See the DEQ comments in Attachment B.	Currently no surface water withdrawals are proposed for Project use in Virginia; however, section 4.3.2.6 has been updated to include these specifications for surface water withdrawals.
SA-2a-24	w) **Recommendation:** Water quality monitoring, if required, shall be implemented in accordance with any applicable Upland Construction Water Quality Monitoring Plan. See the DEQ comments in Attachment B.	See response SA-2a-1
SA-2a-25	x) **Recommendation:** The measures identified in the Spill Prevention, Control, and Countermeasure (SPCC) Plan shall be implemented, as well as any subsequent revisions or addenda to the same approved by the Commission. See the DEQ comments in Attachment B.	Comment noted. See response SA-2a-16
SA-2a-26	y) **Recommendation:** All construction and installation associated with the Project shall be accomplished in such a manner that construction material or waste material shall not be placed into any perennial, intermittent, or ephemeral surface waters or karst features. See the DEQ comments in Attachment B.	Mountain Valley's SPCC Plan outlines the handling of waste during construction. All waste would be disposed of at an approved off-site facility.

SA-2	Virginia Department of Environmental Quality	
SA-2a-27	z) **Recommendation:** All measures intended to minimize the potential for discharges of soil or rock shall be implemented as detailed in any applicable General Blasting Plan and Landslide Mitigation Plan, as well as any subsequent revisions or addenda to the same approved by the Commission. If blasting or landslide activity results in unpermitted discharges of soil or rock to any perennial, intermittent, or ephemeral surface waters, DEQ shall be notified immediately, but no later than 24 hours after discovery. Potential impacts to karst features, if present, will be addressed in accordance with any applicable Karst Hazard Assessment and Karst Mitigation Plan. See the DEQ comments in Attachment B.	Comment noted. The state may request notifications or additional information from Mountain Valley under state permitting requirements (see response to SA-2a-1).
SA-2a-28	aa) **Recommendation:** All measures intended to minimize the potential for impacts shall be followed as detailed in any applicable Acid Forming Materials Mitigation Plan, as well as any subsequent revisions or addenda to the same approved by	Comment noted. Mountain Valley has not developed an Acid Forming Materials Mitigation Plan due to the low likelihood of encountering problematic concentrations of acid-producing sulfides.
SA-2a-29	bb) **Recommendation:** The Project, including all relevant records, is subject to inspection at reasonable hours and intervals by DEQ or any authorized representative of DEQ. See the DEQ comments in Attachment B.	Comment noted.
SA-2a-30	cc) **Recommendation:** DEQ shall be notified in writing at least 10 business days prior to any planned Construction Spread pre-construction conferences or meetings. See the DEQ comments in Attachment B.	See response SA-2a-1.
SA-2a-31	dd) **Recommendation:** DEQ shall be notified in writing of any modification of this Project and shall demonstrate in a written statement that said modifications will not violate any license conditions and federal or state approvals. See the DEQ comments in Attachment B.	See response SA-2a-1.
	Part II: FEIS, Plans and Procedures	
	The Commonwealth of Virginia encourages FERC to incorporate the following recommendations into appropriate sections of the FEIS, plans and procedures.	
	1) **Proposed Route**	
	a) **Collocation and Other Route Alignments**	
SA-2b-1	i) **Recommendation:** DGIF supports collocating the alignment within an existing utility easement to the greatest extent practicable to avoid and minimize clearing of land and vegetation for new right-of-way. See the DGIF comments in Attachment B.	Section 2.1.1 discuss the collocation of the Project with existing utility easements which is currently at 49 percent.

SA-2	Virginia Department of Environmental Quality	
SA-2b-2	ii) **Recommendation:** While DGIF prefers collocation within an existing utility right-of-way, DGIF supports efforts to minimize creation of new edge habitat and reduce forest fragmentation by locating some sections of the alignment adjacent to and adjoining existing utility easements, when necessary. According to information provided in a separate MVP Southgate Project DRAFT Resource Report 3 addressing fish, wildlife and vegetation, DGIF understands that linear segments of the project totaling 5.6 miles may not be collocated with existing utility easements. DGIF has insufficient information to evaluate what proportion of vegetation clearing along these 5.6 miles will take place within forested habitat, which would result in forest fragmentation and the creation of new edge habitat. Impacts resulting from such vegetation clearing are addressed on page 24 (3-17) of the Resource Report; the major project impact to forest-nesting birds is identified as habitat loss. DGIF submits as an additional consideration that the creation of open corridors within forested habitat exposes forest-nesting birds to increased nest predation pressure from both mammalian and avian predators (including jays, crows, and grackles) and to brood parasitism by brown-headed cowbirds. These in turn impact avian reproductive output, and could result in long-term impacts to avian populations within these newly-created corridors. See the DGIF comments in Attachment B.	Interior forests, habitat fragmentation, and impact to wildlife are discussed in detail in section 4.5.4.3 and 4.6.1.1of the EIS.
SA-2b-3	iii) **Recommendation:** Include a requirement that prior to the end of the FEIS period, Mountain Valley shall file with the Commission and DEQ Water Permitting Division all revisions or updates to Southgate Project maps as provided in Appendix B.1 of the DEIS. See the DEQ comments in Attachment B.	See response SA-2a-1 and SA-2a-10.
SA-2b-4	iv) **Recommendation:** Include a requirement that prior to the end of the FEIS period, Mountain Valley shall file with FERC and DEQ Water Permitting Division a revised TABLE 2.1-2 *Summary of Pipeline Collocated with Existing Rights-of-Way for the Southgate Project a/* to show the collocation lengths in each category by state. See the DEQ comments in Attachment B.	A revised table 2.1-2 has been included in section 2.1.1.

SA-2	Virginia Department of Environmental Quality	
	2) Preconstruction Recommendations	
	a) Air Permitting and Modeling	
SA-2c-1	**i) Recommendation:** Update the FEIS to note that the modeling discussed in Section 5.1.11 used to demonstrate compliance with all air standards does not account for any nearby sources or background emissions. The DEQ Air Division confirms that an application for a minor new source review permit was submitted for the proposed project in November 2018 and an updated application was submitted in April 2019. See the DEQ comments in Attachment B.	See section 4.11.1 of the EIS for the discussion of revised air modeling results.
	b) Aviation	
SA-2c-2	**i) Recommendation:** Ensure that a Form 7460 is submitted to the Federal Aviation Administration for an airspace evaluation as required if any structure associated with this project would be located within 20,000 linear feet of a public use airport or would reach a height above ground of 200 feet or more. See the Department of Aviation (DoAV) comments in Attachment B for additional information.	The nearest public-use airport to the Project route in Virginia is the Virginia Tech-Montgomery Executive Airport. At its closest point, the Project route is approximately 26,000 feet (approximately 4.9 miles) from the airport and approximately 30 feet lower in elevation.
	c) Drinking Water Resources	
SA-2c-3	**i) Recommendation:** Follow recommendations from the Virginia Department of Health (VDH) to verify potential impacts to public water distribution systems or sanitary sewage collection systems with the local utility, implement best management practices (including erosion and sediment controls and spill prevention controls and countermeasures) on the project site, and manage materials onsite and during transport to prevent impacts to nearby surface waters. See the VDH-identified public groundwater wells, surface water intakes and public surface water sources in Attachment B.	Crossing of foreign utilities is discussed in section 2.4.2.5 of the EIS. See response SA-2a-10. Surface water intakes are discussed in section 4.3.2.1.
	d) Floodplain Management	
SA-2c-4	**i) Recommendation:** The DCR Floodplain Management Program recommends that the FEIS include the requirement that Mountain Valley contact the local floodplain administrator for an official floodplain determination, and if the project is located in a Special Flood Hazard Area (SFHA), the project must comply with the community's floodplain ordinance. All development within a SFHA or floodplain, as shown on the locality's Flood Insurance Rate Map, must be permitted and comply with the requirements of the local floodplain ordinance. See the DCR comments in Attachment B for additional information.	Mountain Valley has filed documentation indicating they are coordinating with local floodplain administrators.

SA-2	Virginia Department of Environmental Quality	
	e) Historic Resources	
SA-2c-5	**i) Recommendation:** Continue to coordinate with the Department of Historic Resources (DHR) pursuant to Section 106 of the National Historic Preservation Act, which requires federal agencies to consider the impact of their project on historic properties. See the DHR comments in Attachment B.	Comment noted.
SA-2c-6	***f) Pollution Prevention*** **i) Recommendation:** Include additional information on reuse, recycling and pollution prevention as identified below by the DEQ Office of Pollution Prevention (see the DEQ comments in Attachment B). • Consider the development of an effective Environmental Management System (EMS). An effective EMS will ensure that the proposed project is committed to complying with environmental regulations, reducing risk, minimizing environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program (VEEP). VEEP provides recognition, annual permit fee discounts, and the possibility for alternative compliance methods. • Consider reuse and recycling opportunities when evaluating waste handling, including asphalt recycling, mulching of brush and timber and water reuse opportunities. • Consider contractors' commitment to the environment when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals. • Choose sustainable materials and practices for construction and design, including the use of native species and pollinators when re-establishing vegetation. • Integrate pollution prevention techniques into maintenance and operation. • Encourage supply chain partners to implement pollution prevention, sustainability, and environmental management systems. • Coordinate with the DEQ Office of Pollution Prevention for additional information and technical assistance relating to pollution prevention techniques and EMS.	Section 2.4.2 of the EIS has been updated to discuss measures Mountain Valley would implement for reuse, recycling, and pollution prevention.

SA-2	Virginia Department of Environmental Quality	
	g) Rare, Threatened and Endangered Species	
SA-2c-7	**i) Recommendation:** Ensure that the analysis accurately addresses potential impacts to Piedmont barbara's-buttons (*Marshallia obovata* var. *obovata*, G4G5TNR/S1/NL/NL), Downy phlox (*Phlox pilosa*, G5/S2/NL/NL) and American bluehearts (*Buchnera americana*, G5?/S1S2/NL/NL), which according to DCR have been historically documented in the project area. See the DCR comments in Attachment B.	Section 4.7.7.6 pf the EIS provides discussion of these species.
SA-2c-8	**ii) Recommendation:** Submit survey results for Piedmont barbara's-buttons, Downy phlox and American bluehearts to DCR so DCR can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources. See the DCR comments in Attachment B.	Survey results for Piedmont Barbara's-buttons, Downy phlox and American bluehearts were submitted to VADCR in October 2019; these results are summarized in section 4.7.7.6 of the FEIS.
SA-2c-9	**iii) Recommendation:** Submit copies to DCR Division of Natural Heritage of other completed rare, threatened and endangered species survey reports including the 2018 and 2019 portal bat survey reports as stated on page 4-89. See the DCR comments in Attachment B.	See section 4.7.7 of the FEIS for summaries of other completed rare, threatened and endangered species surveys; Mountain Valley submitted 2018 and 2019 bat portal survey results to VADGIF in October 2019.
SA-2c-10	**iv) Recommendation:** Coordinate results of surveys for state-listed threatened and endangered plant and insect species with DCR and the FWS. Upon review of the results, if it is determined these species are present, and there is a likelihood of a negative impact on the species, DCR will recommend coordination with the Virginia Department of Agriculture and Consumer Services to ensure compliance with Virginia's Endangered Plant and Insect Species Act. See the DCR comments in Attachment B.	Mountain Valley consulted VADGIF and VADCR regarding all state-listed threatened and endangered species potentially present in the Project area and coordinated with the applicable Virginia agency for all state-listed species surveys that were conducted.
	h) Surface Waters and Water Withdrawals	
SA-2c-11	**i) Recommendation:** If surface water sources are used, then the FEIS should include a discussion of what steps will be taken by MVP and its contractors to ensure that the following requirements are met: withdrawing no more than 10% of the instantaneous flow rate from the channel; using the intake screens designed so that screen openings are not larger than 1 millimeter and; ensuring that screen face intake velocities are not greater than 0.25 feet per second. The FEIS should provide the location of withdrawals and some assessment of river flows where withdrawals are proposed with a discussion of how the withdrawals will affect flows, particularly during low-flow or drought conditions. The assessment should explain if any downstream water users may be affected by these water withdrawals, particularly during low flow periods. The DEQ Office of Water Supply can provide information of nearby intakes once the location of the withdrawals is known. See the DEQ comments in Attachment B.	See response SA-2a-23.

SA-2	Virginia Department of Environmental Quality	
SA-2c-12	ii) **Recommendation:** Update Section 4.3.2.6 Surface Water Appropriations with information that identifies the specific municipal or surface water sources from which water for hydrostatic testing would be obtained. See the DEQ comments in Attachment B.	See response SA-2a-23.
SA-2c-13	iii) **Recommendation:** Update Section 4.3.2.6 Surface Water Appropriations with information that identifies the specific sources and estimated amounts of water needed for dust control. See the DEQ comments in Attachment B.	See response SA-2a-23.
SA-2c-14	iv) **Recommendation:** Update Section 4.3.2.6 Surface Water Appropriations to include discussion of procedures to be taken by MVP and its contractors to minimize entrainment of aquatic species and maintain intake rates appropriate to local conditions if surface waters are used. This section should also include a discussion of how the withdrawals might avoid impacts to downstream users during low-flow conditions. See the DEQ comments in Attachment B.	See response SA-2a-23.
SA-2c-15	v) **Recommendation:** Update Section 4.3.2.6 Surface Water Appropriations to state that the following criteria should be used for evaluating proposed water sources (see the DEQ comments in Attachment B): • Withdrawing no more than 10% of the instantaneous flow rate from the channel. • Using the intake screens designed so that screen openings are not larger than 1 millimeter and; • Ensuring that screen face intake velocities are not greater than 0.25 feet per second.	See response SA-2a-23.
	i) Transportation Conflicts	
SA-2c-16	i) **Recommendation:** The Virginia Department of Transportation (VDOT) recommends the monitoring for any potential work plan conflicts related to the Universal Project Code (UPC) T18123 Rural Rustic project on Route 621 that is close to the proposed pipeline. Construction work on UPC T18123 is proposed to begin on 10/04/2022 and conclude on 02/10/2023. See the VDOT comments in Attachment B.	We do not foresee any work plan conflicts related to the UPC T18123 Rural Rustic project, which would be constructed almost a year later in October of 2022. Mountain Valley would coordinate with VADOT in the event that construction activities overlap.
SA-2c-17	ii) **Recommendation:** Continue to monitor the VDOT paving schedule website (https://vdot.maps.arcgis.com/apps/webappviewer/index.html?id=fbf86e85fdcb43e482432f41ddbb51c7) for updated information as there are a number of planned repaving and treatment jobs. The Pavement Status Map Application is updated with new paving projects annually. See the VDOT comments in Attachment B.	All projects in the geographic scope of analysis considered for cumulative impacts are listed in Appendix F.2, including any relevant VADOT projects.

SA-2	Virginia Department of Environmental Quality	
SA-2c-18	iii) **Recommendation:** VDOT recommends the development and implementation of an appropriate work zone to ensure the safe and efficient travel of vehicles during the construction phase of the project. Based upon VDOT's review, the proposed project could pose significant traffic impacts to various roads throughout the service area during construction only. See the VDOT comments in Attachment B.	Comment noted. Mountain Valley has stated it would incorporate all VADOT recommendations into its Traffic and Transportation Management Plan.
SA-2c-19	iv) **Recommendation:** Coordinate with the VDOT Lynchburg District since a VDOT Land Use Permit will be required for any operations within the VDOT right-of-way. See the VDOT comments in Attachment B.	See comment SA-2a-1.
	j) Virginia Outdoors Foundation Easements	
SA-2c-20	i) **Recommendation:** The Virginia Outdoors Foundation (VOF) recommends that FERC revise its analysis to reflect that the VOF easement in Pittsylvania County (PIT-03215) may be intersected by a temporary access road if impacts are unavoidable. This temporary access road, at MP 14.1, is illustrated in Appendix B.1, page B.1-3, with details listed in Appendix B.4, page B.4-2. While specific reference to this intersection of the VOF open-space easement is not mentioned within the DEIS, VOF staff recently spoke with MVP Southgate representatives who acknowledged this encroachment as a possibility. VOF has notified the developers of its conversion/diversion process if impacts are unavoidable but hope Mountain Valley will revise the alignment of the road to completely avoid this open-space easement. See the VOF comments in Attachment B.	Mountain Valley has adjusted access road TA-PI-035 so that it is no longer located on the conservation easement.
SA-2c-22	ii) **Recommendation:** Coordinate directly with VOF regarding the proposed impact to the VOF easement if it is unavoidable or if other impacts are proposed in the future. See the VOF comments in Attachment B.	see response SA-2c-20.

SA-2	Virginia Department of Environmental Quality	
SA-2c-23	***k) Waste Sites in Close Proximity to the Project Site*** **i) Recommendation:** Evaluate the following waste sites to establish their exact location, nature and extent and their potential to impact the proposed project (see the DEQ comments in Attachment B): • *Hazardous Waste/RCRA Facility* ○ VAD003909629, Transcon Gas Pipeline Corp Station 165, 945 Transco Rd, Chatham, Virginia 24531 • *Solid Waste* ○ Permit# SWP571, Pittsylvania Co – Sanitary Landfill, 382 Rainbow Lane, Dryfork, Virginia 24549. Status: Active. ○ Permit# SWP152, Pittsylvania Co – Sanitary Landfill, 382 Rainbow Lane, Dryfork, Virginia 24549. Status: Closed. • *Petroleum Releases* ○ PC# 20087015, Wall Property, 212 Sugarcane Rd, Danville, Virginia 24540 ○ PC# 20112245, Raymond Batterman Residence, 556 Batterman Rd, Chatham, Virginia 24531 ○ PC#20122164, Richard Rust Residence, 5498 Whitmell School Rd, Dry Fork, Virginia 24549	Sections 4.8.5, 4.2.7, and 4.3.1.5 provide discussion regarding the evaluation of hazardous waste and potential contamination sites. All of the sites listed were reviewed.
SA-2c-24	**ii) Recommendation:** DEQ recommends that all construction projects and facilities implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately. See the DEQ comments in Attachment B.	See response SA-2c-6.
SA-2c-25	**iii) Recommendation:** Ensure that the FEIS and applicable procedures include requirements that all structures being demolished/renovated/removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to federal waste-related regulations, state regulations 9VAC 20-81-620 for ACM and 9VAC 20-60-261 for LBP, must be followed. See the DEQ comments in Attachment B.	See response SA-2a-1.

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SA-2c-26	**iv) Recommendation:** Ensure that the following requirements are accurately reflected in the FEIS and applicable procedures (see the DEQ comments in Attachment B):
	• Any soil, sediment or groundwater that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations.
	• Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*
	• Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60)
	• Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81);
	• Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110)
	  • Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*
	  • Applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.
		See response SA-2a-10.

	l) Wetlands and Water Quality	
SA-2c-27	**i) Recommendation:** Update the FEIS and applicable procedures with the following requirements (see the DEQ comments in Attachment B): • State Water Control Law (Code of Virginia Chapter 3.1 (§ 62.1-44.2 *et seq.*) • Virginia Acts of Assembly, Chapter 636, Senate Bill 950 [S 950], Approved March 30, 2018 • Virginia Administrative Code 9VAC25-210	See response SA-2a-1.
	m) Wildlife Resources	
SA-2c-28	**i) Recommendation:** If bald eagle nests are discovered during the pre-construction winter nest surveys, DGIF recommends following measures adapted from the FWS National Bald Eagle Management Plan Guidelines (FWS, 2007) and the DGIF Bald Eagle Guidelines for Landowners (DGIF, 2012) between December 15 and July 15. The protective measures Mountain Valley would follow are described in the DEIS (page 207). See the DGIF comments in Attachment B.	Section 4.6.3.4 provides discussion regarding bald eagles. Mountain Valley has committed to following the recommended actions.
SA-2c-29	**ii) Recommendation:** DCR DNH recommends coordination with the FWS and DGIF to minimize impacts to migratory birds, colonial nesting birds and eagles. See the DGIF comments in Attachment B.	Comment noted. Mountain Valley's coordination with FWS and DGIF regarding impacts to migratory birds, colonial nesting birds, and eagles is discussed in section 4.6.3 of the EIS.

SA-2	Virginia Department of Environmental Quality	
	Mitigation Measures for Construction and Maintenance Activities ***a) Erosion and Sediment Control***	
SA-2d-1	i) **Recommendation:** Ensure that the following requirements are accurately reflected in the FEIS (stormwater management and erosion and sediment control plans have been submitted to DEQ and are currently under review). See the DEQ comments in Attachment B. • Natural gas transmission projects that result in regulated land disturbing activities equal to or greater than 10,000 square feet must obtain and comply with DEQ approved Annual Standards and Specifications for Stormwater Management (SWM) and Erosion and Sediment Control (ESC). • In accordance with section 402(l)(2) of the Clean Water Act (CWA), discharges of stormwater runoff from the construction of oil and gas transmission pipelines are exempt from National Pollutant Discharge Elimination System (NPDES) and Virginia Pollutant Discharge Elimination System (VPDES) permitting. Therefore, the General VPDES Permit for Discharges of Stormwater from Construction Activities (9VAC25-880) is not applicable to this project. • Annual Standards and Specifications must be prepared in accordance and consistent with the Virginia Stormwater Management Act (VSMA), the Virginia Stormwater Management Program (VSMP) regulation, the Virginia Erosion and Sediment Control Law, and the Virginia Erosion and Sediment Control regulations. • Plans for erosion and sediment control and post-construction stormwater management must be developed and implemented for all regulated land disturbing activities in accordance with the DEQ-approved Annual Standards and Specifications prior to initiating land disturbance. • To minimize runoff impacts following construction activities, the project must demonstrate compliance with the Virginia Stormwater Management Program post-construction requirements for both water quality and quantity. • All specifications and practices used for erosion and sediment control and stormwater management must be in accordance with the DEQ-approved Annual Standards and Specifications, the Virginia Erosion and Sediment Control Handbook, and the Virginia Stormwater Best Management Practice Clearinghouse unless a deviation or exception is approved by DEQ.	See response SA-2a-1.
SA-2d-2		Mountain Valley would continue to work with VADEQ on seed mix development to incorporate native and pollinator species for right-of-way stabilization which would be included in the Project-specific E&SC Plan to be reviewed and approved by Virginia agencies.

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SA-2d-2	ii) **Recommendation:** Use a DEQ-approved native pollinator plant mix for permanent vegetative stabilization. See the DEQ comments in Attachment B. ***b) Horizontal Directional Drilling and Hydrostatic Testing*** i) **Recommendation:** DCR recommends conducting a soil analysis to determine suitability for the use of horizontal directional drill (HDD) and supports the development and implementation of a *Horizontal Directional Drill Contingency Plan* as stated on page 4-84 of the DEIS if drilling fluid is released into a waterbody. See the DCR comments in Attachment B.	HDD feasibility and geotechnical investigations, including soil analyses, are discussed in section 4.1.4.9 of the EIS. Mountain Valley's *HDD Contingency Plan* and drilling fluid and inadvertent return management are also discussed in this section.
SA-2d-4	ii) **Recommendation:** DCR supports preventing withdrawal of water for hydrostatic testing from exceptional value waters as those identified on pages 4-37 and 4-38 of the DEIS or waters containing rare, threatened or endangered species. See the DCR comments in Attachment B.	See response SA-2a-23. Also, see 4.3.2.6 of the EIS for a discussion of hydrostatic test water sources and sections 4.3.2.7 and 4.6.5.3 for a discussion of the impacts and mitigation for water withdrawal from surface waters, including the Dan River. Mountain Valley would need to consult with and obtain approval from the USFWS for any withdrawal from a waterbody containing federally listed species.
SA-2d-5	iii) **Recommendation:** If chlorinated water is used for hydrostatic testing, HDD or conventional bore or drilling fluid additives are used, DCR recommends this water not be released into surrounding water bodies to avoid potential impacts to aquatic resources. See the DCR comments in Attachment B. ***c) Forest Resources*** i) **Recommendation:** DCR and DOF recommend that Mountain Valley follow the recommendations of the Virginia Forest Conservation Partnership that were submitted to the FERC docket on August 9, 2019 under the name MVP_SouthgateExtension_ForestMitigation_03_2019.pdf. See the DCR comments in Attachment B for additional information.	Measures regarding hydrostatic test water discharge are provided in section 4.3.2.7 of the EIS and VII.D.1 of the Procedures
SA-2d-6	ii) **Recommendation:** DOF recommends that the Virginia Forest Conservation Partnership calculations with regard to forested acre impacts take precedence over the ones developed by FERC. iii) **Recommendation:** Update the forest fragmentation analysis to reflect findings from DCR that edge habitats would not serve as replacement for the interior forested habitats lost and degraded, would provide little benefit in general to interior forest species habitats surrounding the impact, and these new edge habitats would serve as permanent conduits for invasive species and non-interior forest species competition, having a permanent effect on the surrounding forests. See the DCR comments in Attachment B for additional information.	Mountain Valley has committed to minimizing impacts on forest land and continues to coordinate with VDCR on tree clearing mitigation prior to clearing trees. Mountain Valley would follow measures outlined in its Exotic and Invasive Plant Species Control Plan.

SA-2	Virginia Department of Environmental Quality	
	d) Open Burning and Fugitive Dust	
SA-2d-7	**i) Recommendation:** Include requirements that open burning is allowed only in accordance with 9VAC20-81-95 of the Virginia Solid Waste Management Regulations (VSWMR) and localities should be consulted since they may have additional open burning restrictions. See the DEQ comments in Attachment B. **ii) Recommendation:** Include requirements that construction activities associated with the MVP are subject to the Air Pollution Control Regulations regarding open burning (9VAC5-130 *et seq.*) and fugitive dust (9VAC -50-60 *et seq.*). See the DEQ comments in Attachment B.	As discussed in section 4.11.1.7, any open burning would be conducted on a site-specific basis, and in accordance Mountain Valley's Fire Prevention and Suppression Plana and Virginia regulations. This would include burning only in approved burn areas and during appropriate weather conditions to avoid any impacts on nearby residences, and complying with the open burning prohibition in Virginia from May 1 through September 30.
	e) Right-of-Way Maintenance	
SA-2d-8	**i) Recommendation:** DCR recommends the development and implementation of an invasive species plan to be included as part of the maintenance practices for the right-of-way or invasive species as identified within the footprint of the project on page 4-56, Section 4.5.3. See Item 4a below for additional recommendations and the DCR comments in Attachment B for additional information.	Mountain Valley would follow measures outlined in its Exotic and Invasive Plant Species Control Plan.
SA-2d-9	**ii) Recommendation:** DCR recommends the right-of-way restoration and maintenance practices include appropriate revegetation using native species in a mix of grasses and forbs, robust monitoring and the development of adaptive management plan to provide guidance if initial revegetation efforts are unsuccessful or if invasive species outbreaks occur. See the DCR comments in Attachment B.	See response SA-2d-2.
SA-2d-10	**iii) Recommendation:** DCR recommends the use of a native seed mix for re-vegetating disturbed areas as stated on page 4-62 in the DEIS and best management practices on page 4-63 for preventing the spread of invasive species. See the DCR comments in Attachment B.	See response SA-2d-2
SA-2d-11	**iv) Recommendation:** DCR recommends the invasive species plan be implemented for the lifespan of the project as part of the right-of-way maintenance since invasive species outbreaks can occur any time during construction or post construction. See the DCR comments in Attachment B.	Mountain Valley would monitor for invasive species for two years following construction and maintain the restored area in accordance with its Exotic and Invasive Plant Species Control Plan.

SA-2	Virginia Department of Environmental Quality	
SA-2d-12	v) **Recommendation:** DCR recommends maintenance of vegetation using annual mowing in the non-growing season between 15 October and April 1 and minimal to no use of chemicals and especially in sensitive areas with documented natural heritage resources. See the DCR comments in Attachment B.	As stated in Mountain Valley's Plan, Routine vegetation mowing or clearing over the full width of the permanent right-of-way in uplands shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion/leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be cleared at a frequency necessary to maintain the 10-foot corridor in an herbaceous state. In no case shall routine vegetation mowing or clearing occur during the migratory bird nesting season between April 1 and October 14 of any year unless specifically approved in writing by the responsible land management agency or the U.S. Fish and Wildlife Service.
	f) Stream Crossings	
SA-2d-13	i) **Recommendation:** Incorporate the following VMRC recommendations, which are standard instream permit conditions, for jurisdictional stream crossings (VMRC states that it will exert jurisdiction over eight of the project's 81 stream crossings based on drainage areas currently identified in the DEIS and/or previously provided by the applicant. See the VMRC letter in Attachment B.):	See response SA-2a-1.
SA-2d-14	• A "frac-out" contingency plan must be provided for any crossings utilizing the directional drill method to address potential frac-outs or related spills associated with any directional drilling activities.	Mountain Valley would follow measures in it HDD Contingency Plan.
SA-2d-15	• In an effort to minimize adverse impacts to threatened and endangered fish and mussel species, instream surveys and species relocations may be required. No instream construction shall be conducted during any recommended time-of-year restrictions of any year unless waived by DGIF in writing.	Mountain Valley has completed aquatic surveys and filed reports with the appropriate agencies. See section 4.6.5 of the EIS for a discussion of impacts and mitigation for aquatic species, including Mountain Valley's proposed species relocations during in-water work.
SA-2d-16	• The instream construction activities shall be accomplished during low flow periods utilizing darn and pump, flume around or within cofferdams constructed of nonerodible materials in such a manner that no more than half the width of the waterway is obstructed at any point in time. All areas of state-owned bottom and adjacent lands disturbed by this activity shall be restored to their original contours and natural conditions within thirty (30) days from the date of completion of the authorized work. All excess materials shall be removed to an upland site and contained in such a manner to prevent its reentry into state waters.	Waterbody crossing are discussed in sections 2.4.2.1 and 4.3.2.2 of the EIS. In addition Mountain Valley would adhere to its Procedures to minimize impacts during waterbody crossings.

SA-2	Virginia Department of Environmental Quality	
SA-2d-17	• Erosion and sediment control measures shall be in conformance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, and shall be employed throughout construction. • If it is determined that blasting is necessary at any of the crossings, DGIF shall be notified a minimum of 48 hours in advance of the blasting. • The DCR shall be contacted for any stream crossings where karst landscape features are encountered during installation. • DGIF shall be contacted for any work in trout waters to avoid conflicts with trout stocking activities.	See discussion in section 4.6.5.1 of the EIS.
SA-2d-18		Mountain Valley would adhere to measures in its General Blasting Plan and comply with all reporting and notification requirements.
SA-2d-19		No areas of karst have been identified.
SA-2d-20		No trout stream are crossed by the Project.
SA-2d-21	ii) **Recommendation:** Include a table in the FEIS that cites recommendations to protect freshwater aquatic resources provided by DGIF at each of the VMRC jurisdictional stream crossings and the applicant's intention of following those recommendations. See the VMRC comments in Attachment B.	Section 4.6 of the EIS has been updated to include a list of the VADGIF recommendation which Mountain Valley has agreed to follow.
SA-2d-22	iii) **Recommendation:** DGIF recommends conducting any in-stream activities during low or no-flow conditions, using non-erodible cofferdams to isolate the construction area, and removal of all fish and mussels prior to dewatering the cofferdams. DGIF recommends to the extent practicable, blocking no more than 50% of the streamflow at any given time, stockpiling excavated material in a manner that prevents reentry into the stream, restoring original streambed and streambank contours, re-vegetating barren areas with native vegetation, and implementing strict erosion and sediment control measures. See the DGIF comments in Attachment B.	Waterbody crossings would be completed in accordance with Mountain Valley's Procedures and measures required in other federal or state issued permits.
SA-2d-23	iv) **Recommendation:** DGIF recommends minimizing impacts on fisheries by relocating fishes and mussels from the construction areas. DGIF recommends that all fish and freshwater mussel relocations be supervised by qualified, professional biologists in possession of pertinent federal and/or state permits. See the DGIF comments in Attachment B.	Section 4.6.5.2 of the EIS includes this information and specifies that Mountain Valley would relocate fishes and freshwater mussels present in the waterbody crossing construction area under the d direction of qualified, professional biologists in possession of applicable federal and/or state permits.

SA-2	Virginia Department of Environmental Quality	
	g) Surface Waters and Water Withdrawals	
SA-2d-24	**i) Recommendation:** Update Section 4.3.2.7 General Impacts and Mitigation on Surface Water to include the following to explain how potential impacts to beneficial uses may be avoided (see the DEQ comments in Attachment B): In the event that withdrawals occur from surface water sources, then MVP should avoid an adverse effect or impairment to surface water by: • Withdrawing no more than 10% of the instantaneous flow rate from the channel. • Using the intake screens designed so that screen openings are not larger than 1 millimeter and; • Ensuring that screen face intake velocities are not greater than 0.25 feet per second. If surface water sources are used, then the EIS should include a discussion of what steps will be taken by MVP and its contractors to ensure that the requirements above are met. The EIS should provide the location of withdrawals and some assessment of river flows where withdrawals are proposed with a discussion of how the withdrawals will affect flows, particularly during low flow or drought conditions. The assessment should explain if any downstream water users may be affected by these water withdrawals, particularly during low flow periods. The DEQ Office of Water Supply can provide information of nearby intakes once the location of the withdrawals is known.	See response SA-2a-23.
SA-2d-24	**ii) Recommendation:** Updated Section 4.3.2.8: Surface Water Conclusions with the following information (see the DEQ comments in Attachment B): In the event that withdrawals occur from surface water sources, then MVP should avoid an adverse effect or impairment to surface water by: • Withdrawing no more than 10% of the instantaneous flow rate from the channel. • Using the intake screens designed so that screen openings are not larger than 1 millimeter and; • Ensuring that screen face intake velocities are not greater than 0.25 feet per second. If surface water sources are used, then the FEIS should include a discussion of what steps will be taken by MVP and its contractors to ensure that the requirements above are met. The FEIS should provide the location of withdrawals and some assessment of river flows where withdrawals are proposed with a discussion of how the withdrawals will affect flows, particularly during low flow or drought conditions. The assessment should explain if any downstream water users may be affected by these water withdrawals, particularly during low flow periods. The DEQ Office of Water Supply can provide information of nearby intakes once the location of the withdrawals is known.	See response SA-2a-23.

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SA-2d-25	ii) **Recommendation:** Updated Section 4.3.2.8: Surface Water Conclusions with the following information (see the DEQ comments in Attachment B): In the event that withdrawals occur from surface water sources, then MVP should avoid an adverse effect or impairment to surface water by: • Withdrawing no more than 10% of the instantaneous flow rate from the • Using the intake screens designed so that screen openings are not larger than 1 millimeter and; • Ensuring that screen face intake velocities are not greater than 0.25 feet per second. If surface water sources are used, then the FEIS should include a discussion of what steps will be taken by MVP and its contractors to ensure that the requirements above are met. The FEIS should provide the location of withdrawals and some assessment of river flows where withdrawals are proposed with a discussion of how the withdrawals will affect flows, particularly during low flow or drought conditions. The assessment should explain if any downstream water users may be affected by these water withdrawals, particularly during low flow periods. The DEQ Office of Water Supply can provide information of nearby intakes once the location of the withdrawals is known. ***h) Wildlife Resources***	See response SA-2a-23.
SA-2d-26	i) **Recommendation:** DGIF recommends clearing of trees and vegetation during winter months outside bird nesting periods as proposed. See the time of year restrictions for general guidance at https://www.dgif.virginia.gov/wp-content/uploads/VDGIF-Time-of-Year-Restrictions-Table.pdf. If tree removal becomes necessary, DGIF also recommends adherence to its standard tree removal for bat guidance (https://www.dgif.virginia.gov/environmental-programs/environmental-services-section/) to protect threatened and endangered bats known from the region. See DGIF comments in Attachment B.	Section 4.6.3.2 addresses tree clearing windows for migratory birds. Mountain Valley would attempt to refrain from construction-related vegetation clearing between March 15 and August 15 in Virginia. If avoiding the migratory bird nesting season during construction-related clearing becomes unfeasible, Mountain Valley would consult with the FWS to identify measures to implement to minimize impacts on migratory birds.
SA-2d-27	ii) **Recommendation:** DGIF recommends that the project follow protective measures as described in the DEIS (pages 4-67 to 4-68). DGIF supports the protective measures described, including wildlife escape ramps at regular intervals along the excavated trench. See the DGIF comments in Attachment B.	Comment noted.
SA-2d-28	iii) **Recommendation:** DGIF recommends strict adherence to erosion and sediment controls, use of native plants, creation of a scrub-shrub transition zone between the forest edge and maintained herbaceous right-of-way as described in the DEIS (page 4-70). See the DGIF comments in Attachment B.	Comment noted.

SA-2	Virginia Department of Environmental Quality	
SA-2d-29	iv) **Recommendation:** Update Section 4.6.5.3: General Fisheries and Aquatic impacts to downstream users during low-flow conditions. See the DEQ comments in Attachment B.	Section 4.6.5.3 of the EIS has been revised with this information.
	4) Recommendations for Specific Plans	
	a) *Exotic and Invasive Species Control Plan*	
SA-2e-1	i) **Recommendation:** Include all species on the DCR Invasive Species list (https://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf) in the Exotic and Invasive Plant Species Control Plan (January 24, 2019 supplemental filing-Session Number 20190124-5165), not only moderately and highly invasive species as mentioned on page 2 of the plan. See the DCR comments in Attachment B.	Mountain Valley has revised it Exotic and Invasive Plant Species Control Plan to include all species on the DCR Invasive Species List.
SA-2e-2	ii) **Recommendation:** Include an invasive species inventory in the invasive species plan for the project area including species and methods for treating invasive species based on the current DCR Invasive Species List. See the DCR comments in Attachment B.	Mountain Valley has included an inventory in their revised report.
	5) Errors in the EIS	
SA-2f-1	**a) Recommendation:** On pages 2-25 and 4-8 the term "silt rock" was used in error. Replace with "silt sock" if that term meets the intention. See the DEQ comments in Attachment B.	Comment noted. This revision has been made to the EIS.
SA-2f-2	**b) Recommendation:** Revise text on page 2-25 so that silt fence and silt sock practices are used as sediment barriers not diversion structures. See the DEQ comments in Attachment B.	Comment noted. This revision has been made to the EIS.

SA-4	North Carolina Department of Environmental Quality

NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

September 16, 2019

Chairman Chatterjee, and Commissioners Glick and McNamee
c/o Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE Room 1A
Washington, D.C. 20426

Re: North Carolina Department of Environmental Quality Comment on the draft Environmental Impact Statement (DEIS) for the Southgate Project, proposed by Mountain Valley Pipeline, LLC: Docket Number: CP19-14-000.

Dear Commissioners:

SA-4a	The following comments are submitted by the North Carolina Department of Environmental Quality (Department or DEQ), in response to the July 26, 2019, Federal Energy Regulatory Commission's (Commission or FERC) Notice of Availability of the Draft Environmental Impact Statement (DEIS) for the Proposed Southgate Project (Docket Number CP19-14-000).[1] In the Notice, the agency "concludes that approval of the proposed project would result in some adverse environmental impacts, [h]owever if … constructed and operated in accordance with applicable laws and regulations, the mitigation measures discussed in this EIS, and our recommendations, these impacts would be reduced to less-than-significant levels."[2] The comments submitted herein relate to those potential impacts of the Proposed Southgate Project (Project) in North Carolina and serve to (i) reiterate the Department's previous concerns that the Project is unnecessary and not in the public interest, (ii) address the inadequate review and consideration of "reasonable alternatives" in the DEIS, and (iii) identify potential environmental effects that require further evaluation.[3]	Comment noted.

SA-4	North Carolina Department of Environmental Quality	
SA-4b	I. The Proposed Southgate Project is Not in the Public Interest At this time, the Department remains unconvinced that the Project satisfies the criteria for the Commission to deem it in the public interest, and whether it is essential to ensure future growth and prosperity for North Carolinians. This concern was articulated in the letter dated November 5, 2018, in our comments on the stated purpose and need for the Project. Despite the Commission's own recognition in 2018, that its review of projects does "not [look] beyond contracts for a further determination of market or supply….",[4] and outside recommendations that FERC consider such factors in its analyses, the Commission appears to ignore these fundamental data points in its review. We provided data in the November 2018 letter, demonstrating the incongruity between the design-day requirements needed to serve projected population growth in the PSNC (now, Dominion Energy) service territory (11% growth) with the additional throughput contracted capacity for the Project (100% increase) and requested that the Commission investigate beyond the precedent agreement as its sole basis for assessing the need for the Project. In fact, as of the date of this comment, 20% of the pipeline capacity is still unsubscribed, which suggests that the basis for this Project satisfies artificial demand. We emphasize our previous assertion that "without further demonstration of actual demand … certifying the Southgate Project could result in overbuilding a gas pipeline in which the single discernible benefit of the provision of an assured excess in gas capacity available only to [Dominion Energy] in the future."[5]	See response GEN-2 in appendix I.2. The Commission will consider the need for the Project and may address these comments in any Order it issues.
SA-4c	II. The DEIS Provides an Inadequate Review and Incomplete Consideration of Alternatives The National Environmental Policy Act requires the Commission to explore all reasonable alternatives by addressing "the potential for accomplishing the proposed objectives through the use of other systems…[including] non-gas energy alternatives, and/or energy conservation or efficiency, as applicable."[6] DEQ submitted comments addressing alternatives assessments first in response to the Notice of Inquiry issued by FERC in April 2018, soliciting feedback on whether and how to revise the policy statement on the certification of new natural gas transportation facilities pursuant to the Natural Gas Act (NGA).[7,8] Again, in September 2018, DEQ provided comments on FERC's alternatives assessment, this time specific to the Notice of Intent for the Proposed EIS/Scoping for the Project. In both comments, the Department	See response ALT-1 in appendix I.2. Because renewable energy sources and energy consetbation are not natural gas transportation alerternative, and therefore, do not meet the purpose and need of the Project, they were not considered in our alternatives analysis.

SA-4	North Carolina Department of Environmental Quality	
SA-4c	requested that FERC amend its alternatives assessment and address "the potential for accomplishing the proposed objectives through the use of other systems," including "non-gas energy alternatives, and/or energy conservation or efficiency, as applicable."[9] For the third time, the Department repeats this position, this time regarding the preparation of the environmental documents for the Project – the FERC alternatives assessment must consider other systems, including *non-gas energy alternatives, and/or energy conservation or efficiency* (emphasis added). The Commission's own 2002 guidance for Environmental Report Preparation provides that the alternatives analysis should "[d]escribe the effect of any state or regional energy conservation, load-management, and demand-side management programs on the long-term and short-term demand for the energy to be supplied by the project."[10] In our July 25, 2018, response to the Notice of Inquiry for changes to the NGA Policy Statement, we stated that natural gas is but one of several resources that can meet customers' electric and thermal energy needs. We projected that within the time horizon to which a new Policy Statement would apply, a sea change in the economic models for natural gas construction and operations, especially when compared to renewable energy resources, would take place. Fifteen months ago, projected natural gas consumption was largely flat due to efficiency gains, shifting populations, and the declining costs of renewable energy resource alternatives. Since then, these predictions have borne out and the narrative continues: • Domestic commercial and residential natural gas demand is flat.[11] • The United States becomes a net energy exporter in 2020, due to large increases in fossil fuel production coupled with slow growth in domestic energy consumption.[12] • In September 2019, natural gas-powered electricity is outbid by record-low solar + storage power purchase agreements (25 year, 3.3¢/kWh deal between Los Angeles Water and Power and 8minute Solar Energy).[13] • By 2035, it will be more expensive to run 90% of the proposed natural gas plants than it will be to build new solar and wind plus storage systems in the United States.[14,15] The alternatives assessment in this DEIS ignores the demonstrated size and scope of the transitioning energy economy which results in artificially tipping the scales for natural gas, no matter the costs to customers or the impacts on the environment. In keeping with the 2002 Guidance Manual, DEQ provided FERC with three examples of state-level and market-based programs specific to energy demand in North Carolina for FERC's consideration as part of our September 2018 response to the NOI for the Proposed EIS. Six weeks after DEQ submitted these comments, Governor Roy Cooper signed Executive Order 80, directing North Carolina to transition to a clean energy economy and address the impacts of climate change on the state. EO 80 establishes a goal of 40% reduction in statewide greenhouse gas emissions (GHGs) from 2005 levels by 2025, and directs the NC Department of Environmental Quality to develop a Clean Energy Plan. EO 80 lays the foundation for North Carolina's clean energy future and DEQ requests that FERC thoroughly consider this new state policy and its implementation to date in its alternatives analysis in the final EIS. We point FERC to the Clean Energy Plan (both the draft document and supporting research)[16,17] as a valuable resource for the Commission to reference in its alternatives analysis.	See response ALT-1 in appendix I.2. Because renewable energy sources and energy conservation are not natural gas transportation alternatives, and therefore, do not meet the purpose and need of the Project, they were not considered in our alternatives analysis.

SA-4	North Carolina Department of Environmental Quality	
SA-4c	DEQ believes that the methodology underlying the FERC's alternatives analysis is insufficient. DEQ concludes this because the process begins with the assumption that the purpose of the Project – as stated by the applicant, Mountain Valley – is substantiated. As a result, the alternatives assessment in the DEIS represents little more than a check box for NEPA compliance, with its results predetermined from the outset. North Carolinians deserve a thorough assessment of Project alternatives, indeed more than what was done in consideration of the No Action Alternative, the four system alternatives assessing other gas transportation infrastructure, and the combined eleven major and minor route alternatives. Despite the limitations in the methodology of the alternatives analysis, DEQ requests that in addition to addressing the aforementioned and our previously submitted comments, FERC conduct a thorough evaluation of non-natural gas alternatives. Specifically, DEQ recommends that FERC evaluate the "potential for energy efficiency, energy conservation programs, and renewable energy (e.g., wind, solar) to eliminate or meet the need for the Southgate Project."[18] The Commission justifies its decision to end its analysis of non-natural gas alternatives because the stated purpose of the Project is to transport natural gas. This circular reasoning based on an unsubstantiated purpose does not hold up in today's rapidly changing energy economy. The cost of renewable energy resources is rapidly declining and the economics now favor utility-scale solar and onshore wind plus storage over construction of natural gas infrastructure. To dismiss cost-effective non-gas energy alternatives with demonstrated *significant environmental advantage* because "they are not transportation alternatives" especially in light of the environmental effects posed by development of greenfield pipelines is inadequate.	See response ALT-1 in appendix I.2. Because renewable energy sources and energy consetbation are not natural gas transportation alerternative, and therefore, do not meet the purpose and need of the Project, they were not considered in our alternatives analysis.
SA-4d	III. Potential Environmental Effects that Require Further Evaluation The Department commends FERC and its staff on its review of the potential environmental effects posed by the Project and the proposed mitigation measures recommended in the DEIS. It is DEQ's responsibility to thoroughly review the DEIS, the Project, and its potential impact on North Carolina's environment and people. As such, we present the following comments and recommendations for FERC to consider in development of the final EIS.	Comment noted.

SA-4	North Carolina Department of Environmental Quality	
SA-4e	*A. Thorough Examination of Greenhouse Gas Emissions* In the DEIS, the Commission recognizes: the threats posed by climate change; the assessments, findings, and projections of the U.S. Global Change Research Program; and Governor Cooper's recent Executive Order 80, North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy.[19] DEQ agrees with the Commission in its statement that the "construction and operation of the Southgate Project would increase the atmospheric concentration of GHGs, in combination with past, current, and future emissions from all other sources globally and contribute incrementally to future climate change impacts."[20] However, the Department disagrees with the Commission's assertion that no methodology exists to attribute or predict the climate change effects from the Project. We presented several approaches on this topic in comments previously submitted to the Commission on July 25, 2018, and September 10, 2018.[21] If our recommendations, in combination with the Commission's own review of modeling tools proved to be insufficient, then NEPA requires the Commission to conduct independent research or otherwise compile missing information necessary to complete its evaluation.[22,23] More broadly, the Department believes that "the Commission should be doing more as part of its are critical to determining whether the Projects are in the public interest."[24,25] In *Sierra Club v. FERC,* the D.C. Circuit Court of Appeals vacated the Commission's decision on a pipeline project in Florida due to FERC's failure to properly analyze GHGs. The Court found that the Commission has a statutory responsibility to document and consider how its approval of a gas pipeline project will lead to increases in emissions of GHGs that contribute to climate change.[26] As a result, the Commission must consider the Project's direct and indirect environmental effects, the latter including GHG emissions, no matter how much later in time or removed in distance from the project the emissions may be.[27] It is our Agency's position that NEPA does not permit agencies to ignore the well-documented impacts of climate change in the conduct and preparation of their environmental impact analyses.[28] Furthermore, NEPA requires federal agencies to take a "hard look" at all environmental consequences – whether direct or indirect – of any proposed action on the environment, and that "hard look" obligates agencies to carefully consider every significant environmental impact of a project, which must necessarily include a project's contribution to climate change through its GHG emissions.[29,30,31] In summary, because we believe the GHG impacts analysis in the is DEIS inadequate, it does not meet the NEPA standard. For the reasons stated above, the Department requests that FERC	See response CI-1 in Appendix I.2.

SA-4	North Carolina Department of Environmental Quality	
SA-4f	IV. Environmental Justice and Other Impacts that Require Further Evaluation *A. Additional Consideration of Environmental Justice* The Department appreciates the initial treatment and evaluation of socioeconomic impacts in Section 4.9 of the DEIS, particularly the Commission's consideration of environmental justice and the character of the potentially impacted communities. Further, we thank FERC for addressing several of the socioeconomic impacts that DEQ recommended in our Project-related comments.[32] After reviewing the DEIS, the Department agrees with the assertion that "[c]onstructing and operating the Project may affect the socioeconomic character of communities near the proposed facilities."[33] DEQ generally agrees with the Commission's finding that "[a]lthough low income and minority populations exist within the Project area, the Project would not have a disproportionately high and adverse environmental or human health impact on minority or low income populations,"[34] However, the Department requests that the Commission conduct further evaluation of the communities surrounding the Project utilizing a screening or mapping tool (e.g. EPA's EJSCREEN or the NCDEQ Community Mapping System), as recommended in the 2017 *Federal Energy Regulatory Commission, Office of Energy Projects Guidance Manual for Environmental Report Preparation for Applications Filed under the Natural Gas Act.*[35,36,37] Employing such a screening or mapping tool would provide a visualization of key findings and make data interpretation easier. This is critical when considering individuals who have a lower level of education or who may be deemed as limited English proficient (LEP). In addition, the EJSCREEN mapping tool allows for a deeper view into the demographics of a population within a designated buffer of the proposed project. Using a mapping tool to analyze varying buffer distances from the Project (i.e. ¼ miles, ½ miles, ¾ miles, 1 mile, etc.) provides a way to see how population demographics may change with increased distance. This methodology allows for more granular analysis of the surrounding communities and provides a better understanding of those individuals who live the closest to the Project. This methodology also allows for comparisons between the population characteristics of those who live nearer and those who live farther away from the Project. DEQ recommends that these comparisons also include the state-level data. *B. Evaluation of Socioeconomic Impacts in Dominion Energy Service Territory*	As discussed in section 4.9.8, while there are several low income and minority populations crossed by the pipeline route, we conclude that they would not be disproportionately affected by the pipeline or the compressor station. Section 4.9.8 has been updated to include an analysis of linguistically isolated populations and an analysis on the educational attainment of the population. Section 4.9.8 has also been updated to include several maps of the Project and all census blocks crossed by the pipeline route, including those that contain Environmental Justice communities. The Environmental Justice analysis conducted in the EIS includes a more thorough analysis than can be conducted using EJScreen; therefore, EJSCREEN was not used.

SA-4	North Carolina Department of Environmental Quality	
SA-4g	To supplement the socioeconomic analysis, the Department requests that FERC evaluate the economic impact on North Carolinians residing or conducting business in the Dominion Energy service territory, in addition to the two counties in the Project area (Alamance and Rockingham). It stands to reason that all Dominion Energy customers will be impacted by changes in their energy rates once the Southgate gas flows. According to Section 4.13 on cumulative impacts, the DEIS states that Mountain Valley reports a subscribed volume of natural gas (300 MMcf/day), which would be used in North Carolina, primarily by residential and small and medium sized commercial customers for heating, cooking, and other end-uses.[38] Because residential and commercial customers will be directly affected by the construction, development, and transport of this new fuel resource, the Department requests that FERC evaluate potential and anticipated economic impacts on these end-users. In such an evaluation, DEQ requests that FERC consider the energy burden – the percentage of a household's annual income that is spent on energy bills – that the Project will have on ratepayers in Dominion Energy's service territory. The U.S. Census Bureau reports that in 2018, approximately 15% of the state's population, or 1.5 million North Carolinians, live in poverty,[39] many of whom live in counties classified as Tier 1 or Tier 2 by the North Carolina Department of Commerce. Every year, all 100 counties are ranked into tiers of economic wellbeing based on average unemployment, median household income, population growth, and adjusted property tax per capita.[40] Tier 1 Counties are considered the most economically distressed, while Tier 3 Counties are considered the least economically distressed. Many of the low income individuals who live in Tier 1 or 2 counties, identify as Hispanic or Latino or African American, and tend to reside in older housing units. The North Carolina Housing Coalition has examined the energy burden on low-income households in the state. According to the Coalition, low-income households spend a disproportionate percentage of their household earnings on energy costs when compared to their higher earning counterparts. The Coalition reports that in some counties individuals who earn less than the Area Median Income (AMI) for that county, spend two- to three-times more of their household incomes on energy than the average household in the county. In some counties, those earning less than the AMI divert nearly 33% of their incomes to pay energy bills.[41] The Department conducted a preliminary evaluation of the energy burden on households in the counties served by Dominion Energy using public data made available by the Coalition layered on the counties identified by the Department of Commerce tier ranking.[42] This evaluation of the energy burden (using the percentage of annual income that energy accounts for in AMI households) was performed for both low income homeowners and low income renters as displayed in Figures 1 and 2 below.	As discussed in section 1.1 of this EIS, The Commission bases its decisions on financing, rates, market demand, gas supply, environmental impact, and other issues concerning a proposed project. A discussion of potential rate increases due to the Project is outside the scope of the EIS.

SA-4	North Carolina Department of Environmental Quality

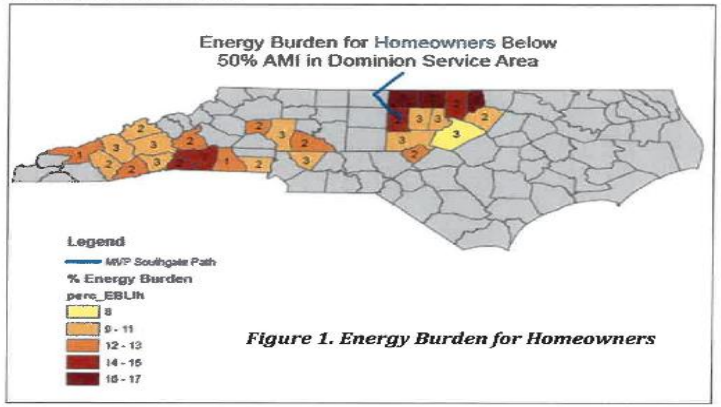


Figure 1. Energy Burden for Homeowners

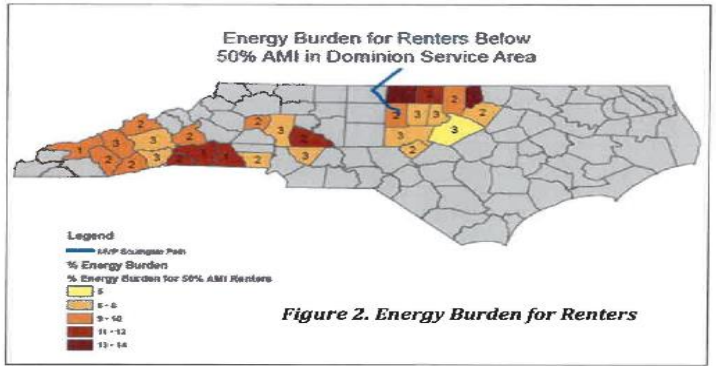


Figure 2. Energy Burden for Renters

SA-4g cont	The energy burden for AMI households in the Dominion Energy service area ranges from 5% (for renters in Wake County) to more than 16% (for homeowners in Person County). To put this in context, the U.S. Department of Health and Human Services classifies energy burden at an amount greater than 6% of a household's annual income as "unaffordable." Based on this definition, each of the counties' lowest earning households (with the exception of Wake County renters) in the Dominion Energy service area have an "unaffordable" average energy burden. Furthermore, these initial evaluations demonstrate that the socioeconomic impacts of the Project potentially extend well beyond the physical route of the pipeline. We ask that FERC use this data to fully evaluate the imposition of pass-through costs for the construction, operation, and ROI for the Project on these populations. This is fundamental information that the Commission must incorporate in its determination of need for the Project. North Carolinians residing or conducting business in Dominion Energy service territory should not be left to shoulder increased energy rates for this Project for which there is no demonstrable demand.	See response SA-4g.

SA-4	North Carolina Department of Environmental Quality	
SA-4h	*C. Issues Beyond DEQ's Jurisdiction* While the increasing practice of "quick take," and anecdotal diminution of property values proximate to pipeline projects are not within DEQ's purview, they are concerns that have been raised to our Department which we believe warrant comprehensive consideration and assessment of their socioeconomic impacts in the final EIS. In addition, we request FERC evaluate the cost-benefit of residential electrification versus greenfield natural gas pipelines to serve heating demand.	Socioeconomic impacts, including property values, are discussed in section 4.9.5 of the EIS. Conducting a cost-benefit analysis of the project compared to other non-proposed projects is outside the scope of the EIS and the requirements of NEPA.
SA-4i	V. Conclusion In summary, we agree with FERC that the Project will result in some adverse environmental impacts with possible extensive socioeconomic impacts as well. In this third comment pertaining to the Project, DEQ reiterates the position that the Project has not been shown to satisfy the criteria for the Commission to deem it in the public interest. We have provided recommendations that FERC evaluate the demand for the Project beyond precedent agreements and assess renewable and other non-gas energy alternatives that are technically and economically feasible substitutes for greenfield gas pipeline development. Anticipating the unlikelihood of the selection of the No Action Alternative, we included numerous suggestions and a glide path for completing a thorough environmental review of the potential impacts the Project poses to North Carolina. Thank you for the opportunity to comment on the DEIS. I trust that the comments will be considered as the Commission reviews and completes the environmental documents for the Project. If you have any questions regarding our comments, please contact me at: (919) 707-8619 or sheila.holman@ncdenr.gov. Sincerely,  Sheila C. Holman, Assistant Secretary for the Environment North Carolina Department of Environmental Quality	See response GEN-2 in appendix I.2.

SA-4	North Carolina Department of Environmental Quality	
	APPENDIX A. **DEIS Comments from NCDEQ Division of Energy, Minerals, and Land Resources (DEMLR)**	
SA-4j	**2.3 Land Requirements.** 149.8 acres of contract yards. It is unclear from the DEIS if the contractor yards are land uses in keeping with utility line construction or if they are intended to be long term/permanent laydown areas that are to be used for utility maintenance or future expansion, going forward. Post construction stormwater control measures may be appropriate or required if these sites are to be used long term. No detail was provided on how contractor yard restoration would occur once work is completed. No details, criteria, schedules or detail on post deconstruction inspections were provided. No information was provided to address efforts to abate soil compaction, enhance infiltration, replanting efforts, or identify unauthorized uses, post construction.	Use of contractor yards, temporary work spaces, and access roads would be limited to the time of construction and restoration. All areas would be returned to pre-construction conditions unless otherwise requested by the landowner. See section 2.3.4 for further discussion.
SA-4k	62.4 acres of access roads. DEIS does not clearly explain MVP's criteria for temporary roads. Many different type of land uses install "temporary roads." However, "temporary roads" are often or at least periodically put back into service for use. This commonly occurs in forestry, agriculture and industrial settings. Thereby, the roads are not truly temporary, rather the uses are episodic and fallow roads often remain as an ongoing source of sedimentation. The DEIS does not explain how MVP will ensure the roads are truly temporary and will not remain sources off site sedimentation. No details, criteria, schedules or detail on post deconstruction inspections were provided. No information was provided to address efforts to abate soil compaction, enhance infiltration, replanting efforts, or identify and abate unauthorized uses, post construction.	Unless agreed upon by the landowner, temporary access roads would be returned to pre-construction condition and we expect that use would be temporary and limited to the time of construction and restoration. See section 2.3.5 for further discussion.
SA-4l	Additional Temporary Workspace – 184.9 acres in NC. The DEIS includes no detail on restoration. No information is provided detailing revegetation and abating soil compaction to address increase stormwater runoff and decrease infiltration, post construction.	Section 4.8.1.3 of the FEIS for provides details on the restoration of additional temporary work spaces. Mountain Valley would be required to adhere to the requirements in its Plan and Procedures regarding mitigation, erosion control, and restoration.
SA-4m	**2.4.1.2 Clearing and Grading.** DEIS does not detail how areas beyond construction corridor would be identified to ensure work/land disturbance and impacts to waters do not occur beyond the footprint of the approved construction corridor.	Mountain Valley would follow measures outlined in its Plan and Procedures, which address the identification and marking of Project workspaces and sensitive resources.
SA-4n	**2.4.1.3 Trenching.** The DEIS states "excess rock would be trucked to approved disposal areas." However, the DEIS does not detail how this approval process will occur and be managed to ensure impacts to waters, wetlands, or need for additional erosion control measures would not occur. **2.4.1.5 Lowering-in and Backfilling.** The DEIS states "The pipeline would then be lowered into the trench by side-boom tractors. Trench breakers (such as sand bags or foam) would then be installed in the trench on slopes at specified intervals to prevent subsurface water movement along the pipeline." The DEIS includes no detail, requirements or construction criterial was detailed on installation, construction or specifics of when anti-seep/trench breakers are to be used.	Section 2.4.1.3 of the EIS has been updated with details regarding rock disposal. In areas where the rock/stone is to remain, included in landowner approval is acknowledgement that additional erosion and sediment control may be needed, as well as permanent stormwater management, to be handled in Post-Construction/Restoration Plans. Unless specifically allowed through additional state and Federal permitting, no impacts to aquatic resources will occur through the placement of excess rock. If during construction rock is encountered in steep topographic areas, the rock will be relocated via truck to a stable area with more favorable slope conditions.

SA-4	North Carolina Department of Environmental Quality	
SA-4o	Detail is not provided as to how MVP will ensure contractors understand when to install these measures. Failure to do properly do so could result in impacts to waters and wetlands. The DEIS states "first 12 inches at the bottom of the trench above the pipe would be clean fill, absent of rocks. Limestone dust may be brought in and used as padding material only when other local suitable fill is unavailable." In this section, the DEIS fails to clearly state that suitable material will not consist of soils contaminated with oil, petroleum, hazardous materials, or coal combustion residuals.	See Section 2.4.1.5 of the EIS and Mountain Valley's Plan for details on regarding use of anti-seep/trench breakers. Contractors will be given copies of all plans and an environmental inspector will be on site during construction everyday to monitor appropriate installation of trench breakers.
SA-4p	Detail is not provided as to how MVP will ensure contractors understand when to install these measures. Failure to do properly do so could result in impacts to waters and wetlands. The DEIS states "first 12 inches at the bottom of the trench above the pipe would be clean fill, absent of rocks. Limestone dust may be brought in and used as padding material only when other local suitable fill is unavailable." In this section, the DEIS fails to clearly state that suitable material will not consist of soils contaminated with oil, petroleum, hazardous materials, or coal combustion residuals.	Section 2.4.1.5 has been updated to note that Mountain Valley would use certified clean fill if needed for the Project.
SA-4q	**2.4.1.8 Cleanup and Restoration.** DEIS states that "excess rock/stone would be disposed of within the construction right-of-way with landowner approval or at an approved landfill." Based on this cleanup and restoration approach, the DEIS does not address how this process will occur and be managed to ensure impacts to waters, wetlands, or the need for additional erosion control measures would not occur.	See response to SA-4n.
SA-4r	**2.4.2.1 Waterbody Crossing.** The DEIS states that "Trench spoil would be placed on the banks above the high water mark for use during backfilling. In some cases, the pipeline would be coated with concrete for negative buoyancy." The DEIS does not explain what measures will be taken to prevent direct contact between uncured or curing concrete and waters of the state. The DEIS does not detail how inadvertent contact of uncured concrete will be managed to ensure that discharges to waters of the state do not occur.	Section 2.4.2.1 of the EIS has been revised to describe Mountain Valley's handling of concrete. Mountain Valley has stated that no concrete will be cured on the right-of-way.
SA-4s	**2.4.2.2 Wetland Crossings.** The DEIS does not explain which measures will be taken to prevent direct contact between uncured or curing concrete and water of the state. The DEIS did not detail how inadvertent contacts of uncured concrete will be managed to ensure that discharge to waters of the state do not occur. The DEIS states that "After the pipeline sinks into position, trench breakers are installed where necessary to prevent the subsurface drainage of water out of the wetland." Details are not included to describe how MVP will ensure contractors understand when to install these measures. Failure to do this properly could result in impacts to waters and wetlands. **2.4.2.5 Foreign Utilities.** The DEIS does not clearly address how MVP plans to respond to impacts to potable	See response SA-4r and SA-4o.

SA-4	North Carolina Department of Environmental Quality	
SA-4t	~~The DEIS does not clearly address how MVP plans to respond to impacts to potable~~ waterlines, reuse lines, sewer lines (both gravity lines and force mains), and other fuel supply lines that may be encountered along the Project route. It is imperative that MVP have contacts with all local governments and utilities along the Project route and have a firm understanding of their reporting, remediation, and any other requirements. This was not addressed in the DEIS.	Discussion of foreign utility lines crossed by the Project is provided in section 2.4.2.5. Septic systems and water lines identified to date and associated mitigation measures are discussed in section 4.8.3.1.
SA-4u	**4.1.4.6 Shallow Bedrock and Blasting.** The DEIS states that "As outlined in the General Blasting Plan, Mountain Valley would: • use seismograph equipment to monitor the velocity of the blasts at select monitoring locations including closest adjacent facilities; • use excess rock from blasting to restore the right-of-way, placed as per landowner agreements, or hauled off-site to an approved disposal site."	Section 4.1.4.6 and Mountain Valley's General Blasting Plan provide information on blasting procedures that will be followed by Mountain Valley during construction.
SA-4v	The DEIS fails to provide specific detail on actual blasting procedures, clearly whether and when seismographs will be used to monitor ground vibration and noise levels. The DEIS does not detail how excess rock disposal approval process will take place and be managed to ensure impacts to waters, wetlands, or need for additional erosion control measures would not occur.	See response SA-4n.
SA-4w	**4.1.4.7 Flooding.** The DEIS explains that mitigation measures may include using concrete coating, gravel-filled blankets, or concrete weights on the pipeline to maintain negative buoyancy. The DEIS does not explain what measures will be taken to prevent direct contact between uncured or curing concrete and water of the state. Furthermore, the DEIS does not detail how inadvertent contacts of uncured concrete will be managed to ensure that discharge to waters of the state do not occur.	See response SA-4r.
SA-4x	**4.3.2.6 Surface Water Appropriations.** Hydrostatic Test Water The hydrostatic test water would be discharged through sediment filters in vegetated uplands away from waterbodies and wetlands. MVP did not detail in the DEIS how it will ensure discharges occur at non-erosive velocities. The DEIS does not include or propose sampling to determine or demonstrate if protective coatings, sediment, turbidity or other constituents would be discharged with test water. Horizontal drilling water The HDD process requires water to be added to a bentonite clay mixture to create drilling fluid. The disposal of the drilling fluid is not adequately detailed in the DEIS.	See section 4.3.2.7 for discussion of impacts and mitigation related to water discharge. Mountain Valley would discharge hydrostatic test water in well-vegetated areas within structures to control runoff. Mountain Valley would assess field conditions to determine the appropriate energy dissipation device and would conduct sampling to ensure that discharges meet any regulatory thresholds.
SA-4y	"All drilling fluid would be disposed of at an approved facility or recycled in an approved manner in accordance with the HDD Contingency Plan. Mountain Valley would separate all water from HDD equipment washing areas from wetlands or waterbodies by drainage barriers to prevent any runoff entry." **2.4.2.6 Agriculture Lands.** The DEIS explains that other mitigation measures in agricultural lands would include relief from compaction and removal of rocks from topsoil.	Section 4.3.2.6 of the FEIS. All drilling fluid would be disposed of at an approved facility or recycled in an approved manner in accordance with the HDD Contingency Plan.
SA-4z	**4.1.2 Mineral Resources.** The DEIS states that "The East Alamance Quarry is a crushed stone aggregates operation in ~~Haw River and is owned and operated by Martin Marietta Materials, Inc. (North Carolina~~	Comment noted.

SA-4	North Carolina Department of Environmental Quality	
SA-4aa	Haw River and is owned and operated by Martin Marietta Materials, Inc. (North Carolina Department of Environmental and Natural Resources Permit No. 01-08) on 600 acres of land, 375 acres of which are bound under Permit No. 01-08. This permit also provides limitations on blasting practices at the quarry, restricting maximum peak particle velocities to 1.0 inch per second. The Project alignment would cross parcels owned by the East Alamance Quarry for approximately 230 feet, near MP 67. Mountain Valley obtained public information that indicates that the operator has not yet filed for a mining permit on the parcel in question (NC-AL-128); however, through discussions with the operator, it was identified that future mining operations may be completed on this parcel. Mountain Valley therefore proactively rerouted the pipeline on this parcel in an attempt to minimize impacts on any future expansion of the East Alamance Quarry. Currently, the Project alignment is approximately 430 feet from disturbed areas at MP 66.7 and more than 1,200 feet from disturbed areas at MP 67. Mountain Valley has committed to working with the East Alamance Quarry regarding landowner easement agreements to minimize	Mountain Valley has rerouted the pipeline, and the Project would not cross parcels owned by the East Alamance Quarry (Martin Marietta Materials, Inc.). The proposed pipeline would be on average 50 feet from parcels owned by the quarry.
SA-4aa. Cont.	inconvenience and impact to the quarry. Based on these factors, we conclude that the Project would not significantly impact or be affected by the East Alamance Quarry." The DEIS explains that the project alignment would cross parcels owned by the East Alamance Quarry for approximately 230 feet. A permit modification was submitted to DEMLR on April 15, 2019, by Martin Marietta Materials, Inc. for this mine. This modification has not yet been approved by the Division and it did not address this MVP alignment crossing. The modification plans submitted by Martin Marietta Materials will either need to release this area from the permit or Marin Marietta Materials will need to request a modification for its mining permit. Further, the description in the DEIS, as included above, does not accurately depict/address blasting permit conditions as set forth in the East Alamance mining permit 01-08, which includes seismic monitoring.	Mountain Valley has rerouted the pipeline, and the Project would not cross parcels owned by the East Alamance Quarry (Martin Marietta Materials, Inc.). The proposed pipeline would be on average 50 feet from parcels owned by the quarry.
SA-4bb	**4.6.5.3 General Fisheries and Aquatic Resources Impacts and Mitigation.** In the DEIS, Mountain Valley states that it "would minimize impacts from water withdrawals by adhering to the measures in Mountain Valley's Procedures and E&SC Plan. The measures outlined in these plans include preventing water withdrawal from and discharges into exceptional value waters or waters that provide habitat for federally listed threatened and endangered species, unless approved by applicable resource and permitting agencies; screening and positioning water intakes at the water surface to minimize the entrainment of fish and other biota; maintaining adequate flow rates to protect aquatic species; placing water pumps in secondary containment devices to minimize the potential for fuel spills or leaks; regulating discharge rates; and using energy dissipating devices and sediment barriers to prevent erosion. Mountain Valley would obtain and comply with all state water withdrawal and discharge permits." This is not typically required as a part of the state Erosion and Sedimentation Control Plan approval process, and oversight and management of this activity needs to be revisited by MVP.	Mountain Valley would need to obtain written permission from the FWS for any water withdrawal from a waterbody containing federally listed species prior to getting FERC approval to commencing withdrawal activities. In addition, Environmental Inspectors would be on-site to monitor water withdrawal and discharges. Mountain Valley also has agreed to participate in FERC's third party monitoring program, in which a FERC representative would be on site monitoring such activities
	4.8.1.1 Pipeline Facilities, Agriculture Lands.	

SA-4	North Carolina Department of Environmental Quality	
SA-4cc	The DEIS explains that "To avoid and minimize impacts on agricultural lands, Mountain Valley would implement numerous measures as identified in FERC's Plan including measures that address soil segregation, soil compaction, and irrigation systems and would adhere to all other applicable federal, state, and local permit requirements." The DEIS does not clearly detail how soil compaction will be addressed or abated.	Soil compaction is discussin section 4.2.4 of the EIS. Additionally, section 4.8.1.1 of the EIS has been updated to include example mitigation measures. A more detailed list is provided in Mountain Valley's Plan
SA-4dd	**APPENDIX B.** **DEIS Comments from NCDEQ Division of Water Resources (DWR)** **4.3.2.2 Surface Water Crossings.** The DEIS does not explicitly provide that MVP will comply with all the requirements in the state 404 permit and 401 water quality certification, in addition to complying with other pertinent federal and state requirements.	See section 1.4.7 in the EIS (MVP must satisfy all federal permits). Applicants cannot begin construction of the Project until all state, federal, and local permits are received
SA-4ee	**4.3.2.3 Contaminated Sediments and Impaired Waters.** The DEIS does not specifically address whether the Project will cross any watersheds draining to impaired waters and if so, what additional measures will be employed to protect these watersheds.	Section 4.3.2.3 of the EIS discusses impaired waterbodies.
SA-4ff	**4.3.2.4 Federal and State Designated Use and Exceptional Waters.** 1. The DEIS provides that "North Carolina administers a river designation intended to protect specific rivers with outstanding natural, scenic, educational, recreational, geologic, fish and wildlife, historic, scientific, cultural or other values. The Project does not cross any North Carolina rivers with these designations." DEQ repeats its request made in our comment on Draft Resource Report 2 that MVP address whether the Project crosses the watershed of any of these rivers, and if so, describe the additional measures MVP will take to protect these valuable resources. 2. The DEIS provides that the Project will cross WS-II, WS-IV, Nutrient Sensitive Waters (NSW), and HQW, but there is no discussion of what measures MVP will take to avoid those crossings or what additional measures will be employed within the watershed of those classified waters to ensure they are protected. In particular, the Department calls attention to the WS-II watershed (the entire watershed not just the "watershed" designated in the WS rules for development). DEQ repeats its request made in our comment on DRR2 that MVP address specific alternatives analysis in addition to the general discussion of these waterbodies in the DEIS.	Surface waterbody crossing methods are described in sections 2.4.2.1 and 4.3.2.2 of the EIS. In addition Mountain Valley would adhere to Mountain Valley's Plan and Procedures; and the Project-specific E&SC Plan. The Plan and Procedures contain requirements for erosion and sediment control during the construction and restoration of the Project. The Plan and Procedures also contain performance based standards to contain soils within the limits of disturbance. To ensure compliance with these standards, Mountain Valley has agreed to a FERC third-party monitoring program. FERC Compliance Monitors would inspect the project daily to ensure compliance during all phases of construction and restoration. If the Project is determined to be out of compliance, Mountain Valley would be required to remedy the situation as soon as possible.
SA-4gg	**4.3.2.7 General Impacts and Mitigation on Surface Water.** The DEIS states that hydrostatic test water would be discharged over vegetated land surfaces and the discharge rate would be regulated using valves and energy dissipation devices. DEQ requests a detailed evaluation of discharge rates be included in the final EIS.	See response SA-4x.

SA-5 North Carolina Wildlife resources Commission

North Carolina Wildlife Resources Commission

Gordon S. Myers, Executive Director

MEMORANDUM

TO: Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission

FROM: Vann Stancil
Research Coordinator
Habitat Conservation Division

DATE: September 16, 2019

SUBJECT: Comments on Draft Environmental Impact Statement for Southgate Project – Mountain Valley Pipeline, LLC. CP19-14-000

Biologists from the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the Draft Environmental Impact Statement (DEIS) prepared by the Federal Energy Regulatory Commission (FERC) for the Southgate Project proposed by Mountain Valley Pipeline, LLC (MVP). Biologists with the NCWRC have met with representatives of the MVP Southgate Project in the past and provided comments on the project. Comments are provided in accordance with certain provisions of the Clean Water Act of 1977 (33 U.S.C. 1251-1387), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), North Carolina Environmental Policy Act (G.S. 113A-1 through 113A-10; 1 NCAC 25) and North Carolina General Statutes (G.S. 113-131 et seq.).

The Southgate Project is an interstate natural gas transmission pipeline project that will extend approximately 73.7 miles from Pittsylvania County, Virginia to delivery points in North Carolina. Approximately 42.8 miles of 16" diameter pipeline and associated aboveground facilities will traverse the Dan and Haw river basins in Rockingham and Alamance counties in North Carolina. An additional 4.3 miles of 24" diameter pipeline will be installed in Alamance County. The project will terminate in Alamance County on the east side of the Haw River between Graham and Swepsonville. The project will have the capacity to transport 375 million cubic feet of natural gas per day.

SA-5	North Carolina Wildlife resources Commission	
	MVP has collocated over 50 % of the pipeline with existing linear corridors. The project would impact 26.8 acres of wetlands; 5.9 of these acres are within the operational right-of-way. The proposed Southgate Project will cross 224 waterbodies; three of these are major waterbodies. Most streams will be crossed using dry-ditch methods while five crossing will be done using horizontal direction drill (HDD) or conventional bore techniques. The NCWRC offers the following specific comments on the DEIS:	
SA-5a	1. Pages ES-5 & ES-9. The amount of collocated pipeline is listed as 40 miles and 54 % on page ES-5 and 39 miles and 52.5 % on page ES-9. Table 2.1-2 on page 2-3 lists 38.7 miles or 52.5 % of collocated pipeline. These discrepancies should be compared and clarified.	The noted discrepancies have been revised in the EIS.
SA-5b	2. Page ES-8. Cumulative Impacts. The DEIS does not adequately address the cumulative impacts that will occur as a result of the Southgate Project. The DEIS does not consider the impacts associated with constructing new pipelines for distributing natural gas to customers once the project is complete.	The EIS was prepared in accordance with NEPA, CEQ guidelines, and other applicable requirements. Our analysis in section 4.13 is consistent is consistent with FERC style, formatting, and policy regarding NEPA evaluation of different types of impacts, including cumulative impacts. Our analysis of cumulative impacts was based on the potential geographic scope of impacts on each resource, as described in section 4.13. Plans for construction of new pipelines to distribute gas to customers is unknown and is outside of the scope of this EIS.
SA-5c	3. Page 1-2. Purpose and Need. The proposed Southgate Project will interconnect with the Mountain Valley Pipeline which is still under construction. Until the Mountain Valley Pipeline project is complete and operational, constructing the Southgate Project is premature.	The Commission will consider the need for the Project and may address these comments in any Order it issues.

SA-5	North Carolina Wildlife resources Commission	
SA-5d	4. Page 2-9. 2.3.3. Additional Temporary Workspaces. Appendix B.3 lists locations where additional temporary workspaces (ATW) are located less than 50 feet from a wetland or waterbody. Many of these ATWs are located 0 feet from surface water resources. Providing appropriate comments on ATWs within 50 feet of surface water features is not possible given the lack of detailed information provided in Appendix B.3. Maps showing delineated wetlands and waterbodies along with proposed ATWs are needed to provide comments on this aspect of the project.	As described in 4.4.3 of the EIS, Mountain Valley's Procedures specify that all extra work areas should be set back at least 50 feet from wetlands. Mountain Valley has requested modifications to their Procedures at specific locations within 50 feet of a wetland boundary. Appendix B.3 provides the locations where Mountain Valley proposes less than a 50-foot setback from a wetland and the site-specific rationale for the requested modification from Mountain Valley's Procedures. We have reviewed these ATWS locations and find them acceptable. The current alignment sheets identify the location of all workspaces and the delineated wetlands and waterbodies.
SA-5e	5. Page 2-12. 2.4. Construction Procedures & Page 4-34. Appendix B.8 lists locations where the construction workspace parallels a waterbody within 15 feet. Providing appropriate comments on construction workspaces paralleling surface water features within 15 feet is not possible given the lack of detailed information provided in Appendix B.3. Maps showing delineated wetlands and waterbodies along with proposed construction workspaces and contour lines are needed to provide comments on this aspect of the project.	The current alignment sheets identify the location of all workspaces and the delineated wetlands and waterbodies. Alignment sheet are available on the FERC eLibrary using docket number CP19-14 and accession number 20191220-5298.
SA-5f	6. Page 2-15. 2.4.1.2. Clearing and Grading. NCWRC recommends the use of biodegradable and wildlife-friendly sediment and erosion control devices. Silt fencing, fiber rolls, and/or other products should have loose-weave netting that is made of natural fiber materials with movable joints between the vertical and horizontal twines. Silt fencing or similar materials that have been reinforced with plastic or metal mesh should be avoided as they impede the movement of terrestrial wildlife species. Studies have	Mountain Valley has stated they would evaluate the use of erosion control devices with plastic or metal mesh reinforcement to determine if alternative devices could be installed in certain terrestrial sensitive areas. Mountain Valley has requested additional information from the NCWRC for specific habitat types along the right-of-way as candidates for wildlife friendly alternatives.
SA-5g	7. Page 3-3. 3.3.1. Existing and Approved Natural Gas Pipeline Systems. The Atlantic Coast Pipeline is located east of the Southgate Project, not west.	The noted discrepancies have been revised in the EIS.
SA-5h	8. Page 3-6. 3.4 Route Alternatives and Variations. In a letter dated 10 August 2018, NCWRC recommended routes variations for the Southgate Project. MVP responded to these recommendations on 1 Nov. 2018. While most recommendations were not incorporated into the route, MVP indicated that they adjusted the route in the Town Creek watershed to reduce the number of stream crossings. We recommend that this adjustment be described in the EIS where appropriate.	Section 4.3.2.2 of the EIS has been updated to include this information.

SA-5	North Carolina Wildlife resources Commission	
SA-5i	9. Page 4-32. 4.3.2.2. Surface Water Crossings. Mussel surveys are not yet complete, therefore NCWRC cannot recommend where time of year restrictions (TOYR) are appropriate. In general, NCWRC recommends more stringent measures to control sedimentation and erosion in watersheds that drain to waterbodies with sensitive species. Such measures include installing sediment control fencing and stabilizing unvegetated fill. Unvegetated fill should be stabilized at the end of each work day with an acceptable erosion control cloth, blanket, or matting until the fill is ready to be permanently stabilized. In addition, no grubbing should occur with 50' of surface waters with sensitive species outside of the growing season (TOYR from Nov. 15 – April 1) to protect mussels from sedimentation impacts.	Aquatic species surveys were completed in 2019 and no state- or federal-listed mussel species were observed. Mussel survey results were submitted to NCWRC in October 2019.
SA-5j		As a standard construction practice, the Project will establish a 50' wetland and waterbody buffer with erosion and sediment control devices. The buffer will not be grubbed during the initial right-of-way clearing and grubbing sequence. These buffers will remain undisturbed (aside from hand felling trees) until the pipeline crossing is ready to be installed in the ephemeral, intermittent, or perennial stream.
SA-5k	10. Page 4-33. 4.3.2.2. Surface Water Crossings. NCWRC may request additional HDD or conventional bore crossings if rare aquatic species are detected during surveys.	Comment noted. See response SA-5i.
SA-5l	11. Appendix B.5. In the table Waterbodies Crossed by the Southgate Project, the crossing method listed is "Open Cut – Dam and pump, Flume". Open cut should be described in section 4.3.2.2 and/or the terminology in the table should be updated. It is unclear if open cut is a dry-ditch crossing method or a wet crossing method.	Waterbody crossing methods are described in Section 2.4.2.1 of the EIS. We have updated appendix B-5 to note the Open-Cuts crossings will be Dry-Ditch crossings.
SA-5m	12. Page 4-38. State Designated Use and Exceptional Waters. Five streams with sensitive warmwater fish are proposed to be crossed using HDD or conventional bore. As long as these five streams are crossed using either HDD or conventional bore, NCWRC does not request a TOYR for warmwater fish.	Comment noted.
SA-5n	13. Page 4-42. Horizontal Directional Drill Water & Page 4-43. Dust Control. NCWRC supports the use of municipal water for HDD, dust control and other uses. More information is needed if surface water supplies will be used. If municipal water has any additives such as chlorine or chloramine or if an algicide is added to the water, it should not be released into surface waters unless it is safe for sensitive species including amphibians and aquatic invertebrates.	See section 4.3.2 of the EIS for a discussion of Mountain Valley's proposed water sources for the Project, water discharge procedures, and measures to minimize impacts from water withdrawal and discharge.
SA-5o	14. Page 4-52. 4.4.2. General Impacts and Mitigation. One of the stated requirements for successful wetland revegetation is that invasive species and noxious plants are not present, unless "they are abundant in adjacent areas" undisturbed by construction. Abundant is not defined and it is unclear if the same species must be present and "abundant" to consider revegetation successful despite the presence of invasive species. Efforts should be made to control invasive species and noxious plants regardless of adjacent conditions.	Mountain Valley has stated it would conduct spot eradications of exotic or invasive species that are found within the right-of-way in numbers substantially greater than those existing pre-construction, regardless of adjacent conditions.

SA-5	North Carolina Wildlife resources Commission	
SA-5p	15. Page 4-52. Extra Workspace Within 50 Feet of Wetlands. Appendix B.3 lists locations where additional temporary workspaces (ATW) are located less than 50 feet from a wetland or waterbody. Many of these ATWs are located 0 feet from the resources. Providing appropriate comments on ATWs within 50 feet of surface water features is not possible given the lack of detailed information provided in Appendix B.3. Maps showing delineated wetlands and waterbodies along with proposed ATWs are needed to provide comments on this aspect of the project.	See comment SA-5d.
SA-5q	16. Page 4-55. 4.5.2. Vegetation Communities of Special Concern or Value. The NCWRC does not have purview over plants that are state listed.	Comment noted.
SA-5r	17. Page 4-62. Pipeline Facilities. The EIS should include seeding details such as specific plant species, seeding rates, composition of each species in plant mixes and location and conditions where different seed mixes would be used.	Mountain Valley would continue to work with NCDEQ and NCWRC on seed mix development to incorporate native and pollinator species for right-of-way stabilization which would be included in the Project-specific E&SC Plan to be reviewed and approved by North Carolina agencies.
SA-5s	18. Page 4-64. Interior Forest Fragmentation and Edge Effects. While we recognize that a large percentage of the Southgate Project will be collocated, there are impacts to interior forests. More detail is needed regarding how the acreage of interior forest and forest edge was calculated. A table showing the acreage of forested blocks affected by the pipeline and the amount of interior forest and forest edge impacted in each block would be helpful.	Section 4.5.4.3 and 4.6.1.1 of the EIS have been updated with additional information provided by Mountain Valley in response to an environmental information request regarding impacts on interior forest.
SA-5t	19. Page 4-65. 4.5.5. Vegetation Conclusions. Concluding that there is "extensive distribution of similar vegetation communities" in North Carolina underestimates the local impacts of the pipeline on interior forests and the wildlife species inhabiting them. We recommend efforts in addition to collocation to mitigate for lost acreage of interior forest.	Interior forests, habitat fragmentation, and impact to wildlife are discussed in detail in section 4.5.4.3 and 4.6.1.1of the EIS. Mountain Valley continues to work with Virginia and North Carolina agencies to address forest fragmentation concerns.
SA-5u	20. Page 4-68. 4.6.1.1. Pipeline Facilities. The DEIS states that direct handling of any state or federally listed species will be prohibited unless approved by the applicable regulatory agencies. NCWRC can have further discussions with MVP regarding conditions and procedures for handling state listed species.	Comment noted.

SA-5	North Carolina Wildlife resources Commission	
SA-5v	21. Page 4-68. 4.6.1.1. Pipeline Facilities. The discussion of interior forest impacts and habitat fragmentation does not adequately address the increase in forest edge or loss of large blocks of interior forest. The NCWRC is concerned about forest fragmentation and the impacts on interior forest and their associated wildlife species resulting from the Southgate Project. North Carolina provides migratory corridors as well as breeding habitat for hundreds of species of birds. The loss of habitat and increased fragmentation will result in edge effect, which will intensify predation, reduce productivity, allow for the spread of invasive species and displace already imperiled species. More information is needed regarding forest block sizes before and after right-of-way (ROW) clearing and mitigative measures to reduce impacts to interior forest habitat.	See response SA-5s ad SA-5t.
SA-5w	22. Page 472. 4.6.2. Sensitive and Managed Wildlife Habitats. In North Carolina, "Game Areas" should be referred to as Game Lands.	Section 4.6.2 has been updated with this change.
SA-5x	23. Page 4-73. 4.6.3.1. Migratory Birds. The last sentence of the fourth paragraph should also include the "NC Wildlife Action Plan as species of greatest conservation need" in the list of conservation priorities. Similarly, Table 4.6-2 should reference NCWRC for species such as northern bobwhite and brown-headed nuthatch.	Section 4.6.3.1 has been updated with these changes.
SA-5y	24. Page 4-75. Migratory Birds Impact and Mitigation. Breeding bird capture data suggest that migratory bird breeding can occur as early as late March and continue through August in the Piedmont in North Carolina. Therefore, we support the recommendation from the US Fish and Wildlife Service that clearing be avoided from April through August to minimize impacts to breeding birds. 25. Page 4-76. Migratory Birds Impact and Mitigation. NCWRC recommends a TOYR for ROW maintenance from April 1 to October 1. This will reduce impacts to nesting wildlife, including reptiles, amphibians and ground-nesting birds.	Mountain Valley would attempt to avoid clearing vegetation between April 1 and August 31 during construction in North Carolina. Mountain Valley has proposed to modify its Plan to not conduct maintenance clearing or mowing of the right-of-way between April 1 and October 15 of any year. If avoiding the migratory bird nesting season during construction-related clearing becomes infeasible, Mountain Valley would consult with the FWS to identify measures to implement to minimize impacts on migratory birds.
SA-5z	26. Page 4-79. 4.6.4.1. Game Species Impacts and Mitigation. The DEIS states that measures to keep all-terrain vehicles (ATV) from using ROWs are discussed in Section 4.9 Transportation. Controlling ATV access to ROWs is an important topic but it is not addressed in Section 4.9. Off-road vehicles and ATVs can impact aquatic resources by driving across and along streams as well as impacting vegetation in riparian zones near streams. Access to streams along maintained ROWs will increase once the Southgate Project is completed.	Mountain Valley would manage unauthorized off-road vehicle (ORV) and ATV use on their operational rights-of-way by adhering to Section VI of Mountain Valley's Plan, which includes measures such as signs, fences/gates, and slash, timber, and boulder barriers. Section 4.9 has been updated to include a discussion of ATV vehicles.
SA-5aa	27. Page 4-80. 4.6.5.2. Fisheries of Special Concern Impacts and Mitigation. NCWRC can participate in future discussions to develop a detailed plan for relocating aquatic species at crossing locations.	Comment noted.

SA-5	North Carolina Wildlife resources Commission	
SA-5ab	28. Page 4-85. Hydrostatic Testing and Water Withdrawals. Text in this section of the DEIS indicates that water will be withdrawn from surface waters. Elsewhere in the DEIS, municipal water sources are listed as the primary or only source of water. This discrepancy needs to be addressed. To prevent entrainment and impingement of aquatic organisms, the NCWRC recommends intake velocities, as measured through the intake screening material, of 0.25 feet per second (fps) or less and mesh sizes of 1 mm in surface waters containing sensitive species.	Section 4.6.5.3 of the EIS has been updated with information regarding water sources for the Project and surface water withdrawals. Mountain Valley has agreed to adhere to these recommendations.
SA-5ac	29. Page 4-92. 4.7.4.5. Mussel Surveys. NCWRC should also be consulted if listed or otherwise sensitive mussel species are documented during surveys.	Aquatic species surveys were completed in 2019 and no state- or federally-listed mussel species were observed.
SA-5ad	30. Page 4-94. Table 4.7-2. Northern Long-eared Bats should be listed in the table as state threatened. Northern yellow bat does not occur in the study area. Records confirmed by biologists of the northern yellow bat are only from Brunswick County. Potential records occur in Mecklenburg and New Hanover counties.	Table 4.7-2 has been updated in the EIS to include this information.
SA-5ae	31. Page 4-95. 4.7.7.1 Mammals. Little brown bats may also occur in Rockingham and Alamance counties.	Section 4.7.7.1 of the EIS has been updated with this information.
SA-5af	32. Page 4-95. 4.7.7.1 Mammals. It is stated that "No roost trees for tri-colored bats occur in the Project area." This statement seems unlikely since in the summer, tri-colored bats have been found to roost in dead clusters of leaves, live foliage, and in hollows in trees.	The text in the EIS has been edited slightly to read that no *known* roost trees are present
SA-5ag	33. Page 4-96. 4.7.7.1 Mammals. Due to the decline of bat populations, specifically those of myotis species and tricolored bats, we feel the project would not significantly impact bats if tree clearing activities were avoided during the maternity roosting season for bats (May 15 – August 15).	As noted in section 4.6.3.2, Mountain Valley would attempt to refrain from construction-related vegetation clearing between March 15 and August 15 in Virginia and between April 1 and August 31 in North Carolina.
SA-5ah	34. Page 4-96. 4.7.7.1 Mammals. Due to the decline of bat populations, specifically myotis species and tricolored bats, we recommend that tree clearing activities not occur during the maternity roosting season for bats (May 15 – August 15). Adhering to this TOYR, which coincides with the TOYR for migratory birds, would enable the project to further avoid significant impacts to bats.	See response SA-5ah.
SA-5ai	35. Page 4-97. 4.7.7.4. Mussels. NCWRC can participate in future discussions to develop a detailed plan for relocating mussels and other aquatic species at crossing locations.	Comment noted.
SA-5aj	36. Page 5-8. 5.1.6. Wildlife and Aquatic Resources. While some fish species may migrate away from impacts, some benthic fish species may not move away and freshwater mussels will not move away from impacts.	See response SA-2d-23.

SA-5	North Carolina Wildlife resources Commission	
SA-5ak	37. Appendix B-5. Waterbodies Crossed by the Southgate Project. This table includes streams that are apparently not crossed by the pipeline because the crossing width is 0 and the crossing method is N/A. The reason for including these stream crossings is unclear. Additional commentary is needed.	The footnotes in appendix B-5 have been revised to clarify that waterbodies with a crossing width of 0 and crossing method of N/A would not crossed by the pipeline, but are located within Project workspaces.
SA-5al	38. Appendix B-8. The justification for locating construction workspace within 15 feet of surface waters is often avoiding side slope construction. Including more details about the side slopes, such as the slope percent, would help justify the decision to locate the construction workspace so close to surface waters. Including the minimum and average distance of the workspace to the waterbody and providing a name for streams would also be beneficial.	Additional justification was provided by Mountain Valley and incorporated into appendix B.8.

SA-6	North Carolina Department of Natural and Cultural Resources

North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office
Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

September 17, 2019

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

Re: MVP Southgate Project, Construct Interstate Pipeline, Multi County, ER 18-1041

Dear Ms. Bose:

We have reviewed the draft environmental impact statement for the proposed Southgate Project. The document adequately addresses our concerns about archaeological resources in North Carolina.

SA-6a	Comment noted.

We previously reviewed the revised Plan for Unanticipated Discoveries of Historic Properties and Human Remains for the MVP Southgate Project as appendix 4-C to Resource Report 4. We concur that this plan provides adequate protection for unexpected discoveries that may occur during construction.

SA-6b	Comment noted

We note that listed communications and survey results represent data available up to the early months of 2019 and we look forward to reviewing the updated EIS. Since then, we reviewed the revised architectural survey report and an addendum to that report resulting in changes that will need to be reflected in Table 4.10-11, *Historic Sites Identified by Mountain Valley in the Direst APE of the Southgate Project in North Carolina.*

SA-6c	Table 4.10-11 has been updated in the EIS.

Our responses to those reports were issued on June 18, 2019 and July 22, 2019, respectively. We have enclosed a copy of the table with our edits highlighted. Also, when referencing survey site numbers (SSN) please list all four numerical digits including leading zeros; for example, AM0122.

SA-6d	Comment noted.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.
Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
Deputy State Historic Preservation Officer

Enclosure: Table 4.10-11 with NCHPO edits

cc: Alex Miller, MVP Southgate, LLC, alex.miller@nexteraenergy.com
Paul Webb, TRC Environmental Corporation, pwebb@trcsolutions.com.com

TA-2 City of Burlington

City of Burlington

Robert C. Patterson, Jr., P.E.
Water Resources Director

September 16, 2019

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

RE: OEP/DG2E/Gas3
Mountain Valley Pipeline, LLC
Southgate Project
Docket No. CP19-14-000
Draft Environmental Impact Statement

Dear Secretary Bose:

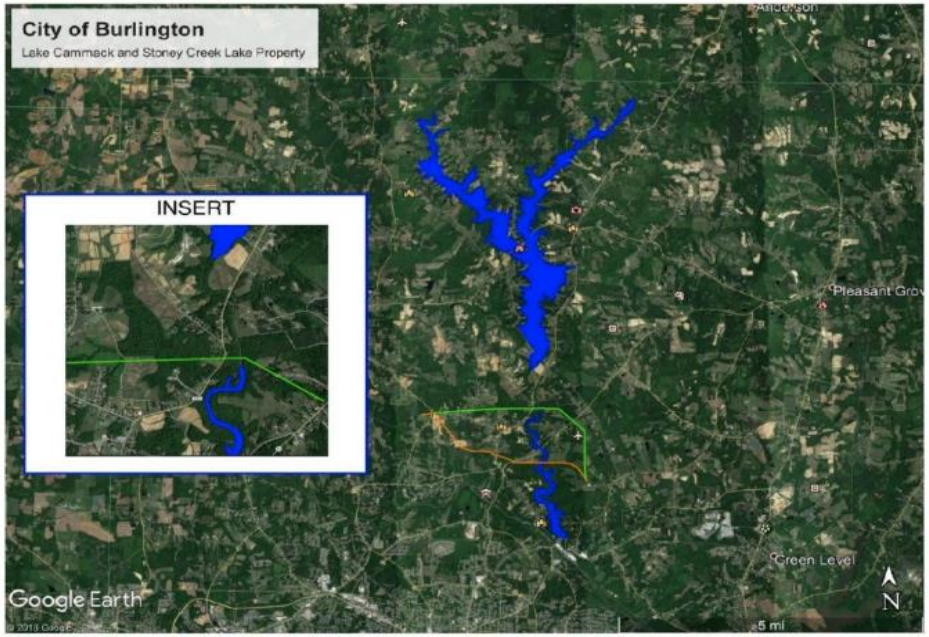
TA-2a

Upon review of the Draft Environmental Impact Statement (DEIS) prepared by FERC regarding the MVP Southgate Project and on behalf of the City of Burlington, I submit concerns regarding the routing of the MVP Southgate Project. As planned, the pipeline will cross the City-owned Stoney (also spelled Stony) Creek Reservoir - a source of drinking water for nearly 100,000 citizens in Alamance and Guilford counties, including the City of Burlington, the Town of Gibsonville, the Town of Elon, the Town of Haw River, the Village of Alamance, the Town of Ossipee, the Town of Whitsett, as well as a supplemental source to the City of Greensboro and an emergency source for the City of Graham.

1) Following a presentation by MVP representatives to the Burlington City Council on August 20, 2018, the following graphic illustrating a proposed alternative route was prepared by the City of Burlington Engineering Department and presented to MVP on September 6, 2018 for its consideration. The blue shaded area to the north is Lake Cammack and the blue shaded area to the south is Stoney Creek Lake. Water flows from Lake Cammack via Stoney Creek to Stoney Creek Lake and our drinking water intake is located on the southern end of Stoney Creek Lake. The orange line to the south is an approximation of the proposed route of the pipeline, and the green line to the north indicates a possible alternative route.

The proposed route of the pipeline as shown in the DEIS crosses a section of the lake approximately 304 feet wide in the upper reach of Stoney Creek Reservoir just south of NC HWY 62 at approximately MP 63.6 (page 4-33). As noted in Section 4.3.2.4 for the DEIS (page 4-38), the City has requested that the pipeline "not cross city property." Specifically, per our September 6, 2018 submittal, the City of Burlington has requested that the pipeline be routed north of NC HWY 62 such that it crosses the portion of Stoney Creek that runs between Lake Cammack and Stoney Creek Lake, both City-owned drinking water supply sources. This location would not directly cross under the water supply and, would have a narrower crossing on the

See section 3.4.2.6 of the EIS. We evaluated the requested alternative and determined that it would not provide a significant environmental advantage due to the fact that the alternative route would cross through an area that is heavily residential and would be within 25 feet of several residences. Due to the residential nature of the proposed alternative, we conclude that it does not offer a significant advantage to the proposed Southgate route. Section 4.1.4.9 of the EIS provides information regarding the HDD crossing, potential impacts on the Stony Creek Reservoir, and Mountain Valley's mitigation measures to minimize impacts. Based on our review, we conclude that subsurface conditions identified by the geotechnical studies would not render the HDDs infeasible. We conclude that potential impacts from HDD construction and potential inadvertent releases would not be significant.

TA-2	City of Burlington	
TA-2a	creek rather than the lake. The City of Burlington does not own the land along Stoney Creek running between Lake Cammack and Stoney Creek Reservoir. Unfortunately, MVP has not responded to this request leaving the City with concerns regarding potential impact to the water supply. Without sufficient detail to review the potential physical and environmental impacts effects upon the City of Burlington's drinking water reservoir, we are concerned that this crossing could adversely impact the integrity of the reservoir, water quality, and recreational activities.  ***The City of Burlington hereby requests and strongly encourages MVP and FERC to realign the pipeline so that it does not cross a City-owned water supply reservoir, including the above suggested routing or reconsideration of alternative routes presented in Section 3.4 the DEIS (pages 3-6 to 3-11), the Lake Cammack East and North-South Alternatives. Each of these routes would minimize risk to drinking water supplies.***	The Stony Creek Reservoir intake is located approximately 1.8 river miles downstream of the Project's proposed HDD crossing. Mountain Valley representatives met with the City of Burlington officials on November 23, 2019 to discuss the crossing and will continue to coordinate during construction.
TA-2b	2) Stoney Creek Reservoir is also part of the Burlington's Recreation and Parks System (http://burlingtonnc.gov/218/Lakes-Marinas) with various types of outdoor recreation activities available to residents. Without sufficient detail to review the potential physical and environmental impacts effects upon the City of Burlington's drinking water reservoir, we are concerned that this crossing could adversely impact the integrity of the reservoir, water quality, and recreational activities.	Impacts on recreational and special use lands are discussed in section 4.8.4. Also, see response to TA-2a above.

TA-2	City of Burlington	
TA-2c	3) Regarding the proposed alignment, it is noted (pages 4-14, 4-15) only one geotechnical boring near the Stoney Creek Reservoir was completed and that the proposed horizontal directional drilling (HDD) method of crossing of the reservoir is expected to be within bedrock and "A proposed depth of cover of 50 to 55 feet below ground surface would be maintained between the Stoney Creek Reservoir and the proposed alignment." The location of the single boring is not indicated, nor is it clear if the above statement means the HDD crossing will be 50 to 55 feet below the bottom of the reservoir, or 50 to 55 feet below the ground surface at the boring location, which could bring the HDD crossing significantly closer to the bottom of the reservoir, increasing the risk of compromising the reservoir bottom. Further, the City of Burlington requests copies of data requested by FERC on DEIS page 4-15 relating to "… all outstanding geotechnical studies for the proposed … Stoney Creek Reservoir HDD crossings, revised feasibility and hydrofracture analyses, and any proposed mitigation following the completion of these studies."	As stated in Section 4.1.4.9, a proposed depth of cover of 50 to 55 feet bags would be maintained between the Stony Creek Reservoir and the proposed alignment. Mountain Valley's Geotechnical Report of Subsurface Exploration is available on the FERC elibrary using accession number 20191216-5158.
TA-2d	4) Although according to Section 4.3.3.3 and 4.3.3.4 (pages 4-76 & 4-77) indicates that there are no known bald eagle concentration areas or nesting areas within the project, City of Burlington staff have reported numerous bald eagle sightings at both Lake Cammack and Stoney Creek Reservoir over the last several years. We request that care and diligence be taken when performing pre-construction nest surveys to minimize any impacts to these populations. Thank you for your time and consideration of these concerns. Sincerely, Robert C. Patterson, Jr, PE Water Resources Director City of Burlington.	As noted in section 4.6.3.4, there are no currently documented bald eagle nests within 0.5 mile of the Project footprint. Mountain Valley would conduct pre-construction surveys for bald eagles and file results of the surveys with FERC.

NAT-2	Sappony Tribe

CULTURAL HERITAGE PARTNERS
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September 16, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

RE: Sappony Tribe's Response to the Draft Environmental Impact Statement (EIS) for the Southgate extension of the Mountain Valley Pipeline Associated with Docket Nos. CP19-14-000 and PF18-4-000

Dear Secretary Bose:

As you know, my law firm represents the Sappony Tribe ("Sappony") concerning the Mountain Valley Pipeline Southgate extension. This letter summarizes the Tribe's response to the Draft Environmental Impact Statement (EIS) for the project. The Tribe has already submitted extensive comments on the docket, including a privileged letter filed on July 1, 2019 regarding the cultural resources reports.

NAT-2a

The Draft EIS does not provide an accurate summary of Siouan linguistic affiliations, the Tribe's pre-Contact history, its post-Contact history, or its association with the project area. Additionally, the Tribe has a series of requests regarding the cultural resources and other project impacts that have gone unaddressed. These comments on the Draft EIS summarize these concerns as well as concerns about the environmental and socioeconomic impacts of the project.

For these reasons and those set forth below, the Tribe asserts its right to consult with FERC. To this end, this letter requests additional documents needed for the Tribe to understand fully the project's purpose, scope, and need, in addition to all potential adverse environmental effects, along with alternatives that will avoid, minimize, or mitigate those effects.

1. **The Draft EIS mischaracterizes the history and linguistic relationships of the Virginia Siouan tribes.**

NAT-2b

As the Tribe discussed in the privileged letter on the docket filed on July 1, 2019, several of the cultural resource reports underpinning the EIS mischaracterize the history and relatedness of the western Virginia Siouan tribes. The analysis in these sections is deeply flawed and mischaracterizes Sappony and other Virginia tribes' historical associations with and contemporary relationship to the project area. Furthermore, these reports do not acknowledge or discuss the close relationship between the Sappony Tribe and the Cheraw (also spelled Saura or Saraw) in the Piedmont in both northern North Carolina and Virginia.

Within the cultural resources reports for North Carolina and Virginia are Ethnographic Analyses intended to describe tribal historic movements and assess contemporary interests in the

NAT-2a: Section 4.10.3.1 of the EIS briefly summarizes the Pre-Contact, Post-Contact, and linguistic affiliations of the Sappony Tribe. Our description was accurate and based on appropriate anthropological and ethnohistorical references. The EIS text states that the Sappony probably spoke a dialect within the Siouan-Catawaban language family (Woodard et al. 2017). The Late Woodland and Protohistoric cultural traditions of southern Virginia and northern North Carolina are characterized by archaeologists as the Dan River and Saratown Phases (Eastman 1999). John Lederer visited the Sappony in 1670 (Briceland, 1987).

NAT-2b: See response to NAT-2a. With regard to Sappony trade relations with the Saura, the EIS text states that the Occaneechi Path trade route connected tribes in Virginia to tribes in North Carolina. Comments regarding Mountain Valley's cultural resources reports is not relevant to our descriptions in the EIS. The EIS accounts for anthropological scholarship, and in fact cites Hantman 2018.

NAT-2	Sappony Tribe	
	project area. These Ethnographic Analyses largely characterize the project area in Pittsylvania, Alamance, and Rockingham Counties as associated with the ancestors of the Catawba Indian Nation and state-recognized North Carolina tribes. For example, the Occaneechi Path, a significant north-south trade route that travels through the project area associated with Monacan and Sappony trading towns and other Tutelo-Saponi communities like Occaneechi Town, is mentioned in the "European Settlement to Society" Cultural Background section but associated solely with the Occaneechi Band of Saponi Nation. The Ethnographic Analysis section mentions briefly that the path "linked south-central Virginia with the Catawba and other groups to the south and the area surrounding Richmond to the north" as early as the 1670s and that European traders traveled on the path. The report fails to acknowledge any Monacan or other Tutelo-Saponi associations with this path. Eighteenth century tribal names, such as the Eno, Occaneechi, and Shakori tribes (in the Eno River drainage), the Cheraw Indians (on the Dan River), the Sissipahaw (on the Haw River), and the Occaneechi, Tutelo, and Saponi tribes (associated with the Gaston culture on the Roanoke River) are generally described in the Ethnographic Analysis as having been later incorporated into the Catawba Indian Nation. The Sappony do not challenge that the Catawba have interests in the pre-Contact cultural resources of this area, but not all members of the piedmont tribes did so, and there are cultural distinctions between the remnant Virginia Siouan groups and the Catawba. It is not the case that the Catawba are the only federally-recognized tribe with a strong connection to the project area, or that FERC should assume that the Catawba claim is stronger than the Monacan one. The Draft EIS disregards the accepted body of contemporary, antiquarian, and early anthropological scholarship that underlines the familial and clan linkages between the Tutelo-Saponi and Monacan groups, and instead assumes that the Catawba tribe is the primary federally-recognized tribe affiliated with this area. Jeffrey Hantman's 2018 book *Monacan Millennium: A Collaborative Archaeology and History of a Virginia Indian People* (p. 143-148), for example, concludes that beginning in the mid-18th century several colonial Monacan trading towns and settlements in the Roanoke River Valley were linked to others along the Occaneechi path. Extensive evidence links the Tutelo-Saponi groups with the Monacan Confederacy. The Bureau of American Ethnology publication *Indians of the South East* clearly identifies the Saponi as a contraction of Monasukapanough, a Saponi town within the Monacan confederacy, located near present-day Charlottesville. The book *The Tutelo Spirit Adoption Ceremony*, by Frank G. Speck and George Herzog, similarly describes the relatedness of these groups in contrast to some of the Sioan groups further south. The book states: "The eastern Siouans must be sharply separated into two groups, the Virginia Siouans, including the Manahoac, Monacan, Nahyssan, Saponi, Tutelo, Occaneechi, and Moneton, and the Carolina Siouans embracing all the rest. Even a superficial comparison of the Tutelo and Catawba vocabularies on one hand and the western dialects on the other is sufficient to show that Catawba stands clearly apart from all of them, and that Tutelo is nearer Dakota, Hidatsa, and others of the western languages than it is to Catawba" (page 1). While the Tribe does not dispute that fragments of some Tutelo and Saponi groups migrated north or south in the 18th century, it is not the case that the Catawba is the only federally-recognized tribe with a strong connection to the project area, or that the Catawba claim should be assumed to be stronger than the Monacan one.	
NA-2b		See above NA-2b comment response

NAT-2	Sappony Tribe	
NA-2b	Erroneous conclusions regarding tribal history and Siouan identity have resulted in a flawed tribal affiliation analysis in the cultural resources reports that is replicated in the Draft EIS. Ethnographic Analyses in previous cultural resource reports largely characterize the project area in Pittsylvania, Alamance, and Rockingham Counties as associated with the ancestors of the Catawba Indian Nation and state-recognized North Carolina tribes. The Draft EIS furthermore incorrectly characterizes the Monacan people as not linguistically Siouan. Nevertheless, the Draft EIS then uses this incorrect linguistic characterization and a restricted assessment of Monacan ancestral territory to minimize Monacan affiliation with the project area. While the EIS states that "[w]e believe that the Nottoway Tribe, Sappony Tribe, and Occaneechi Band have a demonstrated interest in the cultural resources of the Project area; and, therefore, they could be consulting parties," it does not include any language affirming Monacan demonstrated interest in the cultural resources. The Sappony Tribe is glad that FERC recognizes the clear cultural association between the Sappony and the project area, but disputes the FERC characterization of the Monacan. The Saponi and the Monacan had an extremely close relationship during prehistory, based on linguistic, familial, and political connections. This EIS casts doubts on Monacan statements regarding affiliation and cultural interest, which are dismissed as mere assertions, as seen in the following statements from the EIS: • "In a letter to the FERC dated July 1, 2019, the Monacan Indian Nation asserts that the Occaneechi Path trade route connected Monacan villages with Tutelo-Sapponi communities such as Occaneechi Town." (Draft EIS page 4-162); and • "The Monacan Indian Nation asserts that Hantman (2018) believes that the Hurt Power Plant site (44PY144) and the Graham-White site (44RN21) are probably associated with the Monacan." (Draft EIS page 4-162). The Sappony Tribe supports these assertions by the Monacan Indian Nation, as does the preponderance of scholarly work on this topic. Letters submitted by both the Sappony Tribe and the Monacan Indian Nation have cited sources that contained evidence regarding these topics, and FERC and the Mountain Valley Pipeline contractors have had every opportunity to directly investigate these questions of affiliation. The EIS and the underlying cultural resources reports must be improved with greater research into these topics, reflecting the following widely-accepted characterizations: 1. The Monacan were linguistically and socio-politically Siouan and are related to the Sappony Tribe. 2. The Sappony interest in the project area includes their relationship with the Upper and Lower Sauratown sites, and several Sappony families have Cheraw descent. 3. Siouan tribes in Virginia engaged in kin-based alliance systems and confederacies supported by a mutually-intelligible language. Tribal history and ceramic patterns suggest an intermarriage system in which the core tribes of central Virginia had a Monacan pattern of ceramic decoration and other site patterns, and the Roanoke Valley was a distinct but related group, with occasional appearance of Monacan-style ceramics suggestive of regular kin exchange, trade, and alliances. 4. Most Virginia Siouan tribe names other than Monacan and Mannahoac (e.g., Saponi, Tutero, Nahyssan, Occaneechi) are not referenced until 1650 or later. There is therefore considerable ambiguity regarding whether these tribes had a strongly separate pre-Contact identity; whether they were family or village names within the Monacan Confederacy pre-Contact; or whether they are post-Contact sub-groups that formed around migration or distinctions in trade practices.	See above NA-2b comment response

NAT-2	Sappony Tribe	
NA-2b	5. During the 17th-18th centuries, Virginia tribes experienced colossal loss of native population and disruption of lifeways as a result of European colonialism. Several of the Virginia Siouan groups traveled west and south to remain on the frontier with minimal contact with settlers. There was considerable bifurcation and amalgamation of tribal groups as necessitated for survival. 6. Because of these factors, modern Virginia Siouan tribes (like many other tribes) are commonly made up of more than one historic tribe, have a variety of consultation interest areas, and have individuals within these tribes who understand themselves to have a descendancy from multiple Virginia Siouan groups. Detailed and accurate examinations of native history are essential, especially when assessing impacts of infrastructure projects to native peoples, especially for tribes that still experience a lack of acknowledgement or recognition from the federal government, and especially when projects propose to damage native sites.	See above NA-2b comment response
NAT-2c	2. **The Sappony Tribe's relationship with the Cheraw tribe is well-documented and has clear implications for the project area.** European expansion caused repeated coalescence and splintering of tribal groups during the 17th and 18th centuries that continues to impact how tribes experience their ancestral relatedness to cultural resources. One of the tribes with a historical and contemporary connection with the Sappony Tribe is the Cheraw, who occupied the project area around Eden, North Carolina in settlements known as Upper and Lower Saratown. In 1715, the Eno and Saraw (Cheraw) tribes petitioned the state of Virginia to be allowed to settle at Fort Christanna with the Saponi, and the Indians who resided in the fort for its short-lived existence became known collectively as the Saponi (see Woodard 2016; Beaudry 1985). Stephanie Gamble's 2013 article in Native South, *A Community of Convenience: The Saponi Nation, Governor Spotswood, and the Experiment at Fort Christanna, 1670-1740*, similarly discusses these tribal complexities. Gamble characterizes the Cheraw, Saponi, and other groups as intimately connected. This follows directly from the work of James Merrell, whose well-recognized THE INDIANS' NEW WORLD: CATAWBAS AND THEIR NEIGHBORS FROM EUROPEAN CONTACT THROUGH THE ERA OF REMOVAL states that a "From Esaws along the Catawba River to Mannahoacs on the Rappahannock, all were descended from Siouan-speaking migrants who had drifted over the mountains centuries before Columbus…These societies were variations on a common theme. A fundamental unity underlay piedmont life, a unity grounded in a shared cultural heritage and physical environment. All spoke Siouan. All built towns on terraces above the rivers and creeks" (Merrell 2009: 10). In May 1732, Saponis and some Cheraw families petitioned Virginia Governor Gooch to return to Virginia, and they were permitted to settle again on the Appamattox or Roanoke River. Merrell attributes this discomfort of the Saponis with the Catawbas as indicative of the differences between Virginia Siouan and those further south, commenting that "Though Siouan-speakers and piedmont peoples, Saponis were descended from the Monacan and Mannahoac stock, branches quite distinct in speech and custom from their southern cousins. It would appear, then, that Catawbas could incorporate small and culturally variant peoples, a Natches or Yamasee band, or sizeable groups that were close relatives, like Cheraws and Waterees, but that large and foreign populations proved more difficult" (Merrell 2009: 116). Furthermore, these Cheraw families appear to have found a home among the Sappony Tribe, because the tribe's Executive Journals (v. 4, page 269) state that the Cheraw formally joined the Sappony in 1732. Rather than melding entirely with the Saponi identity, Sappony Tribe members today maintain a family genealogy that includes information about relatedness to the Cheraw and other incorporated Siouan tribes located along the Virginia and North Carolina border. Because of this, the Tribe is especially concerned with having a high level of detail about any archaeological investigations in the vicinity of Upper and Lower Saratown. The Tribe also wants this tribal connection made clear in cultural resources reports and the EIS. If additional information is needed on this subject, the Tribe invites FERC and TRC to contact the Tribe.	See response NAT-2b.

NAT-2	Sappony Tribe	
NAT-2d	**3. The Tribe requests that their broader questions regarding the cultural resources, stated in July 2019, be acknowledged and addressed.** As the Tribe pointed out in its July 2019 comments, there is a considerable body of contemporary, antiquarian, and early anthropological scholarship that underlines the familial and clan linkages between the Saponi, Monacan, and other Siouan groups. FERC's Ethnographic Analysis underplays the clan and familial associations between Tutelo, Saponi, and Monacan sites, language, and culture, and implies that all the descendants of these grounds are now incorporated within the Catawba or state-recognized North Carolina tribes. The Tribe made requests in July 2019 based on the need to correct inaccuracies in the cultural resources reports. These requests were not acknowledged or addressed, and the requests are also highly pertinent to addressing issues in the Draft EIS. The Tribe again requests that: A) The cultural resources consultant address deficiencies in the Cultural Background and Ethnographic Analysis sections, specifically the way in which these reports mischaracterize Siouan history and treats information on native history as largely useful for determining tribal affiliation rather than incorporating it into the context of the broad swath of history impacted by the project; B) The consultants incorporate into their analysis, which currently relies too heavily on information written before 2000, a variety of sources and texts related to Sappony and Siouan pre- and post-Contact history; C) The consultants perform oral history interviews with local tribes, to illuminate the several centuries of native life and movements currently not covered by these reports and to rectify a lack of reference to native persistence in these areas after 1780; D) The Tribe receive ongoing and active communication regarding planned archaeological testing on pre-Contact sites, especially those in Pittsylvania County; E) Survey reports assessing the eligibility of architecture along the pipeline include information typical for Phase II investigations, such as deed research, which is essential for determining the potential native affiliation or a site's potential eligibility under Criteria A or B; and F) The Tribe receive a call from TRC to discuss the material contained in this letter, so that the Tribe can provide any clarification that may be required. Thus far, the Tribe has received no contact from FERC or TRC regarding these other requests, and the Draft EIS does not reference most of these concerns. Moreover, the Tribe has not been updated regarding the archaeological testing and further work except for one proposed site visit, which was planned by the project proponents on a site that had only been subject for testing for a few days, and which was selected because of ease of access rather than significance to tribes. Furthermore, the Tribe has previously and repeatedly asked for more details on the environmental impact of this project, but has not received materials related to these issues. None of the other requests have been acknowledged or addressed. The Tribe now reiterates these requests be addressed before FERC finalizes the Draft EIS.	See response NAT-2b.

NAT-2	Sappony Tribe	
NAT-2e	**4. The Tribe has environmental and socioeconomic concerns regarding the project.** The Sappony Tribe is located today in High Plains, North Carolina and Virgilina, Virginia, around 70 miles from the pipeline route. Many tribal members are Virginia and North Carolina residents and taxpayers with concerns regarding the pipeline impacts, which tree clearing, impacts to animal species, risks to water quality from sediment discharge and other effluents from construction; and visual effects to a long area of most rural, natural terrain. The Tribe is also concerned about the safety concerns for explosions or fires set off by the pipeline construction or occurring for the life of the project. FERC must include information about the blast or incineration zone radius on either side of the pipeline so that FERC, the Tribe, and the public can understand the full potential for adverse effects.	See response GEN-1 in appendix I.2. Impacts on water resources is discussed in Section 4.3 of the EIS; vegetation in 4.5, and wildlife in 4.6
NAT-2f		See response SAFE-1 in appendix I.2.
NAT-2g	The Tribe also must emphasize the poor track record of this project proponent on previous projects including the Mountain Valley Pipeline mainline, which has been beset by problems that include: • inadequate sediment control plans resulting in considerable sediment fines; • permanent damage to critical historic resources like the Appalachian Trail; and • causation of landslides that endanger residences in West Virginia.	See response GEN-6 in appendix I.2.
NAT-2h	Furthermore, explosions associated with pipeline infrastructure in West Virginia (TransCanada's Leach Xpress Pipeline), Washington (Plymouth LGN storage facility) and Massachusetts (Columbia Gas Pipeline) illustrate the level of impact and harm these events can have. In the Columbia Gas example, one man lost his life, approximately 80 homes and buildings were destroyed, 8,600 people were evacuated, and a state of emergency was declared.	See response SAFE-1 in appendix I.2.
NAT-2i	The Draft EIS for the Southgate project acknowledges that hazards to the project include seismicity, karst topography, landslides (exacerbated by the need for blasting to shallow bedrock in some areas), flooding, and erosion. The document also acknowledges that the project will cross two state level aquifers, both of which are suitable for drinking, and will cross near a variety of private wells, and states that the project poses risks to the water quality in these water sources.	See response GEN-1 in appendix I.2.
NAT-2j	Although FERC currently characterizes the adverse environmental impact as moderate and states that adjustments could reduce these impacts to less-than-significant levels, the Tribe points out that given the previous track record of EQT, it is equally or more likely that the adverse impacts become significantly more substantial than the Draft EIS predicts. For this reason, the Tribe requests that FERC develop a plan to assess and review these impacts and establish periodic monitoring to determine whether impact levels and appropriate mitigation approaches have changed. The Tribe looks forward to assisting FERC on ongoing cultural resources identification and mitigation associated with the Southgate project as the consultation process moves forward. Thank you for consideration of our comments. Best regards, Marion Werkheiser Attorney at Law	See response GEN-6 in appendix I.2. To ensure compliance with these standards, Mountain Valley has agreed to a FERC third-party monitoring program. FERC Compliance Monitors would inspect the project daily to ensure compliance during all phases of construction and restoration. If the Project is determined to be out of compliance, Mountain Valley would be required to remedy the situation as soon as possible.

NAT-4	Monancan Nation

CULTURAL HERITAGE PARTNERS
LAW • POLICY • STRATEGY

September 16, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street, N.E.
Washington, D.C. 20426

RE: Monacan Indian Nation's Response to the Draft Environmental Impact Statement (EIS) for the Southgate extension of the Mountain Valley Pipeline Associated with Docket Nos. CP19-14-000 and PF18-4-000

Dear Secretary Bose:

As you know, my law firm represents the Monacan Indian Nation ("Nation") concerning the Mountain Valley Pipeline Southgate extension. This letter summarizes the Nation's response to the Draft Environmental Impact Statement (EIS) for the project. The Nation has submitted extensive comments on the docket, including a privileged letter filed on July 1, 2019 regarding the cultural resources reports.

NAT-4a

The Draft EIS does not provide an accurate summary of the Nation's pre-Contact history, its linguistic affiliation, its post-Contact history, or its association with the project area. Additionally, FERC has not addressed a series of requests from the Nation regarding the cultural resources and other project impacts. The following comments on the Draft EIS summarize these concerns as well as concerns about the environmental and socioeconomic impacts of the project.

For these reasons and those set forth below, the Nation asserts its right to consult with FERC. To this end, this letter requests additional documents needed for the Nation to understand fully the project's purpose, scope, and need, in addition to all potential adverse environmental effects, along with alternatives that will avoid, minimize, or mitigate those effects.

Section 4.10.3.1 of the EIS briefly summarizes the Pre-Contact, Post-Contact, and linguistic affiliations of the Monacan Indian Nation. Our description are accurate and based on appropriate anthropological and ethnohistorical references. The EIS addresses previous letters filed by the Monacan Indian Nation in Section 4.10.1.2.

NAT-4	Monancan Nation	
NAT-4b	**1. The Draft EIS dismisses Monacan interest in the Southgate area, minimizes Monacan history in western Virginia, and mischaracterizes the tribe's linguistic affiliation.** As the Nation discussed in the privileged letter on the docket filed on July 1, 2019, several of the cultural resources reports underpinning the EIS mischaracterize Monacan historical associations with and contemporary relatedness to the project area. The analysis in these sections is deeply flawed and they have resulted in a conclusion in the Draft EIS that ignores impacts of the project on the Monacan Indian Nation. Within the cultural resources reports for North Carolina and Virginia are Ethnographic Analyses intended to describe tribal historic movements and assess contemporary interests in the project area. These Ethnographic Analyses largely characterize the project area in Pittsylvania, Alamance, and Rockingham Counties as associated with the ancestors of the Catawba Indian Nation and state-recognized North Carolina tribes. The EIS furthermore incorrectly characterizes the Monacan people as not linguistically Siouan, and appears to use this linguistic characterization and a restricted assessment of Monacan ancestral territory to minimize Monacan affiliation with the project area. The Draft EIS is incorrect in its statement that the "Monacan and Manahoac had no demonstrated linguistic affiliation with the Siouian language family." The Monacan tribe self-identifies as Siouan and tribes like the Sappony Tribe recognize an association with the Monacan based on participation with the Monacan confederacy and Siouan linguistic and political affiliation. The Monacan/Mannahoac language does not survive, but linguistic sources seem to characterize it as related to Tutelo, the Siouan Saponi language. Sources that dispute the Monacan Siouan affiliation do not appear to have an alternate linguistic history for the Monacans or to dispute their political and trade connections with other eastern Siouan groups that may be representative of a cultural affiliation. Nevertheless, the Draft EIS then uses this incorrect linguistic characterization and a restricted assessment of Monacan ancestral territory to minimize Monacan affiliation with the project area. While the EIS states that "[w]e believe that the Nottoway Tribe, Sappony Tribe, and Occaneechi Band have a demonstrated interest in the cultural resources of the Project area; and, therefore, they could be consulting parties," it does not include any language affirming Monacan demonstrated interest in the cultural resources. Furthermore, Monacan statements regarding affiliation and cultural interest (based on a broad set of information that includes tribal information and scholarly work) are dismissed as assertions, as seen in the following statements from the EIS: • "In a letter to the FERC dated July 1, 2019, the Monacan Indian Nation asserts that the Occaneechi Path trade route connected Monacan villages with Tutelo-Sapponi communities such as Occaneechi Town." (EIS page 4-162) • "The Monacan Indian Nation asserts that Hantman (2018) believes that the Hurt Power Plant site (44PY144) and the Graham-White site (44RN21) are probably associated with the Monacan." (EIS page 4-162)	Section 4.10.3.1 of the EIS provides information from sources recommended by the Monacan Indian Nation. There is no conclusion in the Cultural Context. Instead, we discuss potential Project impacts on the Monacan Indian Nation in Section 4.10.1.2. Archeological sites that may be important to the Nation are mentioned in Section 4.10.3.3. The Nation's comments regarding Mountain Valley's cultural resources reports is not relevant to the EIS; nor does the EIS contain an "Ethnographic Analysis." The quote that: "The Monacan and Manahoac had no demonstrated linguistic affiliation with the Siouian language family, but did have political and trade associations with the Tutelo, Sapponi, and Occaneechi" is taken from Woodard et al., 2017, a source recommended by the Monacan Indian Nation in its July 1, 2019 letter to the FERC. Further, Section 4.10.2.1 of the EIS acknowledged that the Monacan occupied the piedmont region of Virginia at contact.

NAT-4	Monancan Nation	
NAT-4b	Letters submitted by both the Sappony Tribe and the Monacan Indian Nation have cited sources that contained evidence regarding these topics, and FERC and the Mountain Valley Pipeline contractors have had every opportunity to directly investigate these questions of affiliation. Jeffrey Hantman's 2018 book Monacan Millennium: A Collaborative Archaeology and History of a Virginia Indian People (p. 143-148), for example, concludes that beginning in the mid-18th century several colonial Monacan trading towns and settlements in the Roanoke River Valley were linked to others along the Occaneechi Path. There is extensive evidence linking the Tutelo-Saponi groups with the Monacan Confederacy: The Bureau of American Ethnology publication Indians of the South East clearly identifies the Saponi as a contraction of Monasukapanough, a Saponi town within the Monacan Confederacy located near present-day Charlottesville. The Southgate project crosses part of a larger Monacan confederacy, described in a variety of sources including on the tribe's website, in which the Monacan and related Siouan groups continued to operate after the arrival of European colonists. Monacan families were part of the Indian occupation at Fort Christanna, and once the Monacan tribe developed a permanent settlement in Amherst, some members of the Saponi, Occaneechi, Tutelo, and Tuscarora Indians joined with the Monacans there and become part of the contemporary Monacan tribe. This inter-related nature of these Eastern Siouan groups was noted in a 2011 Cultural Affiliation Statement for the New River Gorge National River and Gauley River National Recreation Area prepared by Robert Maslowski for the Northeast Region NAPGRA Program of the National Park Service. Maslowski's report states that "[both] Hantman (2001) and Houck and Maxham (1993) include the Tutelo, Saponi, and Occaneechi under the term Monacan," and characterizes the Eastern Siouan associations as extending west into West Virginia, though the report was written before the Monacan Indian Nation received federal recognition and therefore does not note that they are a relevant federally-recognized tribe. The 19th century persistence of the Monacan in western Virginia is described in some more recent academic work like Rainville 2018 (Invisible Founders: How Two Centuries of African American Families Transformed a Plantation into a College) and Hantman 2018 (p. 150-156). A footnote in the Draft EIS did acknowledge that the Monacan people "have political and trade associations with the Tutelo, Sapponi, and Occaneechi," but chooses to base its determination of cultural relatedness on the flawed conclusion that there was no Monacan linguistic relationship with the Virginia Siouan groups. The Tutelo Spirit Adoption Ceremony, by Frank G. Speck and George Herzog, similarly describes the relatedness of these groups in contrast to some of the Siouan groups further south. The book states that: "the eastern Siouans must be sharply separated into two groups, the Virginia Siouans, including the Manahoac, Monacan, Nahyssan, Saponi, Tutelo, Occaneechi, and Moneton, and the Carolina Siouans embracing all the rest. Even a superficial comparison of the Tutelo and Catawba vocabularies on one hand and the western dialects on the other is sufficient to show that Catawba stands clearly apart from all of them, and that Tutelo is nearer Dakota, Hidatsa, and others of the western languages than it is to Catawba" (page 1). While the Nation does not dispute that fragments of some Tutelo, Saponi, and Monacan groups migrated north or south in response to existential threats, it is not the case that the Catawba are the only federally-recognized tribe with a strong connection to the project area, or that the Catawba claim should be assumed to be stronger than the Monacan one.	See above NAT-4b comment response

NAT-4	Monancan Nation	
NAT-4b	The Ethnographic Analysis underplays the clan and familial associations between Tutelo, Saponi, and Monacan sites, language, and culture, and implies that all the descendants of these grounds are now incorporated within the Catawba or state-recognized North Carolina tribes. Eighteenth century tribal names, such as the Eno, Occaneechi, and Shakori tribes (in the Eno River drainage), the Sara Indians (on the Dan River), the Sissipahaw (on the Haw River), and the Occaneechi, Tutelo, and Saponi tribes (associated with the Gaston culture on the Roanoke River) are generally described in the Ethnographic Analysis as having been later incorporated into the Catawba Indian Nation. The Monacans do not challenge that the Catawba have interests in the pre-Contact cultural resources of this area, but are aware of their own relatedness to this area and perceives a minimization or exclusion of Monacan ancestral interests in the content of the cultural resources reports and the Draft EIS. The Monacan Indian Nation is aware that several families and groups of the Tutelo and Saponi people were incorporated into the Monacan Indian Nation, and these deficiencies in the record combine to erase important Monacan associations with this area.	See above NAT-4b comment response
NAT-4c	The EIS and the underlying cultural resources reports must be improved with greater research into these topics, reflecting the following widely-accepted characterizations: 1. The Monacan were linguistically and socio-politically Siouan and are related to the Sappony Tribe and other Siouan tribes along the North Carolina/Virginia border. 2. Siouan tribes in Virginia engaged in kin-based alliance systems and confederacies supported by a mutually-intelligible language. Tribal history and ceramic patterns suggest an intermarriage system in which the core tribes of central Virginia had a Monacan pattern of ceramic decoration and other site patterns, and the Roanoke Valley was a distinct but related group, with occasional appearance of Monacan-style ceramics suggestive of regular kin exchange, trade, and alliances. 3. Most Virginia Siouan tribe names other than Monacan and Mannahoac (e.g., Saponi, Tutero, Nahyssan, Occaneechi) are not referenced until 1650 or later. There is therefore considerable ambiguity regarding whether these tribes had a strongly separate pre-Contact identity; whether they were family or village names within the Monacan Confederacy pre-Contact; or whether they are post-Contact sub-groups that formed around migration or distinctions in trade practices. 4. During the 17th-18th centuries, Virginia tribes experienced colossal loss of native population and disruption of lifeways as a result of European colonialism. Several of the Virginia Siouan groups traveled west and south to remain on the frontier with minimal contact with settlers. There was considerable bifurcation and amalgamation of tribal groups as necessitated for survival. 5. Because of these factors, modern Virginia Siouan tribes (like many other tribes) are commonly made up of more than one historic tribe, have a variety of consultation interest areas, and have individuals within these tribes who understand themselves to have a descendancy from multiple Virginia Siouan groups. Detailed and accurate examinations of native history are essential, especially when assessing impacts of infrastructure projects to native peoples, especially for tribes that still experience a lack of acknowledgement or recognition from the federal government, and especially when projects propose to damage native sites.	Comments noted. Section 4.10.3.1 provides a short description of Cultural Context, which is intended only as a brief summary and introduction, to address these issues. The EIS acknowledges that the pipeline route would cross historic Monacan territory, and that the Nation has an interest in potential project impacts on cultural resources.

NAT-4	Monancan Nation	
	2. The Nation requests that their broader questions regarding the cultural resources, stated in July 2019, be acknowledged and addressed	
NAT-4d	In its July 2019 comments, the Nation provided evidence for this considerable body of scholarship describing the historical linkages between the Tutelo-Saponi and Monacan groups. The Nation made requests in July 2019 based on the need to correct inaccuracies in the cultural resources reports. These requests were not acknowledged or addressed, and the requests are also highly pertinent to addressing issues in the Draft EIS. The Nation again requests that: A) The cultural resources consultant address deficiencies in the Cultural Background and Ethnographic Analysis sections, specifically the way in which these reports mischaracterize Monacan history and treats information on native history as largely useful for determining tribal affiliation rather than incorporating it into the context of the broad swath of history impacted by the project; B) The consultants incorporate into their analysis, which currently relies too heavily on information written before 2000, a variety of sources and texts related to Monacan and Siouan pre- and post-Contact history; C) The consultants perform oral history interviews with local tribes, to illuminate the several centuries of native life and movements currently not covered by these reports and to rectify a lack of reference to native persistence in these areas after 1780; D) The Nation receive ongoing and active communication regarding planned archaeological testing on pre-Contact sites, especially those in Pittsylvania County; E) Survey reports assessing the eligibility of architecture along the pipeline include information typical for Phase II investigations, such as deed research, which is essential for determining the potential native affiliation or a site's potential eligibility under Criteria A or B; F) The subcontractor TRC develop a method to review the pipeline landscape (including the direct and indirect APE) for potential burial mounds, and provide greater detail on potential impact to a site called Sugar Loaf Mound (31RK141) near the project in North Carolina; and G) The Nation receive a call from TRC to discuss the material contained in this letter, so that the Nation can provide any clarification that may be required. Thus far, the Nation has received no contact from FERC or TRC regarding these other requests, and the Draft EIS does not reference most of these concerns. Moreover, the Nation has not been updated regarding the archaeological testing and further work except for one proposed site visit, which was planned by the project proponents on a site that had only been subject for testing for a few days, and which was selected because of ease of access rather than significance to tribes. Furthermore, the Nation has previously and repeatedly asked for more details on the environmental impact of this project, but has not received materials related to these issues. None of the other requests have been acknowledged or addressed. The Nation now reiterates these requests be addressed before FERC finalizes the Draft EIS.	In Section 4.10.1.2 we discuss correspondence from the Monacan Indian Nation, including the July 2019 letter. The Nation's comment about Mountain Valley's cultural resources reports is not relevant to the EIS. However, Mountain Valley has stated that its contractor reviewed the sources recommended by the Nation. The results of archaeological surveys are detailed in Section 4.10.3.3. Mountain Valley stated that it has provided the Monacan Nation with copies of all cultural resources investigations reports. Site 31RK141 (Sugar Loaf Mound) was not identified in the area of potential effect (APE), so it will not be affected by the Project.

NAT-4	Monancan Nation	
	3. The Monacan Indian Nation has environmental and socioeconomic concerns regarding the project.	
NAT-4e	The Nation has just over 2000 members, many of whom are located in proximity to the pipeline. The tribe's modern home on Bear Mountain is less than 70 miles away from the project area. Many tribal members are Virginia and North Carolina residents and taxpayers with concerns regarding the pipeline impacts, which tree clearing, impacts to animal species, risks to water quality from sediment discharge and other effluents from construction; and visual effects to a long area of most rural, natural terrain. The Nation is also concerned about the safety concerns for explosions or fires set off by the pipeline construction or occurring for the life of the project.	See response GEN-1 in appendix I.2. Impacts on water resources is discussed in Section 4.3 of the EIS; vegetation in 4.5, and wildlife in 4.6.
NAT-4f		See response SAFE-1 in appendix I.2.
NAT-4g	The Nation also must emphasize the poor track record of this project proponent on previous projects including the Mountain Valley Pipeline mainline, which has been beset by problems that include: • inadequate sediment control plans resulting in considerable sediment fines; • permanent damage to critical historic resources like the Appalachian Trail; and • causation of landslides that endanger residences in West Virginia.	See response GEN-6 in appendix I.2.
NAT-4h	Furthermore, explosions associated with LNG pipeline infrastructure in West Virginia (TransCanada's Leach Xpress Pipeline), Washington (Plymouth LGN storage facility) and Massachusetts (Columbia Gas Pipeline) illustrate the level of impact and harm these events can have. In the Columbia Gas example, one man lost his life, approximately 80 homes and buildings were destroyed, 8600 people were evacuated, and a state of emergency was declared.	See response SAFE-1 in appendix I.2.
NAT-4i	The Draft EIS for the Southgate project acknowledges that hazards to the project include seismicity, karst topography, landslides (exacerbated by the need for blasting to shallow bedrock in some areas), flooding, and erosion. The document also acknowledges that the project will cross two state level aquifers, both of which are suitable for drinking, and will cross near a variety of private wells, and states that the project poses risks to the water quality in these water sources.	See response GEN-1 in appendix I.2.

NAT-4	Monancan Nation	
NAT-4j	Finally, the Monacan hold trees to be culturally significant natural resources. As discussed in the Nation's February 2019 letter, trees have such significance to the Nation that they have made cutting trees on their tribal lands unconstitutional. The Nation has requested consultation on tree cutting plans before they are finalized but has so far not received any materials with specific commitments regarding the tree cleaning and restoration plans. Similarly, according to the Draft EIS the project will have an effect on five federally-protected species, the northern long-eared bat, Roanoke logperch, James spiny mussel, small whorled pogonia and smooth coneflower. Although FERC currently characterizes the adverse environmental impact as moderate and states that adjustments could reduce these impacts to less-than-significant levels, the	In Section 4.10 of the EIS we state the following: "Cultural resources are locations of human activity, occupation, or use. According to the FERC's Office of Energy Projects 'Guidelines for Reporting on Cultural Resources Investigations for National Gas Projects' (July 2017), 'cultural resources include any prehistoric or historic archaeological site, district, object, cultural feature, building or structure, cultural landscape, or traditional cultural property.' Although 'cultural resources' are not defined in 36 CFR 800, it is a 'term-of-art' in the field of historic preservation and archaeological research. Indian tribes believe that cultural resources could include natural resources, such as plants and animals of traditional importance to tribes, and topographic features and view sheds that may be sacred." Impacts on forest are discussed in section 4.5 of the EIS. Forest and vegetation clearing plans are discussed in section 2.4.1.2 of the EIS. Threatened and endangered species are discussed in Section 4.7 of the EIS.
NAT-4k	Nation points out that given the previous track record of EQT, it is equally or more likely that the adverse impacts become significantly more substantial than the Draft EIS predicts. For this reason, the Nation requests that FERC develop a plan to assess and review these impacts and establish periodic monitoring to determine whether impact levels and appropriate mitigation approaches have changed. * * * The Nation looks forward to assisting FERC on ongoing cultural resources identification and mitigation associated with the Southgate project as the consultation process moves forward. Thank you for consideration of our comments. Best regards,  Marion Werkheiser Attorney at Law	See response GEN-6 in appendix I.2.

NAT-7	Monacan Indian Nation

CULTURAL HERITAGE PARTNERS
LAW • POLICY • STRATEGY

November 11, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street, N.E.
Washington, D.C. 20426

Re: Monacan Indian Nation's Renewed Request for Information | Southgate extension of the Mountain Valley Pipeline Associated with Docket Nos. CP19-14-000

Dear Secretary Bose:

NAT-7a	As you know, I represent the Monacan Indian Nation in the permitting process for the MVP Southgate project overseen by the Federal Energy Regulatory Commission (FERC). The Nation has a variety of concerns regarding project, its impacts on historic properties significant to the Nation, the Project's incomplete cultural resources reports, and the Draft Environmental Impact Statement (DEIS). Since the Nation submitted its privileged comments in July regarding the cultural resources reports, it has received no response to its concerns or its requests for additional information. As a reminder, in those comments the Nation asked that:	The EIS discusses historic properties important to the Monacan Indian Nation. It acknowledges that cultural resources investigations for the Project are currently incomplete, and makes recommendations to finish the process of complying with Section 106 of the NHPA prior to the Commission allowing construction to begin. In Section 4.10.1.2 of the EIS we discuss correspondence from the Monacan Indian Nation, including the July 2019 letter.
NAT-7b	A) The cultural resources consultant address deficiencies in the Cultural Background and Ethnographic Analysis sections, specifically the way in which these reports mischaracterize Monacan history and treats information on native history as largely useful for determining tribal affiliation rather than incorporating it into the context of the broad swath of history impacted by the project;	The Nation's comment about Mountain Valley's cultural resources reports is not relevant to the EIS.
NAT-7c	B) The consultants incorporate into their analysis, which currently relies too heavily on information written before 2000, a variety of sources and texts related to Monacan and Siouan pre- and post-Contact history;	Mountain Valley has stated that its contractor reviewed the sources recommended by the Nation.
NAT-7d	C) The consultants conduct oral history interviews with local tribes, to illuminate the several centuries of native life and movements currently not covered by existing cultural resources reports and to rectify a lack of reference to native persistence in these areas after 1780;	We would not require this information.
NAT-7e	D) The Nation receive ongoing and active communication regarding planned archaeological testing on pre-Contact sites, especially those in Pittsylvania County;	Mountain Valley stated that it has provided the Monacan Indian Nation with copies of all cultural resources investigations reports.

NAT-7	Monacan Indian Nation	
NAT-7f	E) Survey reports assessing the eligibility of architecture along the pipeline include information typical for Phase II investigations, such as deed research, which is essential for determining the potential native affiliation or a site's potential eligibility under Criteria A or B;	The State Historic Preservation Offices (SHPO) of Virginia and North Carolina have accepted Mountain Valley's historic architectural survey reports without requiring deed research.
NAT-7g	F) The subcontractor TRC Solutions, Inc. (TRC) develop a method to review the pipeline landscape (including the direct and indirect APE) for potential burial mounds, and provide greater detail on potential impact to a site called Sugar Loaf Mound (31RK141) near the project in North Carolina; and	Site 31RK141 (Sugar Loaf Mound) was not identified in the area of potential effect (APE), so it will not be affected by the Project.
NAT-7h	G) TRC should contact the Nation to discuss the material contained in this letter, so that the Nation can provide any clarification that TRC may require.	Mountain Valley indicated that it has contacted the Monacan Indian Nation on numerous occasions (see table 4.10-3 in the EIS).
NAT-7i	Moreover, in July 2019, the Nation received the DEIS. The vast majority of the errors identified by the Nation in the cultural resources reports were compounded in the DEIS. The Nation submitted comments on the Draft EIS on September 16, 2019 and has still not heard anything from NextEra or FERC regarding their concerns since that time.	Our responses to comments from the Monacan Indian Nation on the Southgate draft EIS are contained in the final EIS.
NAT-7j	One of the most concerning elements coming out of the cultural resources reports and the DEIS is the mischaracterization of Monacan ancestry and of Eastern Siouan history generally. The Nation would like to affirm the following points, supported by scholarship, which are critical to get right in any analysis of effects for the Southgate extension of the Mountain Valley Pipeline: 1. The Monacan were linguistically and socio-politically Siouan and are related to the Sappony Tribe and other Siouan tribes along the North Carolina/Virginia border. 2. Siouan tribes in Virginia engaged in kin-based alliance systems and confederacies supported by a mutually-intelligible language. Tribal history and ceramic patterns suggest an intermarriage system in which the core tribes of central Virginia had a Monacan pattern of ceramic decoration and other site patterns, and the Roanoke Valley was a distinct but related group, with occasional appearance of Monacan-style ceramics suggestive of regular kin exchange, trade, and alliances. 3. Most Virginia Siouan tribe names other than Monacan and Mannahoac (*e.g.*, Saponi, Tutero, Nahyssan, Occaneechi) are not referenced until 1650 or later. Therefore, there is considerable ambiguity regarding whether these tribes had a strongly separate pre-Contact identity; whether they were family or village names within the Monacan Confederacy pre-Contact; or whether they are post-Contact sub-groups that formed around migration or distinctions in trade practices. 4. During the 17th-18th centuries, Virginia tribes experienced colossal loss of native population and disruption of lifeways as a result of European colonialism. Several of the Virginia Siouan groups traveled west and south to remain on the frontier with minimal contact with settlers. There was considerable bifurcation and amalgamation of tribal groups as necessitated for survival. 5. Because of these factors, modern Virginia Siouan tribes (like many other tribes) are commonly made up of more than one historic tribe, have a variety of consultation interest areas, and have individuals within these tribes who understand themselves to have a descendancy from multiple Virginia Siouan groups.	See response NAT-4d.

NAT-7	Monacan Indian Nation	
NAT-7k	It is disappointing to see the tribe's history misrepresented in the DEIS for this project, and to have received no response from FERC to the tribe's earlier concerns. In our comments on the DEIS, the Nation reiterated the requests associated with the cultural resources reports, and also pointed out the potential adverse effects to historic and cultural properties associated with contemporary members of the Nation located along the proposed project route. The Nation also underlined the importance of forestry resources for the tribe, and asked to see tree cutting plans for the Southgate project for at least the third time. The Nation additionally requested in September that FERC develop a plan to assess and review environmental, historical, and social impacts and establish periodic monitoring to determine whether impact levels and appropriate mitigation approaches have changed. These failures in the consultation process undermine not only FERC's duty to consult with tribes in a meaningful way, but also to engage in government-to-government consultation. As far as the Nation is aware, destructive archaeological data recovery continues on sites associated with Monacan ancestors without Monacan or other tribal involvement. Eligibility assessments for historic architecture are being made by cultural resources consultants without research into past owners, which is required under Virginia survey guidelines and might help identify properties with native associations or other historical importance. Decisions regarding tree clearing and mitigation are likely being made without Monacan or tribal involvement. Monacan tribal history is being mischaracterized based on poor scholarship, despite repeated attempts by the tribe to provide correct information. For all these reasons, the Nation asks FERC to acknowledge these communications and these requests, and to provide a meaningful response to the Nation regarding these requests and the broader context of the September and July communications. Furthermore, in order to assist the Nation's objectives in returning their cultural patrimony to the tribe, we ask that landowners associated with any site likely to have Monacan associations be asked to sign agreements that would return these artifacts and cultural remains to the Nation at the conclusion of the required cultural resources investigations. Sincerely, Marion F. Werkheiser Marion Werkheiser Attorney at Law	The Cultural Context information is intended to be a brief section, but it does not misrepresent the Tribe's history. Mountain Valley stated that it has provided the Monacan Indian Nation with copies of all cultural resources investigations reports. Impacts on forest are described in Section 4.5 of the EIS. The forest and vegetation clearing process is described in section 2.4.1.2 of the EIS.
NAT-7l		Impacts on cultural resources and mitigation measures for affected historic properties are detailed in Section 4.10 of the EIS.
NAT-7m		There are no failures in our consultations process. As previously noted, Mountain Valley stated that it has provided the Monacan Indian Nation with copies of all cultural resources investigations reports, including treatment plans that recommended archaeological data recovery. The Virginia SHPO accepted Mountain Valley's cultural resources investigations reports. Our scholarship on Monacan history is not poor, as we utilized sources recommended by the Nation. Vegetation is described in Section 4.5 of the EIS. Our draft Programmatic Agreement for the Southgate Project, provided to the Monacan Nation on January 8, 2020, includes a stipulation that Mountain Valley request that landowners donate artifacts to repositories found acceptable by the signatories.

NAT-8 Sappony Tribe

CULTURAL HERITAGE PARTNERS
LAW • POLICY • STRATEGY

December 12, 2019

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission (FERC)
888 First Street, N.E.
Washington, D.C. 20426

Re: Response of the Sappony Tribe to the DEIS for the Southgate Extension of the Mountain Valley Pipeline Associated with Docket No. CP19-14-000

Dear Ms. Bose:

As you know, I represent the Sappony Tribe in the permitting process for the MVP Southgate project overseen by the Federal Energy Regulatory Commission ("FERC"). The Tribe has a variety of concerns regarding project, its impacts on historic properties significant to the Tribe, the Project's incomplete cultural resources reports, and the Draft Environmental Impact Statement (DEIS). Since the Tribe submitted its privileged comments in July regarding the cultural resources reports, the Tribe has received no response to many of its concerns or its requests for additional information. As a reminder, in those comments the Tribe asked that:

A) The cultural resources consultant address deficiencies in the Cultural Background and Ethnographic Analysis sections, specifically the way in which these reports mischaracterize Sappony, Monacan, and Siouan history and treats information on native history as largely useful for determining tribal affiliation rather than incorporating it into the context of the broad swath of history impacted by the project;
B) The consultants incorporate into their analysis, which currently relies too heavily on information written before 2000, a variety of sources and texts related to Sappony, Tutelo, Monacan, and Siouan pre- and post-Contact history;
C) The consultants conduct oral history interviews with local tribes, to illuminate the several centuries of native life and movements currently not covered by existing cultural resources reports and to rectify a lack of reference to native persistence in these areas after 1780;
D) The DEIS incorporate information provided by the Tribe in their September 16, 2019 letter, in order to recognize Sappony relatedness to the Cheraw Tribe, which had several major historical towns in the project area of MVP Southgate, and correct currently inaccurate information regarding Cheraw movements after the 18th century;
E) The Tribe receive ongoing and active communication regarding planned archaeological testing on pre-Contact sites;

NAT-8a	Impacts on cultural resources and mitigation measures for affected historic properties are detailed in Section 4.10 of the EIS. We acknowledge that cultural resources investigations for the Project are currently incomplete, and we make a recommendation to finish the process of complying with Section 106 of the NHPA prior to the Commission allowing construction to begin. In Section 4.10.1.2 of the EIS we discuss correspondence from the Sappony Tribe, including the July 2019 letter.
NAT-8b	The Tribe's comment about Mountain Valleys' cultural resources reports is not relevant to the EIS. Section 4.10.3.1 of our EIS discusses historical relationships between the Sappony and Monacan.
NAT-8c	The Tribe's comment about Mountain Valleys' cultural resources reports is not relevant to the EIS.
NAT-8d	We would not require this information.
NAT-8e	Relations between the Sappony and Saura are briefly mentioned in Section 4.10.3.1 of our EIS.
NAT-8f	Mountain Valley indicated that it provided the Tribe with copies of all cultural resources investigations reports.

NAT-8	Sappony Tribe	
NAT-8g	F) Survey reports assessing the eligibility of architecture along the pipeline include information typical for Phase II investigations, such as deed research, which is essential for determining the potential native affiliation or a site's potential eligibility under Criteria A or B;	The SHPOs of Virginia and North Carolina have accepted Mountain Valley's historic architectural survey reports without requiring deed research.
NAT-8h	G) TRC should contact the Tribe to discuss the material contained in this letter, so that the Tribe can provide any clarification that TRC may require.	Mountain Valley indicated that it has contacted the Tribe Nation on numerous occasions (see table 4.10-3 in the EIS).
NAT-8i	Moreover, in July 2019, the Tribe received the DEIS. The vast majority of the errors identified by the Tribe in the cultural resources reports were compounded in the DEIS. The Tribe submitted comments on the Draft EIS on September 16, 2019 and has still not heard anything from NextEra or FERC regarding their concerns. One of the most concerning elements coming out of the cultural resources reports and the DEIS is the mischaracterization of Eastern Siouan tribal history. The Sappony would like to affirm the following points, supported by scholarship, which are critical to get right in any analysis of effects for the Southgate extension of the Mountain Valley Pipeline:	Section 4.10.3.1 provides brief information on Eastern Siouan tribal history. The comments of the Sappony Nation on the DEIS are addressed in this FEIS.
NAT-8j	1. The Monacans were linguistically and socio-politically Siouan and are related to the Sappony Tribe and other Siouan tribes along the North Carolina/Virginia border. 2. Siouan tribes in Virginia engaged in kin-based alliance systems and confederacies supported by a mutually-intelligible language. Tribal history and ceramic patterns suggest an intermarriage system in which the core tribes of central Virginia had a Monacan pattern of ceramic decoration and other site patterns, and the Roanoke Valley was a distinct but related group, with occasional appearance of Monacan-style ceramics suggestive of regular kin exchange, trade, and alliances. 3. Most Virginia Siouan tribe names other than Monacan and Mannahoac (*e.g.,* Saponi, Tutero, Nahyssan, Occaneechi) are not referenced until 1650 or later. Therefore, there is considerable ambiguity regarding whether these tribes had a strongly separate pre-Contact identity; whether they were family or village names within the Monacan Confederacy pre-Contact; or whether they are post-Contact sub-groups that formed around migration or distinctions in trade practices. 4. During the 17th-18th centuries, Virginia tribes experienced colossal loss of native population and disruption of lifeways as a result of European colonialism. Several of the Virginia Siouan groups traveled west and south to remain on the frontier with minimal contact with settlers. There was considerable bifurcation and amalgamation of tribal groups as necessitated for survival. 5. Because of these factors, modern Virginia Siouan tribes (like many other tribes) are commonly made up of more than one historic tribe, have a variety of consultation interest areas, and have individuals within these tribes who understand themselves to have a descendancy from multiple Virginia Siouan groups. For example, several Sappony families know themselves to primarily be of Cheraw descent and have both documents and family oral history related to their ancestors joining with the Sappony Tribe after the Cheraw scattered.	Comments noted. See response NAT-2a.

NAT-8	Sappony Tribe	
NAT-8k	In its September comments on the DEIS, the Tribe reiterated the requests associated with the cultural resources reports, and the Tribe pointed out the potential adverse effects to historic and cultural properties associated with contemporary members of the Tribe located along the proposed project route. The Tribe also underlined the importance of forestry resources for the tribe, and asked to see tree cutting plans for the Southgate project for at least the third time they have done so. The Tribe additionally requested that FERC develop a plan to assess and review environmental, historical, and social impacts and establish periodic monitoring to determine whether impact levels and appropriate mitigation approaches have changed.	Impacts on cultural resources and mitigation measures for affected historic properties are detailed in Section 4.10 of the EIS. Vegetation is described in Section 4.5 of the EIS.
NAT-8l	Failures in the consultation process undermine not only FERC's duty to consult with tribes in a meaningful way, but also to engage in government-to-government consultation. As far as the Tribe is aware, destructive archaeological testing has continued on sites associated with Sappony ancestors without Sappony or other tribal involvement. Eligibility assessments for historic architecture are being made by cultural resources consultants without research into past owners, in violation of Virginia survey guidelines. Decisions regarding tree clearing and mitigation are likely being made without Sappony or tribal involvement. Sappony tribal history has been mischaracterized based on poor scholarship, despite repeated attempts by the Tribe to provide correct information. For all these reasons, the Tribe asks FERC to acknowledge these communications and these requests, and to provide a response to the Tribe regarding these requests and the broader context of the September and July communications.	There have been no failures in the FERC's consultation process. As documented in Section 4.10.1.2 of the EIS, the FERC staff consulted on a government-to-government basis with Indian tribes, in accordance with Part 800.2(c)(3). However, the Sappony Tribe does not qualify as an "Indian tribe" defined by Part 800.16(m). Mountain Valley indicated that it provided the Sappony Tribe with copies of all cultural resources investigations reports, including a treatment plan that recommended archaeological data recovery. The Virginia SHPO accepted Mountain Valley cultural resources investigations reports. Our scholarship on Tribal history is not poor; however, the Cultural Context in Section 4.10.3.1 of the EIS is very brief. Vegetation is described in Section 4.5 of the EIS. Our responses to the Sappony Tribe comments on the draft EIS can be found in this final EIS.
NAT-8m	In October, the Tribe received a series of addendum reports and a Treatment Plan for North Carolina site 31RK259. The Tribe notes that revised cultural background reports include acknowledgements of greater aspects of Sappony history, critically their relatedness to Cheraw groups and much greater detail on Sappony post-Contact history as developed through sources communicated by the Tribe in previous letters. The Tribe appreciates this correction of part of the historical record, and asks that this more robust assessment of post-Contact native history be incorporated into the Final EIS. Site 31RK269 is of particular concern to the Tribe because of its age and its proximity near Eden, where the Cheraw and other related tribes lived in the still poorly understood post-Contact period. Given that 1,350 square meters of the site are located within the project permanent easement, with an unknown amount of that area being impacted through construction, the project proposes to conduct data recovery at the site. Because of the time period of the site, analysis of Cheraw lifeways and recovered artifacts would benefit from historical ethnography based on 17th century primary sources. The Tribe therefore also requests that a list of primary source information regarding native communities in this region be compiled and reviewed as part of the background research for this excavation to enable a richer analysis of its results. **The Tribe requests a meeting to discuss proposed Treatment Plan methods and research.** Best regards, Marion F. Werkheiser Marion Werkheiser Attorney At Law Counsel for the Sappony Tribe	Comments noted. However, we do not intend to expand the Cultural Context in the EIS. The Treatment Plan for site 31RK259 was accepted by the North Carolina SHPO on November 18, 2019. Since the Sappony Tribe is an intervener, FERC staff is constrained by ex-parte rules. Typically, staff does not meet with Native American organizations that are not federally-recognized Indian tribes.

Appendix I.3 - Southgate Project Response to Comments Side-by-Side Table				
MVP Southgate Project Comments on the Draft Environmental Impact Statement - September 13, 2019				
Section	**Page**	**Draft Environment Impact Statement (DEIS) Language**	**Mountain Valley DEIS Comment Response to FERC**	**FERC Response**
ES	ES-4	"As described in the Project's Water Resources Identification and Testing Plan, Mountain Valley would offer pre-construction and post-construction water quality testing for water supply wells located within 150 feet of Project workspaces. We are recommending that prior to construction Mountain Valley provide additional information on private water wells or springs, including the well's or springs' status, use, distance from construction workspace, and any proposed measures to minimize or avoid impacts on the private water wells or springs."	Mountain Valley would like to clarify that as stated in the Project's Water Resources Identification and Testing Plan, Mountain Valley will conduct pre-construction testing of all private wells located within 150 feet construction workspace. The Project will conduct post- construction tests if requested by a landowner who had a pre-construction test.	**CO-6A** - Mountain Valley confirmed in their December 16, 2019 response that they would offer pre- and post-construction quality and yield testing for all water wells and water supply springs located within 150 feet of construction workspaces. If a landowner does not allow the Project to conduct pre-testing then post-testing will not occur as in such case there would no baseline data by which to measure post-construction water quality. Mountain Valley would offer this testing to the landowner in accordance with the procedures outlined in Mountain Valley's Water Resources Identification and Testing Plan
1.0	1-1	"Mountain Valley is a joint venture between affiliates of EQT Midstream Partners, LP; NextEra Energy US Gas Assets, LLC; WGL Midstream, Inc.; RGC Midstream, LLC; and Con Edison Gas Midstream, LLC. Southgate Project facilities would be operated by an affiliate of the EQT Corporation."	Mountain Valley requests an update to the footnote on page 1-1: "MVP Southgate is a joint venture among affiliates of EQM Midstream Partners, LP; NextEra Energy Inc.; AltaGas Ltd. and RGC Resources, Inc. MVP Southgate Project facilities would be operated by an affiliate of EQM Midstream Partners, LP.	**CO-6b -** Comment noted. The EIS has been updated with this information.
1.4	1-13	Table 1.4-1 Major Environmental Permits, Licenses, Approvals, and Consultations Applicable to the Southgate Project; State of North Carolina NCDEQ-Division of Water Resources	Application was denied on procedural grounds until a preferred route was identified by the FERC, at which time Mountain Valley was instructed it could reapply for the Joint Permit Application under Section 401 of the Clean Water Act; Isolated/non-404 wetland and water permit.	**CO-6c-** Comment noted. Table 1.4-1 has been updated.
2.1.1	2-3	"The pipeline has been designed to transport 375 million MMcf/d of natural gas. The maximum allowable operating pressure (MAOP) for the new pipeline would be about 1,440 pounds per square inch gauge (psig). For 39 miles (52.5 percent) of the route, the Project would be collocated with existing utility corridors and rights-of-way (see table 2.1-2)."	Mountain Valley would like to clarify that the H-605 pipeline's MAOP would be 1,480 psig, while the H-650 pipeline's MAOP would be 1,440 psig.	**CO-6d** – Comment noted. The EIS has been updated with this information.
2.4.1.6	2-18	"Mountain Valley has indicated that after for hydrostatic testing would be obtained from two municipal water sources."	Mountain Valley would like to clarify that surface water sources such as the Dan River are now being proposed as primary hydrostatic test water sources. Mountain Valley intends to file updates to Table 2.3-7 "Proposed Hydrostatic Test Water Use	**CO-6e** – Section 2.4.1.6, 4.3.2.6, and 4.6.5.3 of the EIS have been updated with information regarding water sources for the Project and surface water withdrawals.

			Summary," in a supplemental filing to be filed with FERC in October 2019.	
2.4.1.3	2-16	"The trench would be dug at least 12 inches wider than the diameter of the pipeline and excavated to a depth of 5.5 feet to 9 feet in order to provide sufficient cover over the pipeline in accordance with DOT standards in 49 CFR 192.327 (see table 2.4-1). There would generally be36 inches of cover over the top of the pipeline in deep soils and 18 inches of cover in areas of consolidated rock. At waterbody crossings, the pipe would be more deeply buried; with a minimum of 4 feet of cover at navigable waterways and a minimum of 2 feet of cover at waterbodies with consolidated rock."	Mountain Valley would like to clarify that the trench would provide sufficient cover over the pipeline in accordance with United States Department of Transportation standards in 49 CFR 192.327, as noted in Table 2.4-1 of the DEIS. The depths provided in the DEIS may be specific to topography, soil composition, and pipe diameter and may not be true across the entire project alignment.	**CO-6f** - Comment noted. The EIS has been updated with this information.
4.1.4.2	4-7	Table 4.1-1 Surficial Geology Crossed by the Southgate Project	Mountain Valley requests that Table 4.1-1 in the DEIS be replaced with Table 6.3 that was included in the report "Earthquake and Active Fault Hazard Analyses" filed with RR6, Appendix 6F on November 6, 2018. Mountain Valley has determined this table to be a more accurate summary of faults and zones located in the relative Project vicinity.	**CO-6g** – Comment noted. Table 4.1-1 has been updated.
4.3.2.4, 4.6	4-38, 4-81	"All waterbodies crossed by the Project are designated warm water fisheries. The FERC requires all in-stream work, except the installation and removal of equipment bridges, be completed in warm water fisheries between June 1 and November 30 unless expressly permitted or further restricted by an appropriate federal or state agency in writing. In response to a FERC environmental information request regarding adherence to in water construction windows, Mountain Valley responded that based on correspondence with Virginia and North Carolina state agencies no construction windows were anticipated except possibly for mussels. However, Mountain Valley has not provided any written correspondence from the VADGIF and NCWRC regarding any timing restrictions on waterbodies containing warm water fisheries. Though aquatic surveys have determined that protected fish and mussel species are not present in streams in Virginia, consultation with the	Mountain Valley would like to clarify that no time of year restrictions have been provided from the United States Fish and Wildlife Service (USFWS). Mountain Valley intends to adhere to the Virginia Department of Game and Inland Fisheries (VDGIF) warm water fishery restrictions (April 15-July 15). Based on consultation with North Carolina Wildlife Resource Commission, no timing restrictions are required for warm water fisheries crossed in North Carolina. Mountain Valley will request an alternative measure from FERC's Procedures (Section V.B.1.b.) as part of the supplemental filing to be filed with FERC in October 2019. Agency correspondence from VDGIF and NCWRC are included in Attachment 1a.	**CO-6h** - Based on recommendations from VADGIF, Mountain Valley has committed to adhere to the Virginia warm water fisheries construction window (i.e., no in-water construction between April 15 and July 15); based on the results of Mountain Valley's aquatic surveys in the waterbodies of North Carolina, which did not document any state-listed aquatic species, NCWRC has stated it would not require any in-water construction date restrictions.

		VADGIF is currently ongoing. Consultation with NCWRC and aquatic surveys in North Carolina are still pending, including streams that are proposed to be crossed via conventional bore or HDD methods. Additional details of specific fisheries and agency consultation are addressed in section 4.7. Absent any waivers from or further restrictions on in-waterworks timing from VADGIF and NCWRC, Mountain Valley is required to follow the warm water fisheries timing window in its Procedures (June 1 through November 30)."		
4.5.4.1	4.63	"Once construction is complete, Mountain Valley would monitor and control occurrences of noxious and invasive weed species throughout restoration and for 2 years following restoration in locations along the route where infestations were not identified prior to construction."	Mountain Valley would like to clarify that it will monitor and control occurrences of noxious and invasive weed species until FERC deems restoration is complete. Mountain Valley will submit a revised Exotic and Invasive Species Control Plan to be filed with FERC in October 2019.	**CO-6i** – Section 4.5.4.1 has been updated to note that Mountain Valley would monitor the right-of-way for 2 years post-construction. Mountain Valley's updated EIPSCP was filed in October 2019.
4.6.1.1	4-70	"To increase the speed and success of restoration of wildlife habitat, Mountain Valley would implement right-of-way restoration measures contained in FERC's Plan and Mountain Valley's Procedures, E&SC Plan, and solicit guidance from the USDA NRCS, VADCR, and NCWRC to restore the pipeline corridor using native seed mixes specific to the Project locations."	Mountain Valley will continue to consult with agencies to develop and refine seed mixes that contain as many native and naturalized species as possible to ensure the right-of-way is stabilized and restored.	**CO-6j** – Comment noted. Section 4.6.1 notes that Mountain Valley will continue to consult with agencies regarding seed mixes.

4.6.3.2	4-75	"The FWS recommended that Mountain Valley avoid clearing from March 15 - August 15 in Virginia and from April 1 - August 31 in North Carolina."	As stated in RR3, the Southgate Project intends to clear trees outside of peak Migratory Bird Species of Concern (MBSC) breeding season. Should a significant delay to the start of construction occur, then incidental take may occur; however, as explained by the U.S. Department of the Interior in M- 37050, issued December 22, 2017, the Migratory Bird Treaty Act (MBTA) does not prohibit incidental take. If this situation occurs, the Project will consult with USFWS and NCWRC to determine appropriate voluntary conservation measures to minimize impacts to the greatest extent practicable.	**CO-6k** - Section 4.6.3.2 of the EIS provides discussion on migratory birds.

			While the nesting season is generally considered April 1 to August 31, the majority (eight of 12) of Project MBSC do not begin nesting until May.	
4.7.1	4-88	Table 4.7-1 Federal Endangered, Threatened, or Other Special Status Species Known to Occur or Potentially Occurring in the Southgate Project Area	Table 4.7-1 omits Schweinitz's sunflower, a federally listed endangered species endemic to North Carolina. This species was added on November 20, 2018 to the renewed species list from the USFWS. Following conversation with the USFWS Raleigh office, no surveys are required for this species. Agency correspondence of this communication on December 12, 2018 is included in Attachment 1a.	**CO-6l** - Footnote a/ in table 4.7-1 notes that Schweinitz's sunflower is one of the nine species listed by federal and state agencies as potentially being present in the Project counties; however, the species are not known to occur in the portions of the counties that would be crossed by the Project and they are therefore not listed in the table
4.7.5.1	4-92	"Correspondence with the FWS indicated small whorled pogonia might be present within the Project area in Rockingham and Alamance Counties and recommended that Mountain Valley conduct surveys for the species (FWS, 2018c, 2018d). If small whorled pogonia occurs in the Project right-of-way, it could be vulnerable to removal during clearing and grading, or trampling and crushing by foot traffic or movement of heavy machinery."	The DEIS indicates that small whorled pogonia is vulnerable to sedimentation and run-off in the vicinity of the right-of-way. Mountain Valley would like to clarify that this is an upland species that is not likely to be impacted by run-off.	**CO-6m** – As noted in section 4.7.5.1, clearing and grading in upland areas could potentially cause sedimentation and run-off impacts to upland plants.
4.7.5.1	4-93	"Mountain Valley conducted field surveys for small whorled pogonia in 2018, but surveys were conducted outside of the optimal survey window for the plant."	Mountain Valley would like to clarify that the small whorled pogonia surveys took place in 2018 from July 21-27, August 23, August 28-31, and September 4-6. Surveys during 2019 occurred on June 17-22 and August 6, 8, 9, 12, 14 and 17. Additional surveys are anticipated during September 2019. The optimal survey window for small whorled pogonia is mid-May to early July; however, habitat surveys can be performed outside of this survey window. No species have been identified to date.	**Co-6n** - Comment noted. Clarification regarding the dates and locations that surveys were conducted in 2018 and 2019 and are planned for 2020 has been included in the EIS.
4.7.5.1	4-93	"Right-of-way clearing could also adversely affect smooth coneflower habitat by altering light exposure or hydrology or by increasing sedimentation and runoff in the vicinity of the right-of-way."	Mountain Valley would like to clarify that the smooth coneflower actually prefers open woods, roadsides, clear-cuts, and utility rights-of-ways, etc. Because of this, clearing is likely to not to adversely affect potential habitat for smooth coneflower.	**CO-6o** - As noted in section 4.7.5.1, clearing and grading in the habitats preferred by the smooth coneflower could potentially cause sedimentation and run-off impacts.
4.7.5.2	4-93	"Mountain Valley conducted field surveys for smooth coneflower and its habitat in 2018; however, Mountain Valley was not able to survey all areas with potentially suitable habitat due to a lack of land access. Therefore, Mountain Valley	Mountain Valley would like to clarify that surveys for smooth coneflower are being conducted throughout the summer and early fall months. Smooth coneflower surveys took place in 2018 from July 21-27, August 23, August 28-31, and September	**CO-6p** - See response CO-6p -

		plans to complete surveys for smooth coneflower in June of 2019."	4-6. Surveys during 2019 occurred to date on June 17-22 and August 6, 8, 9, 12, 14 and 17. Additional surveys are anticipated during September 2019. The optimal survey window for smooth coneflower is late May to October. No species have been identified to date.	
4.7.7.4	4-97	"Three state-listed mussel species, in addition to the five federally listed species discussed in section 4.7.4, potentially occur in the Project area."	The statement on Page 4-97 (Section 4.7.7.4) of the DEIS that five federally listed mussel species are discussed in section 4.7.4 is incorrect. Section 4.7.4 discusses four mussel species of which only one is federally listed. James spinymussel (*Pleurobema collina*) is federally Endangered, the Green Floater (*Lasmigona subviridis*) and Yellow Lampmussel (Lampsilis cariosa) are federal species of concern, and the Atlantic Pigtoe (Fusconaia masoni) is proposed for listing as Threatened. "Species of concern" is an informal term and does not signify federal listing, and species proposed for listing cannot be defined as "listed" until the determination process is complete.	**CO-6q** - Comment noted. Section 4.7.7.4 in the FEIS has been revised.
4.7.7.4	4-97	"Mountain Valley conducted surveys in Rockingham and Alamance Counties for crayfish in 2019 in conjunction with its mussel surveys but has not filed the results of the surveys to date."	The DEIS states that Mountain Valley conducted surveys in Rockingham and Alamance Counties for crayfish in 2019 in conjunction with its mussel surveys but has not filed the results of the surveys to date. Mountain Valley would like to clarify that this sentence implies that crayfish surveys were conducted for both species of crayfish; however, only Carolina Ladle crayfish surveys were completed in conjunction with mussel surveys.	**CO-6r -** Comment noted. Section 4.7.7.4 in the EIS has been revised.
4.13.2.9	4-629	Climate Change	See Attachment 1b	**CO-6s -** As described in section 4.11.1.2, our use of carbon dioxide equivalents (CO2e) is consistent with the methods for characterizing methane in greenhouse gas estimates, allowing a common standard for comparison across projects.
5.1.3	5-4	"The river crossing would take 3 to 7 days to complete"	Mountain Valley would like to clarify, as stated, in its Environmental Information Request Response dated February 13, 2019, the crossing of the Sandy River could take approximately 5- 10 days. This timeframe is approximate and is dependent on field conditions, weather, and access.	**CO-6t** – Comment noted. Sections 5.1.3 and 4.8.4.1 have been updated in the EIS

CO-7	Blue Ridge Environmental Defense League

the information to create the map in **Attachment 1** and several other maps illustrating the presence of former uranium mining leases in Pittsylvania County extending from the area northeast of the massive uranium deposit at Coles Hill in Chatham down to the southwestern corner of Pittsylvania County.

FROM: Ann Rogers, Blue Ridge Environmental Defense League (BREDL)

RE: OEP/DG2E/Gas 3
Mountain Valley Pipeline, LLC.
Southgate Project
Docket No. CP19-14-000

SUBJECT: Failure of Southgate Draft Environmental Impact Statement to document the Southgate pipeline's co-location with multiple uranium mining leases historically held by Marline Uranium Corporation in the uranium-rich Chatham fault zone

INTRODUCTION

The Draft Environmental Impact Statement (DEIS) for the Southgate pipeline states in Section 4.1.4.8 (pages 4-12 and 4-13), "The closest economically viable uranium deposit to the Project is at Coles Hill in Pittsylvania County, Virginia, 3.5 miles north of the Lambert Compressor Station (Coles Hill, LLC). This deposit is exposed locally within Coles Hill and proceeds to dip and extend underground (RTII, 2012). No encounters with the Coles Hill deposit are anticipated as a result of Project-required excavation due to the deposit depth and distance from the Project. . . . Concentrations of uranium in sediment, soils, shallow bedrock, and groundwater near the Project workspace in Pittsylvania County are comparable to concentrations in environmental media in the conterminous United States. . . . Significant impacts on human health and the environment are not anticipated during construction and operation of the project."

CO-7a

This assessment offered by the DEIS fails to consider dozens of uranium mining leases that were held by Marline Uranium Corporation in the area in Pittsylvania County through which the Southgate pipeline has been routed.

Below we: (1) discuss the documentation of the Marline uranium mining leases conducted by Piedmont Residents in Defense of the Environment (PRIDE) in 2010 and 2011, (2) offer mapping to illustrate PRIDE's findings, and (3) offer additional evidence of the presence of economically viable uranium ore deposits that coincide with the geographic area now planned for construction of the Southgate pipeline.

HISTORIC MARLINE LEASES COINCIDE WITH SOUTHGATE PIPELINE CORRIDOR

Research conducted by BREDL's chapter, PRIDE in 2010-11

CO-7b

During 2010-11, members of PRIDE conducted research at the Pittsylvania County (VA) Real Estate Office to obtain documentation of leases held by Marline Uranium Corporation to conduct uranium mining in Virginia. Their research generated a database containing over 600 records of these historic Marline leases. PRIDE's research was shared with Piedmont Environmental Council in 2011, who used

the information to create the map in **Attachment 1** and several other maps illustrating the presence of former uranium mining leases in Pittsylvania County extending from the area northeast of the massive uranium deposit at Coles Hill in Chatham down to the southwestern corner of Pittsylvania County.

CO-7a	The discussion of uranium in Section 4.1.4.8 has been updated.
CO-7b	See response CO-7a.

CO-7	Blue Ridge Environmental Defense League	
CO-7c	The map in **Attachment 2** illustrates the Southgate pipeline corridor and its proximity to the historic Marline leases. On the map, the Southgate pipeline corridor is indicated by the brown line extending from Chatham southwest to where the pipeline crosses into North Carolina. The red dots on the map indicate the locations of some of the Marline leases that were discovered by PRIDE to be on record with the Pittsylvania County government in 2010-11. The map illustrates only a small fraction of the 618 total leases documented by PRIDE in the communities of Hurt, Long Island, Gretna, Chatham, Dry Fork, Danville, Cascade, and Axton, VA. The map clearly illustrates that the Southgate pipeline is planned for construction in a geographic area coinciding with dozens of Marline leases. ***Berry Hill Mega Park and Judy Byrd Mountain*** The public has long had knowledge of a large uranium deposit at the Berry Hill Mega Park and nearby Judy Byrd Mountain in southern Pittsylvania County, both of which are proposed to be crossed by the Southgate pipeline. In describing Pittsylvania Supervisor Tim Barber's position on uranium mining, an October 29, 2015 article appearing in the Danville Register & Bee states, "Barber opposes uranium mining because he doesn't think it's proven to be safe and it would decrease property values. Also, there is a large uranium deposit on Judy Byrd Mountain – adjacent to Berry Hill mega park – in southwestern Pittsylvania County that could be mined if the moratorium were lifted, he said." The Pittsylvania County Board of Supervisors passed a resolution in June, 2010 prohibiting the mining or milling of uranium at the Berry Hill Mega Park. Please see copy of the supervisors' resolution in **Attachment 3**. The Berry Hill Mega Park and Judy Byrd Mountain both appear on the map in **Attachment 2**. The Southgate DEIS fails to consider the impacts of excavation and pipeline development through the sizable uranium deposit at Berry Hill and Judy Byrd Mountain. ***Perkins Mountain*** On August 29, a landowner whose property is proposed to be crossed by the Southgate pipeline disclosed to BREDL staff that his father had received payments for a uranium lease on Perkins Mountain, located west of the City of Danville. Perkins Mountain, illustrated on the map in **Attachment 2**, is crossed by the Southgate pipeline. ***Danville Triassic Basin*** In 2007, PAC Geological Consulting, Inc. issued a report titled, "Technical Report on the Coles Hill Uranium Property, Pittsylvania County, Virginia". The report, which was written for Virginia Uranium, Inc., the company seeking to mine the very large uranium deposit at Coles Hill, contains the following description of the geology of the Coles Hill deposit:	See section 4.1.4.8 for a discussion on Uranium in the Project area. According to the Uranium Mining in Virginia: Scientific, Technical, Environmental, Human Health and Safety and Regulatory Aspects of Uranium Mining and Processing in Virginia (2012), the Judy Byrd Mountain may be within an area associated with Triassic aged sedimentary rocks that have the potential to contain occurrences of uranium based on generalized geologic stratigraphy. Sedimentary rocks in this area may contain uranium concentrations of 70 - 140 parts per million (ppm). Uranium concentrations of this size are not considered economically viable due to the lower uranium grades present in comparison to similar geologic deposits that exist globally. The National Geochemical database indicates that two rock samples were collected from a site located approximately 3,300 feet from Judy Byrd Mountain. The average uranium concentration from the rocks samples collected was approximately 4.65 ppm. In comparison the global average uranium concentration of granite is 4.8 ppm. Furthermore, the Mountain Valley Project pipeline easement is located approximately 640 feet from the location of Judy Byrd Mountain. The construction practices utilized in pipeline installation limit trenching activities to a depth of 7 feet below land surface. The shallow excavation depth further limits the possibility of encountering rock materials that may contain uranium concentrations.
CO-7d	***Perkins Mountain*** On August 29, a landowner whose property is proposed to be crossed by the Southgate pipeline disclosed to BREDL staff that his father had received payments for a uranium lease on Perkins Mountain, located west of the City of Danville. Perkins Mountain, illustrated on the map in **Attachment 2**, is crossed by the Southgate pipeline.	See response CO-7a.

CO-7	Blue Ridge Environmental Defense League	
CO-7e	***Danville Triassic Basin*** In 2007, PAC Geological Consulting, Inc. issued a report titled, "Technical Report on the Coles Hill Uranium Property, Pittsylvania County, Virginia". The report, which was written for Virginia Uranium, Inc., the company seeking to mine the very large uranium deposit at Coles Hill, contains the following description of the geology of the Coles Hill deposit: **9.2** *Property and Local Geology (Fig.* **9.2)** The property geology of the CHUP [Coles Hill Uranium Property] has been mapped by Marline geologists and Henika and Thayer (1983) and modified by Jerden (2001)…. The Chatham Fault Zone has been mapped and studied by Lineberger (1983). The deposits are hosted within a fault-bounded wedge of Precambrian or Paleozoic mylonitic quartzofeldspathic gneiss and some amphibolite exposed along the Chatham fault zone at the faulted northwest margin of the Danville Triassic Basin. The augen gneiss is probably a tectonically and hydrothermally altered variety of biotite gneiss and mica schist of the Fork Mountain Formation. Initial cataclasis and brecciation along the Chatham fault zone resulted in hydrothermal events causing sodium metasomatism, chloritization, and argillization that may have been followed by hematization and uranium mineralization. The hydrothermal events coextend and are coeval with northerly trending Jurassic diabase dykes. Jerden and Sinha (1999) suggested that the Coles Hill uranium deposit formed within a structurally controlled, hydrothermal cell that developed during Mesozoic extension in response to a localized heat flux associated with mafic intrusive activity. The report contains a map showing the Danville Triassic Basin associated with the Chatham fault zone in which, as described above, the uranium deposits at Coles Hill and elsewhere in Pittsylvania County are found. A copy of this map appears in **Attachment 4.** The Chatham fault zone is recognized by geologists as being rich in uranium ore deposits and potentially exploitable as an economic asset. The DEIS should be revised to recognize that the Southgate pipeline has been routed through an area with a reputation among geologists as having rich potential for uranium mining. **REQUEST TO FERC** We request that FERC require Mountain Valley Pipeline, LLC to (1) revise the Southgate DEIS so that it recognizes that the Southgate has been routed through an area containing significant quantities of economically viable uranium, and (2) consider the environmental impacts of building the Southgate through an area with significant concentrations of uranium ore.	See section 4.1.4.8 for a discussion on Uranium in the Project area. The Uranium Mining in Virginia: Scientific, Technical, Environmental, Human Health and Safety and Regulatory Aspects of Uranium Mining and Processing in Virginia (2012) study indicates that the only economically viable uranium deposit within both the Chatham fault zone and the state of Virginia occurs within the Cole Hills property. The Chatham fault zone is associated with Triassic aged sedimentary rocks that have the potential to contain uranium concentrations based on g+C1eneralized geologic stratigraphy. However, the uranium concentrations of these sedimentary rocks range from approximately 70 ppm to 140 ppm and are not considered an economically viable resource when compared to similar geologic deposits that exist globally.
CO-7f		As discussed in section 4.1.4.8, concentrations of uranium in soil the Project area in Pittsylvania County, Virginia are comparable to concentration in environmental media in the conterminous U.S. and concentrations of uranium in groundwater is significantly lower than U.S. Environmental Protection Agency maximum contaminant levels. Significant impacts on human health and the environment are not anticipated during construction and operation of the Project.

CO-8	Friends of the Central Shenandoah

Comments Regarding the MVP-Southgate Project DEIS
Submitted by
Friends of the Central Shenandoah

CO-8a	**Executive Summary - Flaws in the Draft Environmental Impact Statement** The Federal Energy Regulatory Commission has failed to address all of the issues required by the Natural Gas Act and the National Environmental Policy Act in the preparation of the Draft Environmental Impact Statement for the Southgate project.	See response GEN-4 in appendix I.2.
CO-8b	Neither the Commission nor the applicant has produced any substantiated information that shows an increased demand for gas supply exists for PSNC/Dominion Energy. This is crucial to determine the "necessity" for the project. Only 0.1 percent of PSNC/Dominion Energy's customers are in the industrial category. The remaining 99.9 percent of customers are either residential or commercial. Project developers have said that no gas is expected to be provided to electric generators. Information provided by the North Carolina Utility Commission shows that gas usage by residential and commercial customers in North Carolina is less in 2017 than in 2013, despite annual increases in the number of customers in both categories. Decreased gas usage per residential and commercial customer is expected to continue. PSNC experts testified to the state regulator that its winter baseload requirements are not expected to increase for the next five years. The worst-case Design Day scenario for PSNC is expected to increase in the future, although the assumptions that are used in that calculation have not been provided. Design Day estimates project the maximum gas usage under extreme conditions that may happen rarely, or not at all. PSNC/Dominion Energy has multiple options for meeting peak conditions that do not require year-round payments for unnecessary pipeline capacity which would severely burden ratepayers with billions of dollars in higher costs. The burden of proof is on the applicant to show that its project is better than the situation that currently exists.	See response GEN-2 in appendix I.2.
CO-8c	The "No Action" alternative is superior to the proposed Southgate project. That would mean the Southgate project would not be built and PSNC/Dominion Energy would continue to depend on Transco, which has served it reliably for decades.	We concluded in Section 3.2 that the No Action Alternative does not meet the Project objective and is not likely to provide a significant environmental advantage.

CO-8	Friends of the Central Shenandoah	
CO-8d	Transco has already expanded in capacity by far more than the amount proposed by Southgate. Providing more capacity using the Transco system would not require any new construction, as opposed to the 73 miles of new pipeline construction required for the Southgate project. New capacity could be added in small increments from Transco instead of committing to a huge amount of capacity from Southgate that must be paid for in full even if it is not used. PSNC/Dominion Energy has committed to capacity additions in 2020-21 that more than doubles its firm capacity reservation. This is poor utility planning and irresponsible regulatory oversight. If the Southgate DEIS had included a side by side comparison of alternatives, as required by NEPA, it would show that continuing to use Transco would provide more operational flexibility, require no new construction, and would cost, at most, half of what the Southgate project would cost. It is difficult to understand how any objective regulator could approve the Southgate projects given the availability of a lower cost, lower impact, and currently operating alternative.	See section 3.3.2.1 of the EIS for discussion of the Transco Alternative.
CO-8e	The Commission seems to have taken the position that because they have ignored the requirements of NEPA, the Natural Gas Act and their own guidelines for the past 20 years, and because few cared or objected, they could continue to do so. We care. We object to the Commission failing to follow the legal requirements. The consideration of the need for a project and whether it serves the public interest should be an integral part of the evaluation of a new pipeline project, as the law requires. The Commission should fulfill its role as an objective arbiter to balance the interests of the project developers with the interests of the public that the project is intended to serve. The missing portions in the Draft Environmental Impact Statement that are required by NEPA and the Natural Gas Act should be provided and the DEIS should be re-issued for public comment.	See response GEN-4 in appendix I.2.

CO-9	Good Stewards of Rockingham

Good Stewards of Rockingham
Dan Riverkeeper
P.O. Box 592
Stoneville, NC 27048
DanRiverkeeper.org

DEIS Comments
MVP Southgate Project
Docket No. CP19-14-000

Federal Energy Regulatory Commission
888 First Street, N.E. Washington, D.C. 20426

Our organization represents the resources, citizens and wildlife of the Dan River Basin in Virginia and North Carolina.

CO-9a	Though the majority of our comments are directly related to the DEIS, there is one major issue in which we feel compelled to address. The MVP Southgate Project is a proposed extension of an incomplete and highly troubled pipeline- the MVP mainline project. The mainline has been troubled for years by violations, accidents, lawsuits and significant community opposition. MVP has not confidently portrayed the ability to not only construct the mainline project with any regard to the environment or their own quality standards, but have not proven their ability to complete the ever inflating project altogether. MVP seems to be 'putting the wagon before the horse' when applying for permits for MVP Southgate. We would highly recommend denying the project altogether for the reasons following in this submission and believe that the FERC should at the least deny this project until MVP has successfully demonstrated their ability to complete a project with any regard to meeting the conditions outlined in their permits without causing continued harm to landowners and communities in Virginia and West Virginia.	See response GEN-6 in appendix I.2.
CO-9b	The lack of a confident analysis proving the need for the MVP Southgate is also a major concern. Can FERC justify permitting this project when the negative impacts on the environment, water sources and communities greatly outweigh any proven need, or lack thereof? The NCDEQ and other independent analyses do not show a definite need for this project and some estimate the need of NG supply to fall as other sources of energy are continually made more available and cost efficient. The gas supply existing in NC is already in a surplus. Rockingham County alone already has three existing pipelines, one of which (Transco) has been upgraded with capabilities to flow gas in either direction. We highly recommend that the FERC review this when considering any impact stated in the DEIS.	See response GEN-2 in appendix I.2.

CO-9	Good Stewards of Rockingham	
CO-9c	**Aesthetic Impacts to the Region** The 72-mile long, 100-foot wide construction zone for this pipeline will leave a needless and damaging scar of visual blight and degraded lands. The aesthetic value of our region is an important asset in building the thriving and economy-boosting tourism attraction that each county in the project path is diligently working toward. The DEIS greatly underestimates the long term and significant impacts the deforestation and permanent ROW would cause our region.	See section 4.8.6.1 of the EIS for a discussion of visual impacts.
CO-9d	Residents and landowners who would frequently view the ROW will be hit hardest by visual impacts and the loss of use of their land. Residents will lose the privacy and visual screens of large trees and hedgerows to construction; the pipeline and its numerous new roads would be built and operated directly next to scores of homes – and will pass right through one home; and construction will render many property owners' land unusable for farming, habitation or other uses. Even so, the DEIS claims that there will be no impacts on local property values.	See response LU-1 in appendix I.2.
CO-9e	The pipeline would also impact the experiences of countless recreational users of public parks, recreation and conservation areas by generating dust and noise pollution, disturbing wildlife, and disrupting public access during construction. Users of National Wild & Scenic River candidates like the Dan and Haw Rivers; future designated recreational water trails like the Banister River; and public trails like the Mountains-to-Sea Trail and a planned public trail in Alamance County would all be affected. The project would also clear trees within view of the Colonial Heritage Byway (Route 150 in Rockingham County), causing permanent impacts. The HDD crossing of the Dan River is planned for the only river access in a minority and/or impoverished community. The DEIS does not seriously consider the potential impacts to our communities and tourism by the proposed project.	See section 4.8.4 of the EIS for a discussion on impacts on recreation.
CO-9f	**Wetlands** Pipeline construction will have a long term impact on nearly 27 acres of wetlands. In addition to the pipeline construction, Mountain Valley is asking for a waiver of FERC's wetland protection setbacks and plans to locate 23 additional temporary workspaces within 50 foot of wetlands. This is not protective of the sensitive Haw River watershed and should not be allowed.	See response WET-1 in appendix I.2.

CO-9	Good Stewards of Rockingham	
	Wildlife and Fisheries	
CO-9g	Constructing the Project would disturb approximately 1,439 acres of wildlife habitat, much of which would be permanently destroyed by the project. The project would also cross 21 perennial waterbodies containing fisheries of special concern: 8 in Virginia, and 13 in North Carolina. Recreational fishing is a large economic driver in both Virginia and North Carolina and any risk to our economic inputs should be considered a serious concern.	See section 4.6 of the EIS for further discussion.
CO-9h	The U.S. Fish & Wildlife Service requested that Mountain Valley minimize impacts to vulnerable migratory bird species which use the project area such as bald eagles, northern bobwhite, and red-headed woodpecker by avoiding clearing vegetation during the peak migratory bird nesting season (March 15 - August 15 in Virginia and April 1 - August 31 in North Carolina). Mountain Valley has defied the agency's guidance and has proposed clearing vegetation during peak nesting season from March 15 – April 30 and from August 16 - 31. FERC's DEIS ignored the obvious impacts to migratory birds that would result from this reckless activity.	See section 4.6.3.2 of the EIS for a discussion on migratory birds.
CO-9i	This project would impact and disrupt key wildlife habitat, including the North Carolina Forest Legacy Areas and Piedmont Land Conservancy Easement, as well as the Virginia Piedmont Forest Block Complex Important Bird Area (IBA).	See section 4.6 of the EIS for a discussion of these areas.
	Threatened/Endangered Species	
CO-9j	Pipeline construction would harm numerous aquatic species, including the Roanoke logperch, James spineymussel, Atlantic pigtoe and smooth coneflower. All are currently listed as endangered under the Endangered Species Act with the exception of the Atlantic pigtoe, which is currently under consideration for protection. Habitat for these aquatic species along the Virginia-North Carolina border would be at great risk from sedimentation caused by pipeline construction.	See section 4.7 of the EIS for a discussion of impacts to listed species. Federal agency compliance for the Endangered Species Act (ESA) Section 7 is described in section 4.7.1 of the EIS.
CO-9k	The scope of downstream impact considered in the DEIS is insufficient, as well as the scope of surveys for endangered aquatic species. The DEIS and MVP have also mentioned species may simply migrate away from wildlife-threatening impacts caused by the construction, this is false. Some species are considered sedentary and will not simply remove themselves from dangers brought about by MVP Southgate. Furthermore, shallow water depths of certain streams will further prevent migration of species capable of doing so. Our waters are currently impaired by turbidity and cannot afford the potential of any further impacts brought about by an unnecessary project. Our wildlife is in the process of rebounding and this project can only cause harm to the process.	See response WILD-3 in appendix I.2.

CO-9	Good Stewards of Rockingham	
CO-9l	**Socioeconomics** Construction of the project will cause long term impacts to the environment and would overlap with peak tourism season, both potentially negatively impacting the tourism economy in the area. Local employment is unlikely to be increased, property values will likely decrease, and the negative effects of the pipeline will be long-lasting. Many of the impacts referred to as short-term in the DEIS, like deforestation, must absolutely be considered a long-term impact considering the extensive amount of time required to naturally rehabilitate the area. FERC's analysis of the positive economic impacts state they will be "temporary and minor". We agree to that extent. MVP has more recently claimed that this project will add local jobs but with no agreements of proof of this statement. It is unclear why this was included in the DEIS when there can be no guarantee to this degree. MVP has not sufficiently demonstrated the likelihood of hiring locals in their history on the mainline and common contractors of this scope would be hired by bid, leaving much uncertainty to this claim.	Impacts to tourism are discussed in section 4.9.6 of the EIS.
CO-9m	**Environmental Justice** The DEIS neglects the entirety of neighborhoods such as Draper Village in Rockingham County, NC. The sole river access local to this community is the location of the proposed HDD drilling under the Dan River at Draper Landing. The scope of EJ must be expanded and more attentively addressed. The race and income of our residents must not dictate their ability to access clean and useable resources. The HDD process and deforestation poses very real and likely risks to the enjoyment, ecosystems and access to Draper Landing. The DEIS minimizes these risks and seems to suggest the additional ROW will not be damaging to any degree because of its proximity to an existing ROW. **If FERC cannot consider the cumulative impacts of greenhouse emissions, environment loss and public safety by adding additional fossil fuel infrastructure- FERC should not be so brazzen to consider it in this sense.**	See section 4.9.8 for discussion of impacts on Environmental Justice communities. See section 4.8.4 for discussion on recreation areas.
CO-9n	**Air Quality and Noise** The Lambert compressor station has the potential to emit 125,000 tons of greenhouse gases, 3.5 tons of formaldehyde each year and over 10 tons of particulate matter each year, putting nearby communities at risk for cardiovascular issues and asthma.	Air quality impacts are discussed in section 4.11.1.7.
CO-9o	The compressor station will be built in proximity to two Transco compressor stations already in operation. Cumulative impacts and the potential to impact human health with two minor source polluting facilities and one Title V facility (pending FERC approval) have not been adequately evaluated to assume that human and environmental health will not be adversely impacted. The potential risks for this project greatly outweigh any proof of need.	See response CI-4 in appendix I.2.

CO-9	Good Stewards of Rockingham	
CO-9p	**Reliability and Safety** The DEIS merely states that pipeline developers would comply with minimum construction and operation standards. It gives no reason for people living within the blast radius to feel safe. The National Transportation Safety Board documents interstate pipeline accidents, and its database includes numerous recent natural gas pipeline ruptures, leaks, and explosions. Moreover, studies show a spike in accidents involving new pipelines in recent years. The majority of the pipeline would be in Class 1 population density areas, meaning it would mandate the lowest safety standards and put those living near the pipeline at an even greater risk.	See response SAFE-1 in appendix I.2.
CO-9q	**Cumulative Impacts** FERC states that impacts from construction and operation of the pipeline will be temporary and localized. However, this assessment fails to take into account the long term and cumulative impacts that will occur to forested wetlands and forested habitats. It also fails to take into account the amount of dirt and mud entering streams from construction runoff. The nearly 3 miles of in-stream work paired with the removal of streamside vegetation will have cumulative, and negative impacts in the watershed; a watershed which is designated by the State as nutrient and sediment sensitive and is already experiencing negative effects on water quality and aquatic life.	Cumulative impacts to forested wetlands and habitats were evaluated in sections 4.13.2.3 and 4.13.2.4. Cumulative impacts to streams and other waterbodies were evaluated in section 4.13.2.2. Our analysis in section 4.13 is consistent is consistent with FERC style, formatting, and policy regarding NEPA evaluation of cumulative impacts.
CO-9r	**Conclusions of the DEIS** FERC is ignoring the significant impacts of this project. The DEIS describes widespread, permanent impacts like the long-lasting or permanent destruction of hundreds of acres of forests and wetlands, but in turn says that impacts won't be significant because mitigation measures will be used during construction. Mitigation can not prevent the significant impacts that permanent forest and wetland destruction cause. The DEIS' reliance on mitigation measures to argue that the project will cause no significant impacts falls short because many of the mitigation measures proposed to prevent significant impacts to local resources are unknown. In many instances, the DEIS instructs Mountain Valley Pipeline to come up with mitigation measures that are currently not defined. FERC can not claim that unknown measures will prevent significant environmental impacts.	See response GEN-9 in appendix I-2.
CO-9s	FERC concluded that no significant environmental impacts would be inflicted by this project while lacking the necessary information to assess what those impacts would be. For example, MVP has yet to provide FERC with its feasibility studies for its plan to cross Deep Creek with the pipeline, a site where imperiled aquatic species are suspected to live.	See response SURF-8 in appendix I.2. As discussed in section 4.6.5 of the EIS, Mountain Valley has provided aquatic species surveys results.

CO-9	Good Stewards of Rockingham	
CO-9t	FERC acknowledges that MVP will use 5.9 million gallons of water in constructing the project and MVP has only announced within the week their plans to use the Dan River as the source. Our rivers have suffered enough, especially the Dan. Our species cannot withstand the risks, neither can our tourism. The removal of the water from the Dan leads to the belief that the water will be returned their, supposedly with no chemicals. As the EPA has recently suggested, the lack of chemicals in the hydrostatic test water may lead to issues such as corrosion in the tested pipe. The plan for this project is immature, vague in scope and mitigation, and overly minimizing of the true risks to our land, air, water and citizens. The lack of information and scope is preventing FERC from assessing the project thoroughly.	See response SURF-6 in appendix I.2.
CO-9u	Residents throughout the proposed path of MVP Southgate must already deal with contaminated drinking water in their recreation and homes. The disregard by FERC to substantially consider alternatives to this project are a direct slap in the face to all those living here, working here and raising families here who deserve and require clean water. The possibility of this project being completed without long term impacts is non existent. We cannot afford the risks and are not willing to roll the dice on a company whose history clearly shows a disregard for safety and environmental control measures. As stated previously, **the MVP Southgate project is a proposed extension of a highly troubled and ever inflacting project that has not demonstrated a capability of being completed.** On behalf of our resources, wildlife, environment and residents- we strongly suggest that FERC deny permits for MVP Southgate.	See response GEN-4 in appendix I.2.

CO-14 Southern Environmental Law Center

SOUTHERN ENVIRONMENTAL LAW CENTER

phone 919-967-1450 601 WEST ROSEMARY STREET, SUITE 220 CHAPEL HILL, NC 27516-2356 Facsimile 919-929-9421

September 16, 2019

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

RE: Comments on FERC's Draft Environmental Impact Statement for Mountain Valley Pipeline's Southgate Project (Docket Number: CP19-14-000)

Dear Ms. Bose:

The Southern Environmental Law Center offers the following comments on the Federal Energy Regulatory Commission's ("FERC" or "the Commission") Draft Environmental Impact Statement for the Southgate Project ("project") proposed by Mountain Valley Pipeline, LLC ("Mountain Valley"). These comments are submitted on behalf of the Haw River Assembly, Waterkeeper Alliance, Sierra Club, and Appalachian Voices.

The National Environmental Policy Act ("NEPA") requires that federal agencies prepare a "detailed" environmental impact statement ("EIS") for every "major [f]ederal action[] significantly affecting the quality of the human environment."[1] The purpose of NEPA is to "prevent or eliminate damage to the environment and biosphere by focusing [g]overnment and public attention on the environmental effects of proposed agency action."[2] By focusing the agency's attention on the environmental consequences of its proposed action, NEPA "ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast."[3]

CO-14a

The proposed project would tear through over 70 miles of Virginia and North Carolina, causing long-lasting damage to rivers, streams, and wetlands. It would threaten vulnerable ecosystems and numerous endangered, threatened, and other sensitive species. And it would harm already overburdened environmental justice communities. Moreover, the North Carolina Department of Environmental Quality has expressed serious doubts about whether this pipeline is even necessary to meet the energy demands. Despite all of this, the Commission has failed to put together a thorough and detailed environmental impact statement as required by NEPA

See response GEN-1 in appendix I.2.

CO-14	Southern Environmental Law Center	
CO-14b	Most notably, the draft EIS is missing critical reports regarding the potential environmental effects of the project—information that the Commission must have to identify and evaluate impacts in preparing the draft EIS. In addition, the Commission has failed to evaluate all reasonable alternatives to the project, to assess significant health impacts to environmental justice communities, and to adequately analyze cumulative impacts. The draft EIS thus fails to provide the public with an opportunity for meaningful review and comment, in violation of NEPA. The Commission must acknowledge the deficiencies in the draft EIS, as discussed in these comments, and issue a revised draft EIS for public comment. Alternatively, the Commission must issue a supplemental draft EIS for public comment.	See response GEN-4 in appendix I.2, as well as additional comments below.
CO-14c	**I. The project's purpose and need impermissibly excludes reasonable alternatives to the project.** A purpose and need for an action is essential to the NEPA process, as it guides an agency's scope of review—in particular, an agency's consideration of all reasonable alternatives.[4] As NEPA regulations state, an agency's alternatives analysis "is the heart of the environmental impact statement," "providing a clear basis for choice among options by the decisionmaker and the public."[5] In this case, the project's purpose and need is defined too narrowly. As a result, the Commission fails to consider all reasonable alternatives in the draft The purpose and need for the project is defined narrowly as meeting "requests for *natural gas transportation service* of [Mountain Valley's] anchor shipper, Dominion Energy," rather than meeting the energy need within the region.[6] Because the Commission is only looking at alternatives that can transport natural gas, the agency ignores energy efficiency and all renewable alternatives—such as solar, wind, and battery storage. Renewable energy alternatives, which are gaining market share as their costs continue to drop,[7] might provide the needed energy while avoiding the proposed project's significant environmental impacts. Similarly, because the Commission only considered alternatives that transport natural gas, the agency has not taken a hard look at the No Action Alternative—or the possibility that the project is not constructed, as required by NEPA.[8] In fact, the Commission has not considered whether or not there is an energy need for the proposed project.[9] That failure persists despite the North Carolina Department of Environmental Quality's letter to the Commission questioning whether or not the project is needed, and providing evidence that the project would instead create an excess supply of natural gas in the region.[10] The Commission's constricted statement of purpose and need is not allowed under NEPA. Because the purpose and need forms the basis upon which to compare alternatives, an agency is not permitted "to contrive a purpose so slender as to define competing 'reasonable alternatives' out of consideration."[11] As written, the project's purpose and need can only be met by providing one energy source through one mode of transportation for the benefit of one company. The Commission must broaden the purpose and need for the project so that it actually considers a No Action Alternative—or the possibility that the project is not constructed—and renewable energy alternatives in its alternatives analysis.	The Project's purpose and how it relates to alternatives is addressed in the introduction to section 3.0. As stated in the EIS, the FERC reviews proposals developed by other entities. However, the FERC does not plan, design, build, or operate natural gas infrastructure. Accordingly, the project proponent is the source for identifying the purpose for developing and constructing a project. The Commission cannot simply ignore a project's purpose and substitute an alternative purpose for it that a commenter deems more suitable. As stated in section 1.1, the purpose of the Southgate Project is to is to meet the specific requests for natural gas transportation service of its anchor shipper, Dominion Energy, a local natural gas distribution company. Alternatives that do not achieve this purpose cannot be considered as feasible or reasonable alternatives to the Project. Also see responses ALT-1 and ALT-2 in appendix I.2.

CO-14	Southern Environmental Law Center	
	II. The draft EIS is missing information that is essential for the Commission's assessment of environmental effects. The Commission's conclusion that the project would not have significant environmental impacts cannot be substantiated because critical information is incomplete or omitted entirely. The Commission cannot, lawfully, reach a determination regarding the environmental effects of the project based on such unsupported speculation. An EIS is fundamentally an information dissemination tool: it allows federal agencies and the public to fully understand the environmental impacts of proposed actions before they begin and before resources have been committed.[12] Under NEPA, the public has a right to review and to provide comments on draft EISs.[13] This makes it essential that all relevant information is available—so that the agency drafting a draft EIS can adequately assess environmental impacts, and so that the public has the needed information to review and comment on the draft EIS.[14] The Commission's failure to collect and provide all relevant information on the project's environmental impacts is a fatal flaw in its draft EIS. A. <u>The Commission does not have adequate information to evaluate impacts to sensitive species</u>. CO-14d The Commission does not have enough information to evaluate the impacts that the project would have on federal or state-listed species or their habitats, yet the draft EIS erroneously assumes that sensitive species and their habitats are not in affected areas. The agency has not yet consulted with the U.S. Fish and Wildlife Service to determine whether or not any federally listed or proposed endangered or threatened species or their designated critical habitats would be affected by the project.[15] The agency has not determined the nature and extent of adverse impacts, nor measures that would avoid, reduce, or mitigate impacts on habitats or species.[16] Moreover, Mountain Valley has not completed aquatic surveys to determine that protected fish and mussel species are not present in impacted rivers and streams, and the company has not completed its consultation with the Virginia Department of Game and Inland Fisheries and the North Carolina Wildlife Resources Commission.[17] As the draft EIS states, impacts on these species "may be greater […] because these species may be more sensitive to a disturbance; more specific to a habitat; and less able to move to unaffected suitable habitat."[18] These species could experience "habitat fragmentation, loss, or degradation; decreased breeding or nesting success; increased predation or decreased food sources; and injury or mortality."[19] For instance, sedimentation from the project would likely endanger numerous sensitive mussel species in both Virginia and North Carolina.[20] Studies show that excess sedimentation harms freshwater mussels by clogging their gills and suffocating them, by interfering with filter feeding, and by reducing the production of food from decreased sunlight.[21]	See responses GEN-4 and T&E-1 in appendix I-2.

CO-14	Southern Environmental Law Center	
	Without having conducted aquatic surveys or finished consultations with state and federal wildlife agencies, the Commission and Mountain Valley falsely assume that they have all the information that they need to protect sensitive species in constructing the project. For instance, the draft EIS states that where sensitive fish or mussel species are present—and therefore, where it is necessary for Mountain Valley to avoid disturbing a particular stream—construction methods that do not trench through the stream are proposed.[22] The draft EIS also states that "*none of the crossings with sensitive fish or mussel species* have the potential to require blasting."[23] Without completed aquatic surveys, and completed consultations with the appropriate agencies—including the Virginia Department of Game and Inland Fisheries, the North Carolina Wildlife Resources Commission, and the U.S. Fish and Wildlife Service—Mountain Valley and the Commission cannot possibly ensure that the project's actions, including river and stream crossings or blasting events, would avoid sensitive aquatic species. The Commission must prepare a revised draft EIS, or issue a supplemental draft EIS, that addresses the new information regarding impacts to sensitive species, and release it for public comment. B. <u>The Commission does not have other key information to adequately evaluate environmental impacts.</u> Other missing information includes, but is not limited to:	
CO-14d	• Final site-specific plans for all stream, river, and wetland crossings, including horizontal directional drilling ("HDD") and conventional bore crossings; • All wetland surveys; • Mountain Valley's Stormwater Pollution Prevention Plan; • Mountain Valley's Compensatory Mitigation Plan for wetland impacts; • Mountain Valley's Final Erosion and Sediment Control Plan; • Written correspondence from Virginia and North Carolina state agencies regarding any timing restrictions on waterbodies containing warmwater fisheries; • Geotechnical studies for the proposed Dan River and Stony Creek Reservoir HDD crossings, revised feasibility and hydrofracture analyses, and any proposed mitigation for these crossings; • Information on impacts to North Carolina's Jordan Lake Riparian Buffer Area, including information on proposed mitigation and impacts to riparian buffers; • Complete locations of all private water wells and springs within 150 feet of the Project work areas, including information on the well's or springs' status, use, distance from construction workspace, and any proposed measures to minimize or avoid impacts on the private water wells or springs; • A list of final water sources to be used for the project, including for dust control, hydrostatic testing, and HDD operations—including information on intake locations, waterbody names, withdrawal rates and methods, measures to minimize entrainment of fish, and water discharge locations; • Mountain Valley's revised plans to dispose of brush and timber; • Measures that Mountain Valley will take to minimize impacts on migratory birds; • Results of Mountain Valley's pre-construction bald eagle nest and colonial rookery surveys;	See above CO-14d comment response

CO-14	Southern Environmental Law Center	
CO-14d	• All cultural resources survey reports, Mountain Valley's site evaluation reports and avoidance or treatment plans, and comments on Mountain Valley's cultural resources reports and plans from the Virginia and North Carolina State Historic Preservation Officers and interested Indian tribes; • Mountain Valley's Nighttime Construction Noise Management Plan, and • Toxicological, environmental, and health information for coatings used for the project's pipeline and associated utilities. Not only does the draft EIS rely on incomplete and missing information to conclude that there would be no significant impacts from the project, the draft EIS is filled with indeterminate and discretionary phrases that fail to give the public enough information to assess the project's impacts, for instance: • Construction would only be conducted during low flow periods "when *practicable.*"[24] • Blasting would only be used "after all *reasonable* means of trench excavation are unsuccessful," and would be completed during dry or low flow periods "where *practicable.*"[25] • Vegetative buffer would only be "allow[ed]" for conventional bores "*to the extent practicable.*"[26] Casing to prevent conventional bores from collapsing would only be used "*if required.*"[27] • Ground surface would only be restored "as closely *as practicable* to original contours."[28] At no point does the Commission define what is "practicable," or when certain protective measures would be "required." In many of these scenarios, the risk is significant. For instance, crossing a river or stream using a conventional bore method is dangerous because of "the possibility of the borehole collapsing without warning."[29] The draft EIS states that certain measures can be taken to reduce this risk—for instance, Mountain Valley could "allow for a vegetative buffer on each side" of the river or stream, or the company could "use a casing [...] to prevent the bore from collapsing."[30] However, these actions depend on whether not the company finds it "practicable" or whether the company believes it is "required," yet the draft EIS fails to provide any clarity for the public as to whether or not these protective actions will be taken.[31] For the reasons stated above, the draft EIS is "so inadequate as to preclude meaningful analysis," and the Commission must prepare a revised draft EIS and release it for public comment.[32] Alternatively, the Commission must issue a supplemental draft EIS that addresses new information.[33] Without crucial additional information, the Commission simply cannot evaluate how the project will affect the environment, and the public cannot meaningfully comment on the project.	See above CO-14d comment response

CO-14	Southern Environmental Law Center	
CO-14e	**III. The Commission failed to adequately analyze impacts to environmental justice communities.** The Commission failed to take a hard look at how the project would degrade the "healthful environment" for environmental justice communities in close proximity to the project. When enacting NEPA, Congress declared that "each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment."[34] The Commission thwarted this central goal of NEPA in failing to adequately consider how the project would harm low-income communities, Native Americans, and communities of color. For instance, two census block groups within one mile of the project's Lambert compressor station contain environmental justice populations.[35] Yet, the draft EIS does not assess the health impacts that the compressor station would have on these populations. The draft EIS only states that, while there will be "long-term impacts on air quality," they would "not be significant" because potential pollution emissions would be below National Ambient Air Quality Standards.[36] However, the existing evidence indicates that impacts could be significant, and the Commission must further analyze potential impacts to the communities surrounding the Lambert Compressor Station.	Environmental justice communities are discussed in section 4.9.8 of the EIS.
CO-14f	The Lambert compressor station would cause significant increases in hazardous air pollutants, particulate matter, precursors to ozone, and other air pollution. Ozone exposure can cause respiratory symptoms, such as coughing, throat irritation, chest pain and tightness, wheezing, and shortness of breath; reduced lung function; and airway inflammation.[37] Fine particle pollution also causes health problems, such as heart attacks, aggravated asthma, decreased lung function, and irregular heartbeats.[38] Ozone and fine particulate matter contribute to over 200,000 premature deaths in the United States each year.[39] Moreover, there is no evidence of a safe level of exposure for either of these pollutants, and both have health effects even below the current National Ambient Air Quality Standards.[40] A recent report from Physicians for Social Responsibility indicates additional potential pollution from compressor The draft EIS ignores all of these potential health impacts when briefly discussing potential harms to environmental justice communities. The Commission failed to collect information on the local, baseline health conditions that will be degraded, and it failed to assess the cumulative impacts to the health of environmental justice communities. In fact, the draft EIS does not even offer any information about the people or communities who live closest to the Lambert compressor station. The most harmful impacts from the compressor station will be suffered by those who live in the areas closest to and downwind of the compressor station. Therefore, the Commission must assess the makeup of the communities living closest to the station. And in order to assess harm to these communities, the Commission must evaluate local, baseline health conditions that will be degraded by the compressor station's pollution, and assess the cumulative health impacts to environmental justice communities caused by the station and by other projects nearby. The draft EIS lacks sufficient information for the public to understand the project's impact on environmental justice communities. The Commission must revise the draft EIS to include additional environmental justice analysis, particularly regarding impacts from the Lambert compressor station.	Air quality impacts are discussed in detail in section 4.11.1.7 of the EIS. Air quality impacts on environmental justice communities are discussed in section 4.9.8 of the EIS. A cumulative air quality impact analysis can be found in section 4.13 of the EIS. Also see response AIR-2 in appendix I.2.

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IV. The Commission has not analyzed trenchless construction methods at over 200 crossings, thus failing to consider all reasonable alternatives.

CO-14g

Under NEPA, the Commission is required to "[r]igorously explore and objectively evaluate *all reasonable alternatives*."[43] The Commission has failed to evaluate the possibility of trenchless construction—which is known to be less harmful—for hundreds of crossings through rivers, streams, and wetlands. Rather than selecting construction methods that allow the company to dig under these waters, Mountain Valley has instead proposed to blast, carve, and dig through all but five or six of 224 stream and river crossings—turning to methods that cost the least, but have the most potential for severe impacts.[44]

Trenchless construction methods that go under rivers and streams are less harmful than construction methods that use trenches within waters.[45] During construction that uses trenches, the "[c]learing and grading of stream banks, in-stream trenching, the installation and removal of temporary crossing structures, trench dewatering, and backfilling" all harm water quality.[46] Construction in rivers and streams can "cause the dislodging and transport of channel bed sediments and the alteration of stream contours," which "could alter stream dynamics and increase downstream erosion or deposition."[47] Sedimentation can also "alter stream bottom characteristics, such as converting sand, gravel, or rock substrate to silt or mud."[48] Turbidity can reduce the amount of light in streams and photosynthetic oxygen production, and it could "introduce chemical and nutrient pollution from sediments."[49] Stirring up "deposited organic material and inorganic sediments could cause an increase in biological and chemical use of oxygen," decreasing dissolved oxygen concentrations.[50]

Increased sedimentation and turbidity caused by in-stream construction significantly harm aquatic life. As stated in the draft EIS, "[s]edimentation could smother fish eggs and other benthic biota."[51] Changes to habitat caused by construction "could reduce juvenile fish survival, spawning habitat, and benthic community diversity and health"; "reduce dissolved oxygen levels in the water column and reduce respiratory functions of in-stream biota"; and "reduce the ability for biota to find food sources or avoid prey."[52]

Even after construction is completed, there would be significant long-term damage to rivers and streams. The project would leave a permanent gaping strip above the right-of-way in forested riparian areas, where trees would not be permitted to regrow. Riparian vegetation provides numerous key functions for waterbodies, including protecting waters from pesticides, sediment, and other pollutants, stabilizing stream banks, and regulating water temperatures. Furthermore, sedimentation and erosion can be expected to continue long after construction from disturbed stream beds and unanticipated flooding and storm events—resulting in the chronic degradation of water quality and habitats.[53] These impacts to rivers and streams are not "temporary and localized" impacts, as the Commission claims,[54] particularly given that there are many instances where the proposed pipeline would affect several tributaries to the same stream.

Construction that uses trenches similarly harms wetlands. As stated in the draft EIS, construction could increase turbidity; "alter the capacity of wetlands to function as habitat and as erosion control buffers"; and cause soil compaction or rutting from heavy equipment, thus "alter[ing] water infiltration, hydrology, and potentially inhibiting germination of seeds and the ability of plants to develop root systems."[55] Discharges "from stormwater, dewatering structures, or hydrostatic testing" could also harm water quality by sending sediments and pollutants into wetlands.[56] As the Commission states, many of these impacts to wetlands "would be longer term or permanent."[57] For instance, the project would fragment forested wetlands by

North Carolina will be impacted by construction from the pipeline,[59] and at least 75 wetlands would suffer from "permanent impacts."[60]

Section 4.3.2 and 4.4.2 discusses measures that Mountain Valley would implement to reduce potential impacts on surface waters and wetlands crossed by the Project. We reviewed all wetland and waterbody crossings and the proposed crossing method. We conclude in the EIS that implementation of Mountain Valley's collocation routing, workspace design, and construction methods would avoid impacts on wetlands and waterbodies to the extent practicable, and constructing the Project in accordance with Mountain Valley's Procedures and other plans, impacts would be minimized, and most impacts would be minor and temporary or short-term.

CO-14	Southern Environmental Law Center	
CO-14g	Mountain Valley proposes to use trenches for more than 200 crossings—including crossings through the Banister River, a potential Blueway river (a state-designated recreational water trail); through the Sandy River in Virginia, which potentially qualifies for a designation that the river "possess[es] outstanding scenic, recreational, historic, and natural characteristics of statewide significance";[61] through the Haw River, a designated protected watershed in North Carolina; as well as many water supply waters and nutrient sensitive waters in North Carolina.[62] Because there are reasonable trenchless construction alternatives to these crossings and many others, the Commission must require Mountain Valley to evaluate the possibility of crossing each river and stream without using harmful trenches, and the Commission must prepare a revised draft or supplemental EIS that reflects that additional analysis.	See above CO-14g comment response
CO-14h	**V. The draft EIS fails to take a hard look at cumulative impacts.** The Commission's draft EIS fails to take a hard look at cumulative impacts that result from adding the project's impacts to the impacts of other past, present, and reasonably foreseeable projects on the environment. A cumulative impact is the [I]mpact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.[63] Cumulative impact analyses that contain "cursory statement[s]" and "conclusory terms" are insufficient under NEPA.[64]	See response CI-1 in appendix I.2.
CO-14i	First, the temporal and geographic scope of the Commission's cumulative impacts analysis for the project is far too limited. This is evidenced by the fact that the Commission neglects to mention the cumulative impacts to the Haw River watershed caused by a massive mixed-use development on 7,120 acres in Pittsboro, North Carolina—Chatham Park.[65] Chatham Park is expected to add up to 22 million square feet of commercial space and 22,000 new residential dwelling units—enough homes to accommodate 60,000 new residents.[66] The proposed site for Chatham Park includes important and sensitive natural resources, including important habitat for the federally endangered Cape Fear Shiner and other sensitive species.[67] The U.S. Fish and Wildlife Service has written several letters to the Town of Pittsboro's Board of Commissioners and Town Manager regarding the impact that the development would have on the Haw River, particularly impacts on sensitive species.[68] The agency states in one letter, Many areas along the Haw River are recognized for their rarity, ecological function in the landscape, and unique natural resources that they support. The importance of the habitats these areas provide for fish and wildlife makes protection from habitat degradation essential.[69]	The Chatham Park development is located approximately 25 miles southeast of the project, and is considered outside of the Southgate Project's geographic scope for cumulative impacts.

CO-14	Southern Environmental Law Center	
CO-14i	Chatham Park would exacerbate existing water quality problems in the Haw River, as well as Robeson Creek and Jordan Lake, by significantly increasing stormwater runoff, sedimentation, and nutrient loading. Yet the draft EIS's cumulative impacts analysis does not even mention the massive planned development. The Commission's failure to discuss the cumulative environmental impacts caused by the project and Chatham Park is a glaring omission in its analysis—and it demonstrates that the Commission's temporal and geographic boundaries for its analysis are too narrow. They exclude pending or already planned projects that would cause significant impacts on the environment, such as Chatham Park. EPA guidance on cumulative impacts states that "[s]patial and temporal boundaries should not be overly restrictive in cumulative impact analysis."[70] Accordingly, the Commission must revise the draft EIS to broaden the scope of its cumulative impacts analysis so that it includes impacts caused by massive projects that are known to cause harm to the same environmental resources.	See above CO-14i comment response
CO-14j	In addition, cumulative impacts must be analyzed using metrics that are actually helpful to understanding specific environmental impacts. For instance, cumulative impacts to particular rivers, streams, and wetlands can be measured by quantifying increased sediment discharge, stream bank erosion, and soil compaction. However, instead of quantifying impacts to streams and wetlands in a manner that informs the public and agencies, the draft EIS makes a serious of vague statements about potential impacts: > Turbidity plumes *may travel* downstream for a few miles, but typically the plume would disperse and become diluted to background levels […] Projects involving in-water work would have to occur within similar timeframes within close distance to have a cumulative effect on turbidity […] Clearing, grading or other earthwork within the watershed *may* also increase the potential for cumulative impacts on water quality from increased stormwater runoff and sedimentation.[71] The draft EIS does not discuss what background levels are in specific streams or wetlands; how much turbidity there would be from other projects or how far turbidity would travel; whether or not many projects occur within similar time frames; or whether or not other projects involve clearing, grading or other earthwork that could increase stormwater runoff and sedimentation. Without providing any support, the draft EIS further assumes that dozens of other projects "would likely have similar impacts on surface waters due to increased turbidity and sedimentation during construction" as Mountain Valley's project would.[72] Such vague and conclusory assertions do not meet the Commission's obligations under NEPA. Moreover, Commission cannot ignore its NEPA obligations by relying on the permitting processes of other agencies,[73] yet it does this repeatedly throughout the draft EIS. For instance: • Instead of actually taking a hard look at the cumulative impacts of non-jurisdictional project-related facilities, the draft EIS simply states that "impacts associated […] are *expected to be minimal* due to the limited footprint of these projects and potential mitigation measures required by permitting agencies."[74] • With regards to mining operations, the draft EIS states that "[n]o significant cumulative impacts are anticipated from these facilities as operational activities would be subject to state and local permit requirements."[75]	The assessment of cumulative impacts is dependent upon readily available information. When there is uncertainty concerning the impacts of other projects, staff uses its experience to reduce this uncertainty and communicates this uncertainty to decision makers and the public. It is reasonable to assume that other projects would be subject to permit requirements including environmental impact minimization and mitigation measures.

CO-14	Southern Environmental Law Center	
CO-14j	• The Commission further "*assume[s]* other non-FERC-regulated projects would follow similar requirements set by the permitting agencies" that FERC sets for projects under FERC's jurisdiction regarding the protection and restoration of soils.[76] • The Commission "*assume[s]* that the […] prime farmland affected by the Cypress Creek Renewables Solar Farm, and the Husky Solar Farm would also be required to return these areas to pre-construction conditions."[77] • The Commission also assumes that non-FERC projects "would be required (by permit) to install erosion and stormwater control devices to minimize runoff."[78] and that projects "would *likely be required* to install and maintain [best management practices] similar to those proposed for the Southgate Project as required by federal, state, and local permitting requirements so as to minimize impacts on waterbodies."[79] • The Commission "*expect[s]*" that other projects "that are subject to permitting approval would be designed to minimize impacts on fisheries and aquatic resources and that the [Virginia Department of Environmental Quality] and [the North Carolina Department of Environmental Quality] would require any other projects to adhere to state-mandated or recommended timing windows for construction within waterbodies containing sensitive fish species."[80] The Commission cannot broadly assume that the actions of other state and federal permitting agencies will protect environmental resources, ignore its own obligation to assess the cumulative impacts of all of these projects, and then arbitrarily conclude that the cumulative impacts will not be significant. Finally, the Commission provides numerous excuses for failing to adequately assess cumulative impacts, before it simply concludes that the impacts would not be significant. For instance, the draft EIS states: • "Construction timeframes […] are currently unknown" for particular transportation and road improvement projects.[81] • "Due to the speculative nature of the housing and development markets and funding mechanisms for other projects listed […], it is difficult to determine the amount of land that would ultimately be affected."[82] • "It is unknown whether construction activities" would "coincide with the Southgate Project."[83] • "We were unable to quantitatively determine the number of [water wells and springs] on a HUC-12 watershed basis."[84]	See above CO-14 comment response
CO-14j	These excuses cannot withstand scrutiny—the Commission cannot continue to rely on missing or incomplete information to avoid evaluating impacts caused by the project and by other past, present, and reasonably foreseeable projects. Because the Commission unreasonably restricted the scope of its cumulative impacts analysis, failed to quantify many of the effects that it does acknowledge, relied inappropriately on other agencies' permitting decisions, and failed to collect the necessary information to evaluate cumulative impacts, the draft EIS's cumulative impacts analysis does not meet the requirements of NEPA. **VI. Conclusion** For the reasons set forth above, the Commission's draft EIS for the Southgate Project proposed by Mountain Valley Pipeline, LLC fails to satisfy the requirements of the National Environmental Policy Act. To remedy these defects, the Commission must prepare and issue a	See response GEN-4 in appendix I.2.

CO-17 Blue Ridge Environmental Defense League

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

1828 Brandon Ave. SW
Roanoke, VA 24015

September 16, 2019

Docket No. CP19-14-000

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

FERC DEIS [FERC/EIS-0297D] – MVP Southgate Project

Comments and Request for 60-Day Extension for Comments

I am submitting comments on behalf of the Blue Ridge Environmental Defense League (BREDL) based in Glendale Springs, NC. BREDL is a regional, community-based, non-profit environmental organization founded in March 1984. Our founding principles are earth stewardship, environmental democracy, social justice, and community empowerment. BREDL has chapters and members throughout the Southeast including in the MVP Southgate impacted counties of Pittsylvania in Virginia and Rockingham and Alamance counties in North Carolina.

BREDL will submit additional comments.

CO-17	Blue Ridge Environmental Defense League	
CO-17a	**Public Release of DEIS was Premature** Per Federal Energy Regulatory Commission (FERC) regulations on implementing the National Environmental Policy Act (NEPA), 18 CFR § 380.3(b), an applicant must (1) Provide all necessary or relevant information to the Commission and (2) Conduct any studies that the Commission staff considers necessary or relevant to determine the impact of the proposal on the human environment and natural resources. There are too many instances of incomplete data or lack of information mentioned throughout the DEIS. This DEIS should not have been released for public comment until the information was completed. For examples, • Regarding geotechnical studies for Dan River and Stony Creek Reservoir crossings: "Mountain Valley's geotechnical contractor determined that the current HDD design is feasible; however, additional geotechnical borings are planned to confirm the findings." "Access issues limited collection of geotechnical information at the Stony Creek Reservoir crossing location."[1] • Regarding data on springs in Virginia and North Carolina: "Published, recent data on springs in Virginia and North Carolina are not currently available. ..Based on surveys completed at this time..." [2] • Regarding wetlands: "Couldn't survey all wetlands..."[3] • Regarding Endangered, Threatened and Sensitive Species: " To date, Mountain Valley has not completed surveys or provided survey results to the Commission for federally listed bat hibernacula, aquatic biota, and plant species along the Project survey corridor." [4] Because the DEIS contains many information deficiencies, there are numerous FERC Staff recommendations listed throughout. These so-called recommendations illegally sidesteps public input and offer no guarantee that recommendations will become requirements. These holes in the DEIS will increase variance requests. The FERC variance process is not governed by regulations or published policy, does not include public input and does not allow for detailed analysis. FERC's reliance on recommendations and variances unlawfully circumvents the NEPA process. Moreover, the DEIS states that, "We determined that, for most resources, the construction and operation of the Project would result in limited adverse environmental impacts. This determination is based on our review of the information provided by Mountain Valley and further developed from environmental information requests; field reconnaissance; scoping; literature research; alternatives analyses; and contacts with federal, state, and local agencies, and other stakeholders. We conclude that approval of the Project would result in some adverse environmental impacts, but these impacts would be reduced to less-than-significant levels through implementation of our recommendations and Mountain Valley's proposed avoidance, minimization, and mitigation measures."[5]	See response GEN-4 in Appendix I.2. Our analysis is based on the best available survey and publically available data. Mountain Valley has completed geotechnical studies for the Dan River and Stony Creek HDD. Mountain Valley has also completed surveys for aquatic species and has submitted reports to FERC, USFWS, and state agencies. At the time of the final EIS, limited surveys are still pending for bat portals, federal and state listed plant species, and wetlands. Mountain Valley would be required to submit the results of these remaining surveys to FERC and the appropriate agencies prior to approval for construction.

CO-17	Blue Ridge Environmental Defense League	
CO-17b	The DEIS is relying on recommendations to justify FERC's determination of less-than-significant impacts. There is no guarantee that these recommendations will become requirements or that they will be implemented. FERC must take a "hard look" at the environmental consequences of an action. Coalition for Responsible Growth ~ Res. Conservation v. FERC, 485 F. App'x 472, 474 (2d Cir. 2012).	Our recommendations will become conditions of the Commission Order. Mountain Valley would be required to satisfy all of the conditions of the Order prior to approval to begin construction.
CO-17c	This DEIS is fatally flawed because it lacks detailed and complete analysis which would aid public input and agency decision-making. It should be rescinded, fully completed, then re-released for public review once FERC's NEPA implementation regulations are properly met.	See response GEN-4 in appendix I.2.
CO-17d	**Request for 60-Day Extension** In light of numerous shortcomings of information throughout the DEIS, BREDL respectfully requests a 60-Day Extension for Public Comments.	See response GEN-5 in appendix I.2.
CO-17e	**Segmentation** FERC and Mountain Valley Pipeline, LLC have segmented the MVP Southgate project as a separate project outside of the MVP-mainline, illegally splitting this project into two parts. As BREDL pointed out in our August 21, 2018 comments at the Chatham, VA scoping meeting, "While this project is deemed as independent from the Mountain Valley Pipeline...it is indeed dependent on the completion of the MVP project." We further charge that FERC's attempt to mislead the public and to not evaluate these two "projects" in one environmental document was arbitrary and capricious. We are not convinced that FERC did not know about the Southgate Project prior to April 11, 2018. Construction had already started on the MVP-Mainline Project – just two months prior to the MVP-Southgate Project being announced. As soon as FERC received notice of the Southgate Project, FERC should have taken the appropriate actions. **Jun. 23, 2017 FERC issued the Final Environmental Impact Statement.** **Oct. 13, 2017 FERC issued a Certificate of Public Convenience and Necessity for MVP.** **Feb. 2018 Construction of the MVP began with tree-cutting.** **Apr. 11, 2018 MVP announces the MVP Southgate Project.** Federal agencies may not "artificially divid[e] a major federal action into smaller components, each without a `significant' impact." Coalition on Sensible Transp. v. Dole, 826 E2d 60, 68 (D.C. Cir. 1987). Without the MVP mainline project, the MVP Southgate project would be void. The mainline project has yet to be completed. FERC must consider both "projects" in one environmental document. The time between the issuance of the MVP-mainline FEIS in June, 2017 and the announcement of plans to build the Southgate in April, 2018 was just ten months. FERC certified the MVP-mainline in October, 2017 based on plans to have its gas flow into the Transco pipeline system, and then within a period of only six months, began articulating that this MVP-mainline gas would be redirected by the Southgate to "two new delivery points on the Dominion Energy distribution system in Rockingham and Alamance Counties, North Carolina."	See response GEN-8 in appendix I.2.

CO-17	Blue Ridge Environmental Defense League	
CO-17e	Mountain Valley Pipeline, LLC sought to avoid addressing the entire project and its cumulative impacts. FERC had the authority and the responsibility to stop work on the MVP-mainline as soon as it received the news regarding the Southgate project. In fact, FERC is required to do so. FERC must analyze the MVP-Mainline and MVP-Southgate projects in one environmental document so that cumulative impacts can be properly considered and addressed. The Draft Environmental Impact Statement (DEIS) for the MVP Southgate says the following: "Mountain Valley states that the Project will provide additional firm natural gas transportation services for Dominion Energy to meet its growing supply needs via interconnections with the under construction Mountain Valley Pipeline project in southern Virginia and the interstate pipeline of East Tennessee in North Carolina to two new delivery points on the Dominion Energy distribution system in Rockingham and Alamance Counties, North Carolina."[9] The Southgate DEIS further states that "The Transco system does not connect with the Project's proposed receipt point with the Mountain Valley Pipeline."[10] However, the Final Environmental Impact Statement (FEIS) for the MVP-mainline, issued in June, 2017, states, "In general, as described by the Applicants, the purpose of both the MVP and the EEP is to transport natural gas produced in the Appalachian Basin to markets in the Northeast, Mid-Atlantic, and Southeastern United States. Specifically, the MVP would deliver the identified gas volumes (2 Bcf/d) to five contracted shippers via a pooling point at Transco Station 165 in Pittsylvania County, Virginia."[11] FERC has not shown that there are logical termini between the projects, or that each project results in a segment that has substantial independent utility apart from the other project. See Taxpayers Watchdog, Inc. v. Stanley, 819 F.2d 294, 298 (D.C. Cir. 1987) (Taxpayers Watchdog). In fact, the DEIS has indicated the opposite by stating that the purpose and need for the Southgate project is dependent on "Dominion Energy [meeting] its growing supply needs via interconnections with the under construction Mountain Valley Pipeline project." Per NEPA regulations, §1508.25, scope consists of the range of actions, alternatives and impacts to be considered in an environmental impact statement. The scope of an individual statement may depend on its relationships to other statements. Connected actions must be discussed in the same impact statement. Actions are connected if they automatically trigger other actions. Cumulative actions when viewed with other proposed actions to have significant impacts must be discussed in the same impact statement. The courts have ruled against such pipeline segmentation. Delaware Riverkeeper Network et al successfully argued that FERC's pipeline approval process was illegal because it had segmented its environmental review. On June 6, 2014, the United States Court of Appeals for the District of Columbia issued an opinion and order finding that FERC's segmentation violated NEPA and that FERC had failed to consider the cumulative impacts of these projects. The court decision stated:	See above CO-17e comment response

CO-17	Blue Ridge Environmental Defense League	
	"The temporal nexus here is clear. Tennessee Gas proposed the Northeast Project while the 300 Line Project was under construction, and FERC plainly was aware of the physical, functional, and financial links between the two projects. And FERC's consideration of the Northeast Project application overlapped with its consideration of the remaining two projects. Indeed, FERC's review of the Northeast Project overlapped with its review of the Northeast Supply Diversification Project for the first six months and with the MPP Project's review for the final six months. Thus, FERC was obliged to take into account the condition of the environment reflected in the recently related and connected upgrades. The adjacent lands were recently disturbed, wildlife faced a larger habitat disruption, there was an increase in pressure and gas moving through the system, and wetlands and groundwater flow was disrupted. These effects could not be ignored in FERC's NEPA review of the Northeast Project.	
CO-17e	Tennessee Gas states that it did not know at the time it commenced the 300 Line Project that it was embarking on a series of upgrade projects that would soon transform the entire pipeline. That may be so. But the important question here is whether FERC was justified in rejecting commenters' requests that it analyze the entire pipeline upgrade project once the Northeast Project was under review and once the parties had pointed out the interrelatedness of the sequential pieces of pipeline which were, in fact, creating a complete, new, linear pipeline. Because of the temporal overlap of the projects, the scope and interrelatedness of the work should have been evident to FERC as it reviewed the Northeast Project. Yet FERC wrote and relied upon an EA that failed to consider fully the contemporaneous, connected projects." No matter that construction on the MVP-Mainline Project is underway or how far along that construction may or may not be. **FERC must immediately stop work on the MVP-mainline project, halt the Southgate DEIS process, and return to square one. FERC must consider and evaluate these two projects - dependent on each other – in one environmental document.** **Purpose and Need / Convenience and Necessity**	See above CO-17e comment response
CO-17f	FERC needs to further explain the purpose and need for this project. Meeting the "specific requests" of Dominion Energy is an extremely vague reason and frail attempt at meeting purpose and need and following the spirit of the NEPA. The DEIS states, "In general, as described by Mountain Valley, the purpose and need for the Southgate Project is to meet the specific requests for natural gas transportation service of its anchor shipper, Dominion Energy, a local natural gas distribution company. Mountain Valley states that the Project will provide additional firm natural gas transportation services for Dominion Energy to meet its growing supply needs via interconnections with the under construction Mountain Valley Pipeline project in southern Virginia and the interstate pipeline of East Tennessee in North Carolina to two new delivery points on the Dominion Energy distribution system in Rockingham and Alamance Counties, North Carolina."[12]	See response GEN-2 in Appendix I.2.

CO-17	Blue Ridge Environmental Defense League	
CO-17f	The CEQ principle regulations for implementing the National Environmental Policy Act are "to make sure that federal agencies act according to the letter and the spirit of the Act."[13] Per NEPA CEQ regulation, Section 1502.13—the Purpose and Need Statement, the environmental impact statement "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." FERC approval of a pipeline requires a demonstration of need and that, on balance, the project will serve the public interest. (Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC ¶ 61,227 (1999), clarified, 90 FERC ¶ 61,128, further certified, 92 FERC ¶ 61,094 (2000)). Sources indicate that natural gas usage is beginning to decline both in the United States and Globally. In the U.S., the Energy Information Administration projects that gas production will decline 2% from 12% in 2018 to 10% in 2019. U.S. power generators' gas usage may be peaking, rising to an expected record 30.6 bcfd in 2019 but then falling to 29.6 bcfd in 2020 as renewables produce more electricity, EIA data shows.[14] Across the globe, demand for natural gas surged by 4.6% in 2018. However, the International Energy Agency says that extraordinary growth rate is not sustainable. Over the next five years, IEA expects gas demand to only increase by 1.6% per year on average.[15] As renewable energy continues to increase, the demand for natural gas will continue to decline. Further indication that the purpose and need of this project is weak at best and why more details are needed. In January 2018 a report by the International Renewable Energy Agency (IRENA), which has more than 150 member countries, says the cost of renewable energy is falling so fast globally that it should be a consistently cheaper source of electricity generation than fossil fuels by 2020. The report says the cost of generating power from onshore wind has fallen by 23% since 2010 while the cost of solar photovoltaic Solar Photovoltaic (PV) electricity has fallen by 73%. IRENA projects that wind and solar (PV) generation costs will fall to $0.03 per kilowatt hour by 2020.[16] In the U.S. a 2017 Department of Energy report confirmed that the United States can safely and reliably operate the electric grid with high levels of renewables. In 2010 renewables accounted for 11.9% of electricity generated with 3.5% from wind and 0.2% from solar. By 2017 renewables grew to 17.0% of electricity generated. Wind power grew to 6.3% and solar increased to 1.3%.[17] In October 2018, the United Nations released a dire report on Climate Change. The report said that by 2050, emissions of heat-trapping greenhouse gasses, including methane, should be reduced by 35%, relative to the 2010 rate. "Emissions would need to decline rapidly across all of society's main sectors, including buildings, industry, transport, energy, and agriculture, forestry and other land use," the report said.	See above CO-17f comment response

CO-17	Blue Ridge Environmental Defense League	
CO-17f	The report also recommended changes to land use, urban planning, infrastructure systems and energy use. They recommended gas should only account for 8% of energy by 2050. Currently, natural gas makes up around 25% of global consumption. The Commission's role in reviewing the details of any project is to make a determination of public convenience and necessity. The Commission is supposed to base its decisions on financing, rates, market demand, gas supply, environmental impact, and other issues concerning a proposed project. It's not done so here. As mentioned earlier, market demand is waning. Steve Schlotterbeck, former CEO of EQT, has provided some details in financing and market demand. Here's an excerpt from desmogblog.com: "Back in 2014, Sheffield told Forbes that he expected Pioneer could produce a million barrels of oil a day from the Permian basin by 2024 — up from 45,000 barrels a day in 2011. Now, Sheffield, who left the helm of Pioneer in 2016 and returned this February, says that those million-barrel-a-day plans are looking increasingly doubtful as the industry has struggled to prove to investors that it's capable not only of producing enormous volumes of oil and gas, but that it can do so while booking profits rather than losses. 'We lost the growth investors,' Pioneer CEO Scott Sheffield told the Journal. 'Now we've got to attract a whole other set of investors.' Sheffield's comments on the shale oil industry's fiscal difficulties come on the heels of a warning from the former CEO of the country's largest natural gas producer about the shale gas industry's financial distress. Steve Schlotterbeck, former CEO of America's largest producer of natural gas, described the impact over a decade of fracking on Marcellus shale drilling companies at a recent petrochemical industry conference. 'In a little more than a decade, most of these companies just destroyed a very large percentage of their companies' value that they had at the beginning of the shale revolution,' he said, in remarks reported by DeSmog on Sunday. 'Excluding capital, the big eight basin producers have destroyed on average 80 percent of the value of their companies since the beginning of the shale revolution.' Schlotterbeck, the former CEO of EQT who now serves on the board of directors for the Energy Innovation Center Institute which offers training for workers in the oil and gas, solar, and construction trades, offered his view of the end results for investors at the petrochemical industry conference on Friday. A 2016 study conducted by Synapse Energy considering the need for the Mountain Valley and Atlantic Coast pipelines found that the regions natural gas supply using existing and upgraded infrastructure is sufficient to meet the maximum demand through 2030.[20] Additional new pipelines are not needed.	See above CO-17f comment response

CO-17	Blue Ridge Environmental Defense League	
CO-17g	**EQT Financing** Following the financial trouble and drama coming out of EQT is like watching a television episode of Dallas or Yellowstone. It does not paint a stable picture of the company. If FERC fulfills its duties and responsibilities in an unbiased manner, then the shaky financing alone should void the MVP-Southgate Project. What follows is a timeline highlighting EQTs financial shenanigans: November 2017 Rice Energy was purchased by EQT making EQT the largest U.S. natural gas producer, according to Marcellus Drilling News. August 2018 In the middle of a family vacation, Rob McNally was summoned to Pittsburgh to interview for EQT's top job. He got the job after the unexpected departure of EQT's last CEO, Steve Schlotterbeck. EQT woes continued as the Pittsburgh Post-Gazette reported. "Things in the drilling fields had gotten off track to the tune of a $300 million cost overrun, which was revealed in a disastrous call with analysts in late October. Mr. McNally, then still the company's CFO, took a hit. He claims he learned of the operating issues late in the quarter and has blamed the EQT's siloed structure and punitive environment for not being told sooner. Analysts and some former employees have said Mr. McNally either knew or should have known about a derailment that significant. The morning of the analyst call, the executives were unprepared, said Jimmi Sue Smith, EQT's CFO. The team didn't have a cohesive message, she said. Even as the call was beginning, they were still piecing together what had gone wrong. "I knew it would be bad," Mr. McNally said. "But I didn't know how bad." The day of the call, EQT's stock price slid 13 percent. Mr. McNally officially became the CEO a few weeks later. And in a few more weeks, he'd become a target of a proxy war waged by former Rice Energy founders Toby and Derek Rice, who said Mr. McNally was part of the problem and — nothing personal, but ... — needed to be replaced at once. The logical replacement, they argued, was Toby Rice."[21]	Comment noted. These comments are outside the scope of the environmental analysis. However, as discussed in section 1.1 of this EIS, the Commission bases its decisions on financing, rates, market demand, gas supply, environmental impact, and other issues concerning a proposed project.

CO-17	Blue Ridge Environmental Defense League	
CO-17g	December 2018 Once source told Marcellus Drilling News that EQT is a "total mess." "'Well, the EQT situation is a total mess.' So began a super secret email to Marcellus Drilling News from a highly-placed source we implicitly trust. Not long after receiving that email, we spotted a press release from the Rice brothers, Toby and Derek, who along with their other two brothers, previously founded and built Rice Energy into a major Marcellus/Utica operator."[22] January 2019 The Pittsburgh Post-Gazette reported on the Rice Brothers efforts to gain control of EQT and recent layoffs. Nearly a month after the founders of a company acquired by EQT Corp. challenged its CEO to a proxy fight, Rob McNally is fighting back. In a letter to shareholders issued on Monday — the same day that the Downtown-based oil and gas firm laid off more than 100 employees and promised the cuts would save $50 million annually — Mr. McNally offered confidence for the company's future and said returning money to shareholders would be among EQT's top priorities for the year. The letter comes after a long silence from the company which faced public criticism from two former executives of Rice Energy Corp., a company that EQT bought in a $6.7 billion deal in 2017. Derek and Toby Rice, with the support of at least one hedge fund, want to replace Mr. McNally with Toby Rice and to reconfigure the board of directors. Meanwhile, Monday's job cuts follow the layoffs of more than 200 employees in November 2017 after the close of the Rice deal. [23] February 2019 Prior to being laid off on Jan. 7, 2019, two EQT employees allegedly logged onto company computers and stole secrets. Thousands of proprietary documents, ranging from emails to a mission-critical program that tracks all of EQT's wells. [24] March 2019 Fitch Ratings changed EQM Midstream Partners and Equitrans Midstream outlook from stable to negative, as reported by Dow Jones & Company, Inc.	See above CO-17g comment response

CO-17	Blue Ridge Environmental Defense League	
CO-17g	June 2019 As The Street posted on its Real Money website section, there is nothing positive about EQT stocks. The site recommended they be avoided. Excerpts from the website point to EQT's financial slide. "In his second "Executive Decision" segment on *Mad Money* Tuesday night, our own Jim Cramer sat down with Rob McNally, president and CEO of EQT Corp. (EQT) , the natural gas producer embroiled in a bitter proxy fight with Rice Energy, a company it acquired in 2017. McNally said since his management team was put in place in November 2018, EQT has split its upstream and midstream businesses and has outperformed their peers. He admitted that in absolute numbers, this has been disappointing for shareholders, as natural gas prices have fallen. When asked about the proposals made by those backing Rice Energy, McNally said simply that those claims are not based in reality. He said while EQT is drilling fewer wells than before, they still expect 5% production growth this year." "In the weekly bar chart of EQT, below, we can see a three-year decline for this stock. Prices have remained below the declining 40-week moving average line for much of the past three years.  **Bottom-line strategy:** There is nothing positive or constructive about the charts of EQT. Avoid."[25]	See above CO-17g comment response

CO-17	Blue Ridge Environmental Defense League	
	One of the shareholders of EQT stock has decided to sue the company over alleged fraudulent activities. Marcellus Drilling News reported: "The Cambridge (Massachusetts) Retirement System is not happy with their investment in EQT shares of stock, so they're suing the company. They hope to turn the lawsuit into a class action on behalf of other shareholders. Cambridge claims EQT made false and misleading statements about their purchase of Rice Energy–claims about cost efficiencies that never materialized, and claims about the location of Rice leases that were not as close to EQT's acreage as claimed. In a word, Cambridge is alleging fraud on the part of EQT."[26] July 2019 "Natural gas producer EQT Corp's largest shareholder on Monday extended its support for the nominees of Toby and Derek Rice, the two brothers who sold their company to EQT more than a year ago and are pressing for changes to its board. The Rice brothers were part of the founding team at Rice Energy, which was bought by EQT in November 2017. They say EQT management is responsible for the company's underperformance since the deal and have pushed for an overhaul of its board."[27]	
CO-17g	Toby Rice is named CEO of EQT. Rice ousted former CEO Robert McNally, who was named CEO last year after Steven Schlotterbeck resigned. August 2019 Jimmi Sue Smith, who became EQT's senior vice president and chief financial officer in November 2018, was terminated — without cause — effective Thursday, according to a Securities and Exchange Commission filing. Earlier in the month, Gary Gould, on the job roughly six months as chief operating officer, abruptly left EQT.[28] September 2019 The Pittsburgh Post-Gazette reported that EQT Corp. is laying off 196 employees, nearly one-quarter of its workforce, the Downtown Pittsburgh-based natural gas producer announced Tuesday, September 10. The newly announced layoffs bring EQT's total number of employees down to about 650, compared to more than 900 who were on payroll last year. WPXI has reported on EQT plans to lay off around 200 as the company's financial instability continues. "EQT Corp. is readying plans to lay off around 200 employees in a move that could happen sometime this week. Multiple sources told the Business Times about the plans for the layoffs, which would be a significant portion of the 800 or so employees that are working at the downtown Pittsburgh-based natural gas driller. It would be the second round of layoffs at EQT (NYSE: EQT) since January, when about 100 employees were laid off by the previous management team. EQT declined comment."[29] As you can see from the above timeline, EQT is an unstable company with significant financial problems.	See above CO-17g comment response

CO-17	Blue Ridge Environmental Defense League	
CO-17h	**Exports** The DEIS indicates that MVP has said the company has no plans to export natural gas.[31] Yet, once the natural gas gets to the end of the pipeline, it is no longer up to MVP. MVP has said that themselves. In addition, market forces indicate exporting LNG will increase in the coming years. "Analysts believe the natural gas market is not trading on demand fundamentals because supply growth continues to far outpace rising consumption. Energy firms are pulling record amounts of oil from shale formations and with that oil comes associated gas that needs either to be shipped or burned off."[32] "U.S. Natural Gas supplies will increasingly reach foreign markets in the form of liquefied natural gas, a form of the fuel chilled to its liquid form, mostly for transport by sea. IEA says the U.S. could top Qatar and Australia as the world's top LNG exporter by 2024. IEA expects new LNG capacity from the U.S., Australia and Russia will make up 90% of export growth."[33] In a November 2016 Roanoke Times article, it was reported that "[t]wo years ago, WGL Midstream and Vega Energy Partners signed a 20-year natural gas sales agreement with a U.S.-based subsidiary of GAIL Ltd., a natural gas company in India, to supply natural gas for export through the Dominion Cove Point liquefied natural gas export facility in Maryland. WGL reported that "the majority of the natural gas would be purchased by WGL Midstream through an existing arrangement with Antero Resources Corp. In a June 2015 email, Ruben Rodriguez of WGL affirmed that most of the natural gas for the GAIL agreement would be supplied by Antero but noted that "natural gas from the Mountain Valley Pipeline could be part of the remaining GAIL supply portfolio."[34] In the Roanoke Times article, Natalie Cox, a spokeswoman for Mountain Valley Pipeline, noted "The proposed MVP terminates at Transco's station 165, at which time the shippers determine where their portion of the gas will be used."[35] The DEIS further states, "The nearest LNG export terminal to the terminus of the Project would be the existing Cove Point LNG terminal on the Chesapeake Bay in Calvert County, Maryland, about 190 miles away. There is no direct connection from the Project terminus in Alamance County, North Carolina to the Cove Point terminal."[36] As FERC should be quite aware, pipelines criss cross throughout the United States. Natural Gas via the MVP and MVP Southgate Projects finding its way overseas is clearly possible. That MVP would have to seek approval if the project is expanded to export natural gas is no substitute for review now. At that point, the MVP Southgate would have already been completed. There has to be more of a guarantee that exportation will not be needed to financially sustain this project.	As noted in section 2.8, the Southgate Project is not able or designed to export natural gas.

CO-17	Blue Ridge Environmental Defense League	
CO-17i	**Section 106** More effort is required to contact and seek input from the tribes. Just because there was no response is not sufficient. Per NEPA §1501.2 (2), FERC is obligated to consult early with Indian tribes. Federal and FERC guidance also requires that FERC must reach out to tribes, not just the project sponsor – MVP in this case. **We are requesting under the Freedom of Information Act all communications between FERC and the tribes.** In the DEIS, it is stated that, "A private citizen of Virginia, Ann Rodgers, suggested that we consult with the Cheyenne River Sioux Tribe and the Rosebud Sioux Tribe of South Dakota about the Project. However, when Mountain Valley reached out to the Cheyenne River Sioux Tribe and the Rosebud Sioux Tribe, these two tribes did not respond to correspondence."[37] Executive Order 13175 (2000), Consultation and Coordination with Tribal Governments lists as one of its purposes "to strengthen the United States' government-to-government relationships with Indian tribes..." Thus, the government-to-government consultation process continues to embody the unique relationship between the United States and Indian tribes. FERC's own procedures require consultation: "The Commission does not delegate its government-to-government Tribal consultation responsibilities. Within the context of our governing statutes (e.g., the NGA), the FERC has a trust responsibility to federally recognized Tribes, as described more fully in the FERC's Policy Statement on Consultation with Indian Tribes in Commission Proceedings.19 Tribes may also have additional interests beyond the identification and treatment of cultural resources, and those concerns may be of a larger environmental, socio-economic, or health context. If a Tribe does not wish to communicate or coordinate with the project sponsor, the Commission will consult directly with the Tribes. While a project sponsor is expected to reach out to Tribes early in its application planning stage, the FERC typically initiates consultation when the FERC staff has enough information to initiate its NEPA process and issues a Notice of Intent to Issue an Environmental Document. Additionally, project-specific letters from the FERC staff to Tribes may be issued on a project-by-project basis."[38] It further states: "If no response is received from a Tribe within 30 days after the request for comments is sent that does not necessarily mean that the Tribe does not have interest. The project sponsor or its consultant should follow-up with a telephone call, email, or other means, to verify that the appropriate Tribal representative has received the information, and either doesn't require any further information or has no comments."[39] The courts have made it clear that a federal agency must fulfill its obligation to consult. City of Phoenix, Arizona v. Huerta, 869 F.3d 963 (D.C. Cir. 2017) FERC's duty here is inescapable.	In section 4.10.4 of the DEIS, we acknowledge that the entire pipeline route has not yet been completely inventoried for cultural resources, and recommend that the Commission Order authorizing the Project contain an environmental condition that construction may not begin until after all archaeological surveys have been completed and reviewed, and we have completed the process of compliance with the NHPA.

CO-17	Blue Ridge Environmental Defense League	
CO-17j	BREDL will submit additional comments on Section 106. **Cumulative Air Quality Impacts** ***Why we need a cumulative air quality impact assessment at Transco Village*** The Lambert compressor station is proposed for construction as part of the Southgate pipeline at Transco Village in Chatham, VA. As stated in the Southgate DEIS, the proposed construction site of the Lambert compressor is approximately 0.62 mile from Transco Compressor Station 165 and about 600 feet from Lambert Compressor Station 166. Anticipated air pollution from the Lambert compressor station, combined with air pollution from Transco Compressors 165 and 166, will cumulatively exceed threshold levels under PSD/NNSR Major Source for NOx, CO, and Total HAPs, as well as thresholds levels under Title V for NOx, CO, VOC, and Total HAPs. FERC must perform a cumulative impacts assessment to quantify the air pollution impacts of adding the Lambert compressor station to the two existing compressors at Transco Village. We understand that permitting under PSD/NNSR Major Source and Title V is conducted on a "per facility" basis. However, this does not exonerate FERC from considering cumulative impacts of all three compressors, all of which will be confined to a space less than a mile in length. Paradoxically, the Article 6 Air Permit Application for the Lambert Compressor Station, submitted by Southgate developer Mountain Valley Pipeline, LLC in November 2018 states on page 9-23, "Because operation of the Southgate Project, along with the other existing and proposed major Title V projects/facilities, will be regulated by the VADEQ and NCDEQ through the air permitting process, the cumulative effects of the operation of the Project with other projects is not expected to result in adverse air quality impacts." Here it appears that the permitting processes of the state DEQs are being proffered by Mountain Valley Pipeline, LLC as a substitute for a cumulative impact assessment of co-locating three compressor stations in a very confined geographic area. The need for FERC to perform this cumulative impact assessment is supported by Virginia Department of Environmental Quality (DEQ)'s comments to the Southgate DEIS, which state, "In section 5.1.11 they discuss conducting modeling to demonstrate compliance with all air standards. It should be noted the modeling conducted did not account for any nearby sources or background emissions." A cumulative impacts assessment must be performed by FERC to prevent the creation of an "air pollution ghetto" in the rural community surrounding Transco Village in Chatham, VA. Wilma Subra, who served for seven eyars as vice-chair of the EPA's National Advisory Council for Environmental Policy and Technology, and for six years on the EPA's National Environmental Justice Advisory Council, documented the following health threats to families living near compressor stations (source: Southwest Pennsylvania Environmental Health Project, Summary on Compressor Stations and Health Impacts, February 24, 2015):	An analysis of the cumulative impacts on air quality, including nearby compressor stations, is discussed in section 4.13.2.9 of the EIS. Air quality impacts on public health are discussed in section 4.11.1.7.

CO-17	Blue Ridge Environmental Defense League	
CO-17j	Acute Health Impacts Experienced by Individuals Living and Working near Compressor Stations tension and nervousness joint and muscle aches and pains vision impairment personality changes depression, anxiety irritability confusion drowsiness weakness irregular heartbeat irritation to skin, eyes, nose, throat and lungs respiratory impacts sinus problems allergic reactions headaches dizziness, light headedness nausea, vomiting skin rashes fatigue weakness Chronic Health Impacts Experienced by Individuals Living and Working Near Compressor Stations damage to liver and kidneys damage to lungs damage to cardiovascular system damage to developing fetus reproductive damage mutagenic impacts developmental malformations damage to nervous system brain impacts leukemia aplastic anemia changes in blood cells and clotting. ***Transco compressor renovations*** Transco Compressor 166 was completed in 2018. Transco Compressor 165 is currently in the planning process for major renovation, with expected completion date of June, 2021. The permitting process for this renovation is still in progress, and there is potential that Virginia DEQ may deny the permit or require that it be amended. For this reason, it is necessary to acknowledge that the combined air pollution outputs of Transco stations 165 and 166 consist of two sets of figures, one "before renovation", i.e. the existing outputs, and another "after renovation", reflecting drastically reduced pollution outputs resulting from equipment upgrades.	See above CO-17j comment response

CO-17	Blue Ridge Environmental Defense League	
CO-17j	For this reason, we offer the following table to illustrate the "before" and "after" pollution scenarios anticipated at Transco Village. Table 2.1 is taken from the Transco Southeastern Trail Project Air Permit Application (source: Transcontinental Gas Pipeline Company, LLC, Southeastern Trail Project, Air Permit Application, Compressor Station 165, June 20, 2018, Table 2-1, p.4).	See above CO-17j comment response

TABLE 2.1 POTENTIAL EMISSIONS CHANGE FOR STATIONS 165 & 166 (TONS/YR)

Potential Emissions	NO_x	CO	VOC	PM	PM_{10}	$PM_{2.5}$	SO_2	Total HAPs
Existing Stations 165 and 166 Potential Emissions	3,746.10	1,026.40	251.20	60.30	60.30	60.30	10.10	73.49
Potential Emissions Increase From New Equipment	92.75	33.08	17.28	11.67	11.67	11.67	6.00	3.56
Potential Emissions Decrease For M/L 1 – M/L 10 Shutdown	(3,222.00)	(668.00)	(159.00)	(36.00)	(36.00)	(36.00)	(2.20)	(53.31)
Post Project Potential Emissions From Stations 165 and 166	**616.85**	**391.48**	**109.48**	**35.97**	**35.97**	**35.97**	**13.90**	**23.74**

In light of the information provided by Transcontinental Gas Pipeline Company in Table 2.1, above, it is very concerning to BREDL that the Southgate DEIS drastically underreports the air pollution levels anticipated to be emitted by Transco Compressors 165 and 166. This underreporting, occurring in Table 4.13-6 from the Southgate DEIS (copied below), must be corrected so that the Southgate FEIS more accurately reflects the data offered by Transcontinental Gas Pipeline Company.

TABLE 4.13-6

Potential Annual Emission Rates Associated with the Southgate Project and Transco Compressor Station 165 and 166 (tons per year)

	NOx	CO	VOC	SO_2	$PM_{2.5}/PM_{10}$
Lambert Compressor Station	34.9	58.6	8.4	5.4	10.4
Transco Compressor Station 165 a/	182.3	207	35.4	12	23.3
Transco Compressor Station 166 b/	32.4	29.49	3.2	5.16E-02	2.1/3.8

a/ Source: FERC 2019
b/ Source: FERC 2016

Thresholds will be exceeded

To illustrate the facts supporting the need for a cumulative air quality impact assessment, BREDL offers the following chart, which has been compiled using data from the Lambert revised permit application (source: Mountain Valley Pipeline, LLC, Lambert Compressor Station, Southgate Project, Article 6 Air Permit Application, Revision 1, April 25, 2019) and the Transco permit application for renovation of Transco compressor 165 (source: Transcontinental Gas Pipeline Company, LLC, Southeastern Trail Project, Air Permit Application, Compressor Station 165, June 20, 2018). As can be seen by comparing the chart below with Table 2.1, above, we have used the "after renovation" air pollution outputs from Transco Compressor 165 as the basis of our calculations. Even after accounting for the drastic air quality improvements anticipated through renovation of Transco Compressor 165, the combined pollution from the three compressors at Transco Village will exceed thresholds for NOx, CO, and Total HAPs.

CO-17 **Blue Ridge Environmental Defense League**

Cumulative air pollution impacts of 3 compressors at Transco Village meet 7 threshold criteria

Source	NOx	CO	VOC	PM	PM10	PM2.5	SO2	Total HAPS
MVP Lambert	34.86	58.58	8.44	10.35	10.35	10.35	5.38	4.52
Transco 165/166	616.85	391.48	109.48	35.97	35.97	35.97	13.90	23.74
TOTAL	651.71	450.06	117.92	46.32	46.32	46.32	19.28	28.26
PSD/NNSR Major Source Threshold (tons/year)	250	250	250	n.a.	250	250	250	25
Does TOTAL meet threshold under PSD/NNSR?	yes	yes	no	n.a.	no	no	no	yes
Title V permit (40 CFR 70) major source threshold	100 of any air pollutant	100 of any air pollutant	100 of any air pollutant	100 of any air pollutant	100 of any air pollutant	100 of any air pollutant	100 of any air pollutant	25
Does TOTAL meet threshold under Title V?	yes	yes	yes	no	no	no	no	yes

It should be reiterated that BREDL recognizes that permitting under the two programs cited in the chart above, PSD/NNSR Major Source and Title V (40 CFR 70), is conducted on a "per facility" basis which does not take into account the outputs of neighboring facilities. However, the requirements under NEPA for consideration of cumulative impacts in cases such as we see developing at Transco Village are clear and unequivocal.

CO-17j

Hazardous air pollutants

As illustration of what is meant by "Total HAPS" in the chart, above, we offer the following chart providing a detailed list of the Hazardous Air Pollutants (HAPs) anticipated as combined emissions from the three compressors at the Transco Village site. Please note that the figures in this chart reflect the improved emissions that are anticipated after the renovation of Transco compressor 165.

Lambert and proposed Transco Stations 165 & 166 potential emissions – after renovations of Transco compressor 165 (source: Transcontinental Gas Pipeline Company, LLC, Southeastern Trail Project, Air Permit Application, Compressor Station 165, June 20, 2018)

	LAMBERT		TRANSCO 165/166		
			Post Project Potential to Emit (tons/yr)	TPY	lbs/yr
Hazardous Air Pollutants (HAPs)	AP-42 Emission Factor (lb/MMBtu)	Facility PTE tons/yr		TOTAL	TOTAL
VOC-HAP					
Acetaldehyde	4.00E-05	0.115	2.01	2.125	4,250.00
Acrolein	6.00E-06	0.0184	1.56	1.5784	3,156.80
Benzene	1.20E-05	0.0345	0.09	0.1245	249.00
1,3-Butadiene	0.00E+00	0.0124	0.00159	0.01399	27.98
Dichlorobenzene		0.000004		0.000004	0.01
Ethylbenzene	3.20E-05	0.092	0.12	0.212	424.00
Formaldehyde	7.10E-04	3.47	18.93	22.4	44,800.00
Hexane		0.00595	0.17	0.17595	351.90
Naphthalene	1.00E-06	0.00374	0.00253	0.00627	12.54
PAH	2.00E-06	0.00632	0.00396	0.01028	20.56
Propylene Oxide	2.90E-05	0.0834	0.05	0.1334	266.80
Toluene	1.30E-04	0.374	0.48	0.854	1,708.00
Xylenes	6.40E-05	0.184	0.31	0.494	988.00

Thank you for your prompt attention to this matter.

See above CO-17j comment response

CO-17	Blue Ridge Environmental Defense League	
CO-17k	**Restrict Burning on Moderate PM 2.5 Forecasted Days in the Region** The DEIS (p. 4-193 or pdf p. 323) mentions that open burning will be used to dispose of land clearing debris. To lessen severe health impacts, especially to sensitive populations, open burning must be restricted to days when regional particulate matter is forecasted to be low. Sources of fine particles (PM 2.5) include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. PM 2.5 is associated with increased premature deaths and is especially harmful to people with lung disease such as asthma and chronic obstructive pulmonary disease (COPD), including chronic bronchitis and emphysema, as well as people with heart disease. Exposure to particulate air pollution can trigger asthma attacks and cause wheezing, coughing, and respiratory irritation in individuals with sensitive airways. An estimated 200,000 people die early deaths each year in the U.S. because of PM 2.5 exposure. Researchers have found that for every increase of five micrograms per cubic meter of PM 2.5 pollution the risk of lung cancer rose by 18%, and for every increase of 10 micrograms per cubic meter in PM 10 pollution the risk increased by 22%.[46] An earlier study found for each 10 µg/m3 increase in PM2.5 concentrations there was an associated 15–27% increase in lung cancer mortality.[47]	As discussed in section 4.11.1.7, any open burning would be conducted on a site-specific basis, and in accordance Mountain Valley's Fire Prevention and Suppression Plan and Virginia and North Carolina regulations (9VAC5-130; 15A NCAC 02D.1900). This would include burning only in approved burn areas and during appropriate weather conditions to avoid any impacts on nearby residences, and complying with the open burning prohibition in Virginia from May 1 through September 30.
	Safety	
CO-17l	The DEIS states, "In accordance with DOT regulations, the proposed facilities would be regularly inspected for leakage and potential pipeline hazards such as construction activity, encroachments, and evidence of recent unmonitored excavations as part of scheduled operations and maintenance, including: • physically walking and inspecting the pipeline corridor periodically; • conducting fly-over inspections of the right-of-way as required; • inspecting and maintaining MLVs and meter stations; and • conducting leak surveys at least once every calendar year or as required by regulations."[48] Please define "periodically" and "as required".	See response SAFE-1 in appendix I.2.
	Additional Comments	
	Erosion and Sediment Control	
CO-17l	The DEIS states, "The Project would cross about 1.8 miles of slopes greater than 30 percent. Mountain Valley has developed construction methods for rugged terrain, which include slopes that typically exceed 30 to 35 percent, to allow for the safe operation of equipment, and prevention of severe erosion. "(DEIS, p. 77) With all due respect, after what has occurred along the MVP mainline, we have no faith that MVP's Erosion and Sediment Control Plan (E&SC Plan) and Best Management Practices (BMPs) (DEIS, p. 28) will work and pose "no permanent effects to surface or ground water." (DEIS, p. 30)	See response GEN-6 in appendix I.2.
	Endangered and Threatened Species	

CO-17	Blue Ridge Environmental Defense League	
CO-17n	According to the DEIS MVP/FERC would like to use the DEIS as the Biological Assessment for the project.[49] We strongly object to this. We respectfully request that the FWS require and complete the proper Biological Assessment. An assessment that – unlike this DEIS - is not lacking in species surveys.	See response T&E-2 in appendix I.2.
CO-17o	**Working 24-Hour a day** Longstanding policy of the Federal Energy Regulatory Commission (FERC) is to cooperate with local jurisdictions. As stated in the MVP Southgate DEIS, "the FERC encourages cooperation between applicants and state and local authorities[50]..." This statement is in consonance with FERC policy under sections 3 and 7 of the Natural Gas Act[51]. However, instead of respecting local governments' ordinances that were put in place to promote the health, safety and general welfare of its citizens, FERC is allowing MVP to upend this protection. The DEIS stated that "Mountain Valley is in discussion with Pittsylvania County to assess applicability of the Pittsylvania County Noise Ordinance with regards to 24-hour construction at the Lambert Compressor Station."[52] MVP does not need to work 24 hours a day to construct a compressor station. Buildings and facilities go up every day all over this country without continuous noisy work going on 24 hours a day. Let the residents and animals near the compressor station get a good nights sleep.	See section 4.11.2.3 for a revised discussion of noise levels due to 24-hour construction at the Lambert Compressor Station.
CO-17p	**Property Values** The DEIS stated, "Our review of available studies indicates that the Project is not likely to have a significant adverse impact on property values."[53] BREDL research indicates that property values have plunged for some landowners who signed easements for the Atlantic Coast Pipeline in Highland and Nelson Counties, Virginia. In Nelson County, we found three properties that averaged a reduction in property value of 32.5%. In Highland County, many properties with signed easements decreased in value on an average of 7%. [54]	See section 4.9.5 of the EIS for a discussion or property values.
CO-17q	**No Action Alternative** We respectfully request the Commission to choose the No Action Alternative and deny the Certificate for the Mountain Valley Pipeline, LLC Southgate Project. This project is not needed and does not serve the public convenience and necessity. Respectfully submitted, Mark E. Barker Executive Assistant, BREDL	We concluded in Section 3.2 that the No Action Alternative does not meet the Project objective and is not likely to provide a significant environmental advantage.

CO-22	Haw River Assembly

Haw River Assembly
Phone: (919) 542-5790 P.O Box 187 Bynum, NC 27228 www.hawriver.org

September 16, 2019

Emily Sutton, Riverkeeper
Haw River Assembly
P.O Box 187
Bynum, NC 27228

Haw River Assembly is the Waterkeeper organization responsible for protecting the Haw River watershed in North Carolina. Our organization represents over 1,000 members and supporters in 8 counties throughout our watershed. The Mountain Valley Pipeline Southgate extension project would cause irreversible harm to the Haw River watershed. The proposed Draft Environmental Impact Statement excludes many significant impacts to the watershed and overlooks potential threats and risks. Please see the following comments and revise the Draft Environmental Impact Statement to accurately assess the environmental threats posed by this project.

4.3 Water Resources

Landowner surveys have not been completed and many locations of wells and springs are unknown. Not enough information is included and finalized to approve this DEIS based on this uncertainty.

The DEIS minimizes the risk of impacts to private well owners water quality. Blasting and heavy equipment can damage infrastructure and make well water unsafe. This is not a risk the impacted communities and landowners can bear.

Communities already face contaminated drinking water sourced from the Haw River and surface water reservoirs. The risk of contaminated wells is a significant risk. Many of these contaminants can go undetected in drinking water, due to no color or scent. Private well owners are financially responsible for testing well water; this testing is extremely cost prohibitive, leaving many landowners unaware of contamination.

Erosion and sedimentation is an ongoing concern in the Haw River basin, and many of our streams are impaired due to poor benthic life. Most streams have not been surveyed by the state, but at Haw River Assembly, we monitor streams through our volunteer programs and through ongoing certified lab sampling. Sedimentation, erosion, and increases in stormwater velocity, has left many creeks with steep, inaccessible banks, void of healthy aquatic habitat. The risk of increasing erosion and sedimentation, increasing turbidity levels should not be minimized.

All of these streams in the Haw River basin must adhere to the Jordan Lake rules, which requires strong nutrient protections and sedimentation measures. Mountain Valley's requirement

CO-22a	See response GW-1 in appendix I.2.
CO-22b	See response SURF-2 in appendix I.2.
CO-22c	Section 4.3.2.4 of the EIS discusses the Jordan Lake Riparian Buffer.

CO-22	Haw River Assembly	
CO-22d	to restore the ground surface "to original contours as closely as practicable" leaves us with serious concerns. We have seen the work MVP contractors have done on the mainline and have little faith that these requirements will be met at all. However, leaving so much subjectivity in what is or what is not practicable allows MVP Southgate to argue the the bare minimum is all that is necessary. This is a sensitive watershed and this project will not be completed in a way that prevents serious watershed degradation.	See response GEN-6 in appendix I.2.
CO-22e	Many public water supply intakes are located downstream of these stream crossings, but further than three miles downstream. Many of the contaminants that could impact drinking water quality do not breakdown. Therefore, this three mile limit for downstream impacts is not an accurate assessment of the full scope of impacts.	See response CO-22c.
CO-22f	Dam - and - pump or flume methods can cause potentially irreversible degradation to stream health. In order to adequately assess impacts, the crossing methods should be specified for each stream crossing in the initial DEIS in order for thorough review and comment.	See response SA-2a-2 in appendix I.3. See also response SURF-4 in appendix I.2.
CO-22g	Including clauses like "when practicable" leaves too much subjectivity to MVP Southgate contractors. We have seen over 200 water quality and sediment and erosion control violations on the mainline done by the same teams.	Appendix B.5 provides the proposed crossing method for each waterbody.
CO-22h	HDD and conventional bore crossing methods do in fact have impacts on surface water bodies and ground water, though this DEIS states otherwise.	see response GEN-6 in appendix I.2.
CO-22i	Crossing Stony Creek Reservoir is a threat to over 50,000 people who depend on the reservoir for protected drinking water.	See section 4.3.2.2 and 4.3.2.7 for discussion of impacts from HDD and conventional bore crossings.
CO-22j	The lack of information regarding Deep Creek crossings leaves this DEIS incomplete.	See section 4.3.2.4 for discussion of the Stony Creek Reservoir crossing.
CO-22k	Having work areas back 50 ft from wetlands and waterbodies is inadequate. Allowing for less than a 50 foot setback is against the Jordan Lake Rules which are in place to protect streams from nutrient and sediment impairment.	Section 4.3.2.2 has been updated with information regarding the Deep Creek crossing.
CO-22l	Having a 15 foot butter on waterbodies and wetlands is not adequate and does not adhere to the Jordan Lake Rules.	See response CO-22c.
CO-22m	Many impacted waterbodies are listed as inclusive data. This is not enough information to assume that those waterbodies are not impaired and careful attention should be given to all stream crossings. Downstream segments are impaired due to turbidity, nutrients, and benthic life, all of which could be degraded by this project upstream.	See section 4.3.23 for a discussion of impaired waterbodies.
CO-22n	Variance request should be denied due to high risks of sedimentation and nutrient pollution in Jordan Lake.	See response CO-22c.
CO-22o	Much of the pipeline is in the flood zone of the Haw River, which has seen record flooding the past two years. This volume and velocity of water will be increased with less buffer protection and compacted soils from heavy machinery.	See response SURF-7 in appendix I.2.
	The DEIS also minimizes any cumulative impacts to surface waters. This is misleading. Dredging, open-cut pipeline crossings, and other instream activities will have a great impact on surface water quality health in the stream and downstream throughout the watershed.	

CO-22	Haw River Assembly	
CO-22p	The DEIS also minimizes impacts by stating that a HUC-10 is an appropriate sized watershed for this project, implying that the streams and cumulative impacts to those streams will be managed and mitigated through the natural processes of the aquatic system. The Haw River watershed has extremely flashy flow tendencies. The high and low flow points have not been factored into this review. Jordan Lake Buffer rules have also not been mentioned in the cumulative impacts. What will the sediment and nutrient load be? How will cumulative impacts be quantified for long term impacts to the buffer zones?	See section 4.12.2.2 for discussion of cumulative impacts on water resources.
CO-22q	There has not been a feasibility study done to assess access to Deep Creek. This DEIS should not be approved until that assessment has been completed and the public has had adequate time to comment and review that assessment.	See response CO-22k.
CO-22r	Dry- ditch crossing methods in impaired streams are not an adequate way to prevent sedimentation, erosion, and aquatic health destruction.	See response CO-22m.
CO-22s	This project proposes to use 5.9 million gallons from two municipal water sources. How will that water be disposed of? What will the impacts be to receiving waters? These are critical questions that have been excluded from this review.	Measures regarding hydrostatic test water discharge are provided in section 4.3.2.7 of the EIS and VII.D.1 of Mountain Valley's Procedures.
CO-22t	**4.4 Wetlands** Pipeline construction will impact nearly 27 acres of wetlands and will result in permanent impacts to nearly 6 acres of wetlands through ongoing maintenance. Although some areas would be allowed to regrow, due to the length of time required for the wetlands to regenerate, construction impacts would be long-term. And despite FERC's own Procedures which specify that all additional temporary work spaces be set back at least 50 feet from a wetland, Mountain Valley has proposed 23 locations for workspaces within 50 feet of a wetland and has asked for modifications to those procedures.	See response WET-1 in appendix I.2.
CO-22u	**4.6 Wildlife and Fisheries** MVP says it relies on its "consultation with US Fish and Wildlife Service" to minimize impacts, but courts have just recently thrown out multiple FWS permits regarding endangered species relying on similar assumptions and stating that this is not sufficient to protect species. MVP, LLC presents no evidence to show that construction of the pipeline will not harm or destroy these numerous species and instead relies on a broad, general promise that it will not harm species because it will do its best not to. "Mountain Valley would implement erosion and sediment control BMPs described in its E&SC Plan at all crossings of waterbodies containing fisheries of special concern. Mountain Valley also would adhere to all federal and state permit conditions, including those regarding the minimization of impacts on fisheries of special concern including adhering to recommended work windows for in-water construction (or requesting a work-window modification, if needed)."	FERC continues to work with FWS and state agencies. Consultation with the FWS is required by Section 7 of the ESA. Federal agency compliance for the Endangered Species Act (ESA) Section 7 is described in section 4.7.1 of the EIS.

CO-22	Haw River Assembly	
CO-22v	**4.9 Socioeconomics** The Socioeconomic impacts do not include social services that will be provided to out of town workers for this project. The DEIS is misleading in stating that "Affected counties would experience the greatest impacts associated with employment, housing, public services, transportation, traffic, property values, economy, and taxes." Local employment will not be increased, property values will decrease, and any impacts to the surrounding economy will be short lived.	An assessment of the social services provided to our of town workers is beyond scope of EIS. A socioeconomics analysis is provided in section 4.9 of EIS
CO-22w	**4.13 Cumulative Impacts** The DEIS states that soil impacts would be localized, however, ground disturbance in the buffer areas and in the streams during crossings construction will result in extreme sedimentation and erosion impacts. Many small streams are crossed in a close proximity in this proposed project, and these small streams will be inundated with sediment and aquatic habitat will be threatened. The cumulative impacts have not factored in the amount of increased impervious surfaces that will also be contributing to stormwater velocity and temperature increases. The DEIS lists the Mountain Valley Pipeline (mainline) project as an example for minimizing cumulative impacts, yet this project has already seen over 200 water quality violations, which is not only a burden to stream health, but to state agency staff budgets. The DEIS also minimizes any cumulative impacts to surface waters. This is misleading. Dredging, open-cut pipeline crossings, and other instream activities will have a great impact on surface water quality health in the stream and downstream throughout the watershed. The DEIS repeatedly describes large, significant impacts, and then bases its prediction of no significant impacts on MVP's compliance with mitigation measures. There are many problems with this. These include MVP's history of noncompliance during construction of the mainline , many of the mitigation measures relied upon to predict no significant impacts are unspecified in the DEIS, and the DEIS predicts long-lasting or permanent impacts to hundreds of acres of forests and wetlands, but ignores these impacts in saying that mitigation measures will avoid significant impacts. Mitigation can not prevent significant impacts permanent forest and wetland destruction that is essential to the design of the project.	See response CI-1 in appendix I.2. Also, see response to GEN-6 and SURF-2 in appendix I.2. There would be a minimal increase in impervious surfaces as a result of the Project as most areas would be revegetated after construction is complete.
CO-22x	By its own admission, FERC released this DEIS - and its conclusion that no significant environmental impacts would be inflicted by this project - while lacking the necessary information to assess what the impacts to various environmental resources would be. For example, MVP has yet to provide FERC with its feasibility studies for its plan to cross Deep Creek with the pipeline, a site where imperiled aquatic species are suspected to live. The DEIS acknowledges that MVP will use 5.9 million gallons of water in constructing the project, but has no information regarding where MVP will source that water from, preventing FERC from assessing the environmental impact of those water withdrawals. Lastly, archaeological surveys have not been completed for the project area, preventing analysis of impacts to cultural resources.	See response GEN-4, SURF-8, and CULT-1 in appendix I.2. As discussed in section 4.6.5 of the EIS, Mountain Valley has provided aquatic species surveys results.

CO-22	Haw River Assembly	
CO-22y	MVP, LLC has failed to show that it will not harm threatened and endangered species in constructing MVP Southgate, relying on nothing more than tautological assurances that pipeline construction will not harm species because it has concluded after review that the pipeline will not harm species.	See response T&E-2 in appendix I.2.
CO-22z	In conclusion, too many critical components have been overlooked and excluded from this Draft Environmental Impact Statement. The communities who would potentially face the burden of those impacts should have adequate time to read a respond to additional information that would be submitted later in the process. Additionally, impacts that have been admitted and included here have been presented in a misleading way, or have been significantly lessened. We urge you to deny this Draft Environmental Impact Statement until it is complete and accurately assess the impacts of this proposed project.	Comment noted. See responses above.

CO-24 Appalachian Mountain Advocates

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

In the Matter of

MOUNTAIN VALLEY PIPELINE, LLC Docket No. CP19-14-000

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR MOUNTAIN VALLEY PIPELINE, LLC'S PROPOSED SOUTHGATE PROJECT

Appalachian Mountain Advocates, Center for Biological Diversity, and Sierra Club submit the following on behalf of Appalachian Voices, Center for Biological Diversity, Chesapeake Climate Action Network, Food and Water Watch, Haw River Assembly, Honor the Earth, NC Council of Churches, NC Interfaith Power and Light, and the Sierra Club (collectively, "Commenters") regarding the Federal Energy Regulatory Commission's ("FERC") draft environmental impact statement ("DEIS") for Mountain Valley Pipeline, LLC's ("Mountain Valley") proposed Southgate Project ("the Project"). For the reasons described below, the DEIS fails to fulfill FERC's duty under the National Environmental Policy Act ("NEPA") to take a "hard look" at the Project's impacts.[1]

I. The DEIS's Failure to Independently Assess the Purpose and Need for the Project Undermines Its Alternatives Analysis

CO-24a

To establish the purpose and need for the Project, FERC relies entirely on Mountain Valley's desires and ignores the question of whether there is a real public need for the additional pipeline capacity proposed to be added. DEIS at 1-2 (relying on "the specific requests for natural gas transportation service of [Mountain Valley's] anchor shipper, Dominion Energy" to establish the purpose and need for the Project). In so doing, FERC improperly restricts its analysis of alternatives to those that can transport Mountain Valley's full desired volume of gas from its desired starting and ending points. *See* DEIS at 3-1 ("An alternative that cannot achieve the purpose for the Project cannot be considered as an acceptable replacement for the Project."); *id.* at 3-3—3-6 (rejecting system alternatives because they purportedly cannot accommodate Mountain Valley's full desired volume of gas).

As noted in Section 3.0, FERC identified and evaluated reasonable alternatives to the Project. Reasonable alternatives would meet the Project's stated purpose. See also responses GEN-2 and ALT-1 in appendix I.2; and response to CO-14c in appendix I.3.

CO-24	Appalachian Mountain Advocates	
Co-24a	The Council on Environmental Quality's ("CEQ") regulations for implementing the National Environmental Policy Act ("NEPA") require that an Environmental Impact Statement (EIS) "specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."[2] The CEQ regulations also require the Commission to consider and evaluate the no action alternative.[3] A properly drafted purpose and need statement is critical to "inform the agency's review of alternatives to the proposed action and guide its final selection."[4] A purpose and need statement "will fail if it unreasonably narrows the agency's consideration of alternatives so that the out-come is preordained."[5] Where, as here, a federal agency is reviewing an applicant-sponsored project, it "cannot restrict its analysis to those 'alternative means by which a particular applicant can reach his goals.'"[6] An agency must "exercise a degree of skepticism in dealing with self-serving statements from a prime beneficiary of the project."[7] As courts have noted, "[r]equiring agencies to consider private objectives . . . is a far cry from mandating that those private interests define the scope of the proposed project."[8] An agency must also "look hard at the factors relevant to the definition of purpose" and "always consider the views of Congress, expressed, to the extent that the agency can determine them, in the agency's statutory authorization to act, as well as in other congressional directives."[9] The Natural Gas Act ("NGA") gives FERC powerful tools to regulate the development of pipeline infrastructure, directing the Commission to deny any application not "required by the present or future public convenience and necessity" and allowing it to impose "such reasonable terms and conditions as the public convenience and necessity may require."[10] In addition, FERC's Certificate Policy requires the Commission to balance the alleged need for a project against the adverse impacts on affected landowners and the surrounding communities.[11] Thus, when identifying a purpose and need, the Commission should consider its authority to shape pipeline certificates and reject unnecessary construction. More generally, the Commission should recognize that the main purpose of the NGA is "to encourage the *orderly* development of plentiful supplies	See above CO-24a comment response

CO-24	Appalachian Mountain Advocates	
Co-24a	of . . . natural gas at reasonable prices."[12] The goals of promoting order and economy would be frustrated by a piecemeal analysis that ignores the potential for haphazard and redundant pipeline development. Likewise, the subsidiary goals of the NGA—including "conservation" and "environmental" considerations[13]—would be poorly served if the Commission failed to consider a regional perspective. FERC may not uncritically accept a project proponents' stated need for a pipeline, as it has in the DEIS. Rather, the agency must consider whether expected gas demand can be met by existing pipeline capacity. If not, FERC must consider how much additional capacity is needed to meet demand and to what extent that capacity can be provided by alternatives to the proposal, including but not limited to alternatives that upgrade existing gas pipelines and/or involve building new pipelines on existing rights-of way. In so doing, FERC should also look at the potential for significant decline in production from the Marcellus and Utica formations that would supply the gas for the pipelines and the ability of increasingly price-competitive renewable energy sources and energy efficiency to meet electric demand over the life of the proposed pipelines.[14] FERC should project electric-sector natural gas use in the region using detailed data on specific generating units, estimating gas demand both on an annual basis and for the hour of peak demand in each year. FERC must critically analyze and document any assumptions regarding: 1) market rules and topology, 2) hourly load profiles, 3) forecasted annual peak demand and total energy, 4) thermal-unit characteristics, 5) conventional hydro and pumped storage unit characteristics, 6) fuel prices, 7) renewable unit characteristics, 8) transmission system paths and upgrades, 9) generation retirements, additions, and uprates, 10) outages, 11) environmental regulations, and 12) demand response resources. Only by analyzing all of those factors can FERC determine whether the proposed pipeline project is actually needed.	See above CO-24a comment response

CO-24	Appalachian Mountain Advocates	
CO-24b	Mountain Valley justifies the need for the Project primarily by referenced to futur increased demand for natural gas in the region.[15] But objective evidence shows that such deman is unlikely to increase, and that any such increase could be met with expansion of renewabl energy, which must be considered as an alternative to the Project. Available evidence demonstrates that demand for natural gas for power generation in the region that includes Virginia and North Carolina is level through 2030.[16] Projections from the Energy Information Administration (EIA) show that demand for natural gas for power generatio is not growing in the region that includes Virginia and North Carolina. In EIA's 2017 Energy Outlook, the reference case for the South Atlantic region, *i.e.* a scenario reflecting improvements in known technologies and the views of leading economic forecasters and demographers,[17] projects that the demand for natural gas for electricity generation will decrease from 2015 to 2020 and will not return to 2015 levels until approximately 2034.[18] Thus, According to EIA's analysis, new gas transmission capacity is not needed until 2034 at the earliest. An analysis performed by the Applied Economics Clinic[19] ("AEC Report") confirms tha the increased demand that Mountain Valley claims necessitates the Project is illusory. Because Mountain Valley has provided no evidence that MVP Southgate or Dominion Energy[20] will use the additional supply to provide gas to electric generators, the report focuses on gas demand for final use by residential, commercial, and industrial customers. AEC Report at 7. The report find that Mountain Valley's claims of increased future demand are uniformly inflated. Mountain Valley relies on a nationwide projection to claim that gas demand is likely to increase by 0.9 percent per year between 2017 and 2040, but the EIA's projection for the region that would be served by the Project only foresees growth of 0.2 percent annually for the period analyzed. *Id.* a 8. Further, Mountain Valley wrongly cites an annual increase of in demand for gas in North Carolina of 7.6 percent from 2010 to 2017 as evidence of need for the Project. That figure, however, includes the increase in consumption of gas both for direct use and for electric generation, whereas there is no evidence the Project will be used to deliver gas for electric customers. North Carolina's direct gas consumption by residential, commercial, and industrial customers—which is what the proposed project would serve—actually fell by an annual rate of 0.1 percent between 2010 and 2017. *Id.* at 9. Finally, MVP uses an inflated projection of future	See response GEN-2 in appendix I.2.

CO-24	Appalachian Mountain Advocates	
CO-24b	population growth and fails to acknowledge that per capita gas consumption has been steadily falling due to increased energy efficiency and other advances when claiming that future population growth necessitates increased supply. *Id.* at 9-10. **Table 1: North Carolina gas and population growth, MVP LLC and corrections** **MVP LLC Claims** / **AEC Fact Check** MVP claims: **7.6 percent** historical (2010-2017) annual growth in North Carolina gas demand (including gas for electricity) / Fact check: **-0.1 percent** historical (2010-2017) annual growth in North Carolina gas demand (excluding gas for electricity) MVP claims: **0.9 percent** annual growth in future gas sales (2017-2040) based on all U.S. expected growth from EIA forecast / Fact check: **0.2 percent** annual growth in future gas sales (2017-2040) for the South Atlantic region from EIA forecast MVP claims: **1.6 percent** annual growth in future gas use (2020-2035) for the Southeast, which MVP states is largely due to population growth / Fact check: North Carolina's population is only expected to grow **1.0 percent** annually (2020-2035) *Sources: EIA. North Carolina Natural Gas Consumption by End Use. Available at: https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_snc_a.htm. EIA, AEO 2019, Reference Case. Available at: https://www.eia.gov/outlooks/aeo/data/browser/#/?id=2-AEO2019&region=1-5&cases=ref2019&start=2017&end=2050&f=A&linechart=ref2019-d111618a.3-2-AEO2019.1-5&map=ref2019-d111618a.5-2-AEO2019.1-5&sourcekey=0. North Carolina Office of State Budget and Management, County/State Population Projections. Available at: https://www.osbm.nc.gov/demog/county-projections. Note: South Atlantic region includes Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia, and the District of Columbia.* It is very likely that any additional future demand could be met with efficiency programs and other measures which would not require the taking of private property by eminent domain and substantial harm to environmental resources. The AEC Report explains that "[g]as energy efficiency and other demand-side programs may be an inexpensive alternative to pipeline investments.... Efficiency programs reduce the amount of gas needed to provide the same level of energy and heating and can be a cheap and effective way to reduce peak demand." *Id.* at 19. FERC's overly narrow statement of purpose and need caused it to fail to adequately consider such alternatives, which would have far less impact. FERC must not simply accept the applicant's claims of need at face value, but rather must independently verify that there is a true market demand for the Project that justifies the taking of private property through eminent domain and substantial harm to communities, water quality, air quality, forests, wildlife, and the climate. Because the DEIS fails to do so, it does not satisfy NEPA's hard look requirement.	See above CO-24b comment response

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II. The DEIS Improperly Fails to Consider the Project as a Connected Action With the Mountain Valley Pipeline Mainline and Thus Fails to Consider the Full Impacts of Both Projects Together in a Single EIS

CO-24c	FERC's EIS fails to fully analyze the impacts of the Project together with the impacts of the closely related Mountain Valley Pipeline mainline ("MVP mainline"), thus undermining its significance determinations. The MVP Southgate Project is an interdependent part of and dependent upon the larger MVP mainline. FERC's scope of review in an environmental analysis should encompass connected, cumulative, and similar actions.[21] Actions are connected if they automatically trigger other actions which may require an EIS, cannot or will not proceed unless other actions are taken previously or simultaneously, or are interdependent parts of a larger action and depend on the larger action for their justification.[22] "[A]n agency must discuss '[c]onnected actions' – that is, 'closely related' actions – 'in the same impact statement.'"[23] Similar actions are those actions that, when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography.[24] An agency should analyze similar actions in the same EIS when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single EIS.[25] Importantly, "significance cannot be avoided by terming an action temporary or by breaking it down into small component parts."[26] "An agency impermissibly 'segments' NEPA review when it divides connected, cumulative, or similar federal actions into separate projects and thereby fails to address the true scope and impact of the activities that should be under consideration."[27]	See response GEN-8 in appendix I.2.
CO-24d	Further, it is well-established that FERC must evaluate the cumulative impacts of a natural gas pipeline before it issues a certificate of public convenience and necessity for the project.[28] NEPA's implementing regulations define these impacts as the > impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.[29] A cumulative impacts analysis provides the agency and the public "with a complete understanding" of the impacts that will result from the project.[30] Importantly, an agency cannot defer this analysis "when meaningful consideration can be given now."[31] The agency must evaluate the cumulative impacts of related projects proposed or reasonably foreseeable in a geographic area in a single, comprehensive, regional EIS in order to fully understand the impacts of the proposed action in its proper context.[32]	Cumulative impacts are discussed in section 4.13 of the EIS.

CO-24	Appalachian Mountain Advocates	
CO-24e	Because it relies almost entirely on the MVP mainline project (which is currently under construction despite lacking several federal permits) for its supply of gas, the MVP Southgate unquestionably depends on the mainline for its existence and thus both "[c]annot or will not proceed unless other actions are taken previously or simultaneously" and "depend[s] on the larger action for [its] justification."[33] The two projects thus should have been analyzed as connected actions. FERC's failure to analyze the impacts of Mountain Valley Pipeline's connected projects together renders its significance findings incomplete.[34] FERC concludes that the Project will not have significant adverse impacts on any of the resources analyzed, such as soils, vegetation, wildlife, and aquatic resources. DEIS at 5-1 to 5-12. Even if some impacts of the Project alone were not significant, the combined impacts of the two connected actions may be significant. That is particularly true in regards to impacts to forests, which FERC found in the MVP mainline EIS to be significant, and impacts to aquatic resources, which have in practice proven to be significant during construction of the MVP mainline.[35]	See response GEN-8 in appendix I.2.
CO-24f	FERC's minimal analysis of the MVP mainline's impacts in the cumulative impacts section, DEIS at 4-246, does not cure this defect. It is well-established that FERC must evaluate the cumulative impacts of a natural gas pipeline before it issues a certificate of public convenience and necessity for the project.[36] As explained above, because the projects are connected actions FERC must analyze the full impacts of each project in a single EIS,[37] which it fails to do. In addition, in the instances where FERC analyzes the cumulative impacts of the projects together, it does so on too small a scale by looking only at impacts within the same HUC-12 watersheds. As the MVP mainline's substantial sedimentation impacts on the Roanoke River basin demonstrate, the projects' impacts can extend far beyond the HUC-12 level. FERC's cumulative impacts analysis thus does not capture the actual combined impacts of the two projects and fails to satisfy NEPA's hard look requirement.	See response CI-1 and CI-3 in appendix I-2.

CO-24	Appalachian Mountain Advocates	
CO-24g	**III. The DEIS Fails to Adequately Assess the Project's Greenhouse Gas Emissions and Climate Impacts** The DEIS does not take the required hard look at the Project's greenhouse gas ("GHG") emissions and climate impacts. FERC fails to estimate upstream and downstream GHG emissions, to utilize readily available tools for assessing their climate impact (including significance), to consider potential mitigation, or to distinguish the Project's climate impacts from those of feasible alternatives. **A. The DEIS fails to Estimate Upstream GHG Emissions** NEPA requires consideration of reasonably foreseeable "indirect effects" of a proposed action that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[38] This includes "growth inducing effects and other effects related to induced changes in the pattern of land use . . . and related effects on air and water and other natural systems" that are "removed in distance" from the site of the proposed action.[39] FERC has acknowledged that "there may well be instances in which upstream gas production is both reasonably foreseeable and sufficiently causally connected to a pipeline project to qualify as an indirect effect."[40] Yet the DEIS makes no effort to assess upstream GHG emissions associated with the Project. FERC must disclose the fact and nature of foreseeable effects of gas production that will be induced by the Project. FERC should seek out information, including from the Project applicant, that would help it "predict the number and location of any additional wells that would be drilled as a result of production demand created by the Project."[41] "It should go without saying that NEPA . . . requires the Commission to at least attempt to obtain the information necessary to fulfill its statutory responsibilities." *Id.* at 5.	See response CI-1 in appendix I.2.

CO-24	Appalachian Mountain Advocates	
	Even if FERC undertakes the requisite attempt but determines it cannot obtain specific information regarding upstream activities, the DEIS can still provide useful information. For example, FERC has previously "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 [a gas pipeline project], on an annual basis for GHGs."[42] In that case, FERC used "the project volume and the expected estimated ultimate recovery of Marcellus shale wells" to estimate the number of wells that "would be required to provide the gas over the estimated 30-year lifespan of the project."[43] FERC then used the Department of Energy's Life Cycle Analysis of Natural Gas Extraction and Power Generation to estimate upstream GHG emissions. *Id.* at n.210.	
CO-24g	In sum, FERC must attempt to obtain more information regarding upstream activity that would result from the Project. If specific information proves unobtainable, FERC can still estimate upstream GHG emissions based on the volume of gas that the Project is designed to transport. Instead, the DEIS fails to do either—and also fails to comply with 40 C.F.R. § 1502.22, which outlines the procedures an agency must comply with when "there is incomplete or unavailable information."[44]	See above CO-24g comment response.
	B. The DEIS Fails to Estimate Downstream GHG Emissions	
	Effects are reasonably foreseeable if they are "sufficiently likely to occur that a person of ordinary prudence would take [them] into account in reaching a decision."[45] In the gas pipeline context, downstream greenhouse-gas emissions are quintessential indirect effects, because such emissions predictably result from operating a pipeline whose sole purpose is to transport gas that will be consumed by end-users.[46]	

CO-24	Appalachian Mountain Advocates	
CO-24g	Downstream emissions are an indirect effect even if the ultimate destination of the fuel is unknown.[47] For example, any uncertainty regarding the ultimate destination of the gas does not change the fact that the Project is designed to transport 375 million cubic feet of gas per day to end users. FERC is a legally relevant cause of the emissions resulting from combustion of the transported gas.[48] [49] Moreover, here "Mountain Valley has indicated that the currently subscribed volume of natural gas, 300 MMcf/d, would be used in North Carolina, primarily by residential and small and medium-sized commercial customers for heating, cooking, and other end-uses." DEIS at 4-269. This information could be used to estimate the downstream GHGs. Greenhouse gas "estimation tools have become widely available" and are "already in broad use." Council on Environmental Quality, Revised Draft Greenhouse Gas Emissions and Climate Change Guidance (Dec. 2014) at 15.[50] If FERC for some reason believe it required additional information to estimate downstream GHG emissions, it must explain why and attempt to obtain that information. As FERC has conceded, "its lack of jurisdiction over shippers, distributors, and end users 'doesn't preclude or foreclose' it from further developing the record by requesting additional data from the project applicant."[51] For example, FERC could require the project applicant to obtain additional information from "anchor shipper, Dominion Energy (formerly PSNC Energy), a local natural gas distribution company," regarding its purported "growing supply needs."[52] The DEIS states that the remaining 75 MMcf/d "could be utilized in either North Carolina or Virginia," and "[t]he end use of this gas is not known." DEIS at 4-269.[53] Analyzing GHG emissions and climate impacts does not depend on knowing the specific locations where gas combustion will occur. If FERC believes a full-burn estimate does not accurately reflect anticipated emissions, FERC should explain why—and must attempt to provide a more accurate estimate.[54] NEPA requires agencies to analyze and consider downstream effects even if the "exact[]" net increase in emissions may "depend[] on several uncertain variables."[55] "[S]ome educated assumptions are inevitable in the NEPA process," and agencies can disclose "assumptions so that readers can take the resulting estimates with the appropriate amount of salt."[56]	See above CO-24g comment response

CO-24	Appalachian Mountain Advocates	
CO-24g	The Project's direct and indirect GHG emissions, and resulting climate impacts, must also be considered along with other projects in the region, including but not limited to other interstate gas pipelines.[57] **C. The DEIS Fails to Utilize Available Methodologies to Assess the Project's Climate Impact** In addition to failing to estimate indirect GHG emissions, the DEIS fails to account for the climate impact of GHG emissions. As a result of this deficiency, nothing in the DEIS allows the public or decisionmakers to meaningfully determine whether the harm caused by Project GHG emissions would warrant mitigation, selection of a less harmful alternative, or certificate denial. "The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."[58] The DEIS outlines some general climate change impacts, DEIS at 4-267 to 4-268, but does not assess the impacts caused by *this Project*.[59] Moreover, because the tools used by the U.S. Global Change Research Program to assess current and future impacts of climate change respond to different emission scenarios, it is possible to meaningfully discuss the *incremental* impact of the emissions at issue here. The DEIS recognizes that "[w]hen determining the significance of an impact, both context and intensity are relevant. DEIS at 4-0.[60] Context "means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality."[61] Intensity "refers to the severity of impact."[62] Yet the DEIS fails to assess the context or intensity of the Project's greenhouse-gas effects. FERC's failure to assess the Project's GHG emissions and their climate impacts invalidates the DEIS's conclusion that the Project would not have significant impacts. DEIS at 4-270, 5-1. FERC cannot approve a project on the basis that it will have no significant impacts when it has failed to assess one of the Project's most severe and long-term impacts.	See above CO-24g comment response

CO-24	Appalachian Mountain Advocates	
	FERC first claims that it has "not been able to find any GHG emissions reduction goals established at the federal level," noting that the national emissions reduction targets expressed in the Clean Power Plan and the Paris climate accord are pending repeal and withdrawal, respectively. DEIS at 4-269. Even if repeal or withdrawal were complete, these targets could be used to provide context. Moreover, the United States remains a party to the United Nations Framework Convention on Climate Change and its associated Paris Agreement. While President Trump has indicated the United States will remove itself from the Agreement, the United States presently has an internationally established commitment to limiting the average increase in global temperatures to 1.5 degrees Celsius. But the DEIS fails to consider the Paris Agreement commitments--or other useful targets that would help provide context, such as the IPCC's established carbon budget--as part of its consideration of the Project's GHG emissions. The DEIS fails to explain why any of these targets could not be used to provide context for Project emissions.	
CO-24g	FERC's excuses related to state climate goals also fail. The DEIS mentions that Virginia has a plan that calls for a reduction of GHG emissions 30% below a "business as usual" scenaric by 2025, but then simply states: "We do not have the data that identified the 'business as usual' scenario." DEIS at 4-269. In other words, despite the numerous steps that Virginia has taken on climate change that are identified in the DEIS (e.g., the Governor's Commission on Climate Change, Executive Order 19, Governor's Climate Change and Resiliency Update Commission and associated report that includes "an inventory of contributors of GHG" and "evaluation of impacts," and carbon trading regulation), the DEIS makes no attempt to use any of this to provide context for the Project's emissions.[63] The DEIS also states that because the Project "is intended to serve end users in North Carolina, we cannot determine Southgate Project effects, if any, on Virginia's GHG goals."[64] But a portion of the Project is being constructed in Virginia, and the location of the end-use is not relevant to climate impacts. This statement also conflicts with the DEIS's statement in the next paragraph that "[t]he remaining 75 MMcf/d could be utilized in either North Carolina or Virginia."[65]	See above CO-24g comment response

CO-24	Appalachian Mountain Advocates	
CO-24g	The DEIS mentions North Carolina Governor Roy Cooper's Executive Order 80, which mandates a statewide reduction of GHG emissions by 2025 to 40% below 2005 levels, but provides no explanation of how the Project's GHG emissions--including from downstream combustion--would affect that goal. Instead, the DEIS simply concludes the discussion with the conclusory statement that "[f]or both the subscribed and unsubscribed volumes, we cannot determine Southgate Project effects on the states' goals." DEIS at 4-269. The DEIS makes no attempt to provide the states' goals in terms of actual GHG emissions targets, or to calculate the Project's lifecycle emissions, which would provide helpful context for decision-makers and the public.	See above CO-24g comment response
CO-24h	FERC should also provide further information regarding the impact of Project GHG emissions, including context and intensity, by using the Interagency Working Group's ("IWG") social cost of carbon ("SCC") protocol.[66] The DEIS states that "there is no universally accepted methodology to attribute discrete, quantifiable, physical effects on the environment to the Southgate Project's incremental contribution to GHGs." DEIS at 4-269. But a "universally accepted methodology" is not the standard—and while FERC maintains that it lacks "a method for relating GHG emissions to specific resource impacts," *Id.* at 4-270 elsewhere FERC has acknowledged that the Social Cost of Carbon "constitute[s] a tool that can be used to estimate incremental physical climate change impacts."[67] The SCC "estimates the monetized climate change damage associated with an incremental increase in CO2 emissions."[68] The damage estimate includes lost agricultural productivity, human health impacts, property damage from increased flooding, and lost ecosystem services. FERC has acknowledged that the SCC is an "appropriate[]" tool for federal agencies to use "to inform their decisions," and that agencies have been rightly "faulted for failing to use it."[69] Like those other agencies, FERC is the legally relevant cause of the GHG emissions at issue.[70] FERC does not (and cannot) offer a rational explanation for refusing to use a tool it acknowledges is useful and appropriate to inform other agencies' decisionmaking—including project-level reviews.[71] In another recent case concerning an energy infrastructure project, where the agency's NEPA analysis quantified greenhouse gas emissions but claimed that it was impossible to discuss the effects thereof, the court ruled that the agency's refusal to use the social cost of carbon to illustrate the impact of these emissions was arbitrary and capricious.[72]	See response CI-1 in appendix I.2

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CO-24h	Accordingly, the DEIS is incorrect when it states that FERC is "not able to assess potential GHG-related impacts attributable to the Southgate Project." DEIS at 4-270. Although FERC has discretion to choose among reliable methodologies for evaluating impacts, FERC cannot refuse to provide any evaluation whatsoever when a generally accepted methodology is available.[73] A widely used tool that FERC has acknowledged is useful for project-level reviews is available, but the DEIS fails to even mention it. In other gas pipeline proceedings, FERC has provided excuses for refusing to use the SCC. Those excuses fail. For example, FERC has claimed there is no consensus on the appropriate discount rate, resulting in significant variation in output. But courts have rejected this reasoning.[74] As the 2010 Technical Support Document explained, a range of three discount rates—2.5, 3, and 5 percent—"reflect reasonable judgments" and "span a plausible range" of appropriate discount rates, and are consistent with OMB Circular A-4.[75] As explained by the IWG, uncertainty as to the most appropriate discount rate is a reason to provide social cost estimates using the range of plausible rates—which FERC and other agencies have done in other proceedings—but it is not a reason for ignoring the social cost of greenhouse-gas emissions entirely.[76] FERC has also claimed there is no basis to designate a particular dollar amount as significant. But assessing the significance of any impact requires FERC's professional judgment. For example, no third party provided FERC with a threshold for significance for impacts on housing, recreation areas, and tourism, but FERC nonetheless concluded such impacts would not be significant. DEIS at 4-124, 4-128, 4-137. And FERC routinely evaluates the relative importance of monetized benefits that it anticipates, *see, e.g., id.* at 4-129 (taxes), weighing them against qualitative impacts. NEPA does not, of course, require agencies to monetize adverse impacts in all cases.[77] The statute does, however, require FERC to take a hard look at the "ecological …, aesthetic, historic, cultural, economic, social, [and] health," effects of its actions, "whether direct, indirect, or cumulative."[78] Monetization of costs may be required where	See above CO-24h comment response

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CO-24h	available "alternative mode[s] of [NEPA] evaluation [are] insufficiently detailed to aid the decision-makers in deciding whether to proceed, or to provide the information the public needs to evaluate the project effectively." Translating GHG emissions into climate damages would contextualize[79] the impact, making it more accessible to the public and decision-makers, and would aid a significance determination. Thus, while FERC claims that it is "unable to determine the significance of the Southgate Project's contribution to climate change," it ignored a tool that would have helped it do just that. DEIS at 4-270. Although they likely underestimate the true costs of GHG emissions, the IWG's social cost metrics remain the best estimates yet produced by the federal government for monetizing the impacts of GHG emissions and are "generally accepted in the scientific community."[80] This is true notwithstanding Executive Order 13,783, which disbanded the Interagency Working Group and formally withdrew its technical support documents.[81] Indeed, that Executive Order did not find fault with any component of the IWG's analysis. To the contrary, it encourages agencies to "monetiz[e] the value of changes in greenhouse gas emissions" and instructs agencies to ensure such estimates are "consistent with the guidance contained in OMB Circular A-4."[82] The IWG tool, however, illustrates how agencies can appropriately comply with the guidance provided in Circular A-4: OMB participated in the IWG and did not object to the group's conclusions. As agencies follow the Circular's standards for using the best available data and methodologies, they will necessarily choose similar data, methodologies, and estimates as the IWG, since the IWG's work continues to represent the best estimates presently available.[83] Thus, the IWG's 2016 update to the estimates of the social costs of greenhouse gases remains the best available and generally accepted tool for assessing the impact of greenhouse gas emissions, notwithstanding the fact that this document has formally been withdrawn.[84]	See above CO-24h comment response

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CO-24h	The estimates of social cost are based on reasonable forecasts of the actual physical effects greenhouse gas emissions will have on the environment, including temperature, sea level rise, ecosystem services, and other physical impacts, together with assessments of how these physical changes will impact agriculture, human health, etc. The social cost protocol identifies the social cost imposed by a ton of emissions' pro rata contribution to these environmental problems. This either amounts to an assessment of physical impacts or the best available generally accepted alternative to such an assessment; either way, the tool is appropriate for use under NEPA.[85] As noted, although FERC has discretion to choose among reliable methodologies for evaluating impacts, that discretion does not allow FERC to provide no evaluation whatsoever when a generally accepted methodology is available.[86] **D. The DEIS's Failure to Adequately Assess the Project's GHG Effects Precludes Informed Decision-Making** The failure to adequately assess the Project's indirect greenhouse-gas emissions—including their volume, climate impact, significance, and cumulative effect—is contrary to NEPA's goals of informed decisionmaking and informed public comment. Failure to grapple with the importance and consequences of greenhouse gas emissions undermines several aspects of the Project analysis. For example, estimating the social cost of GHG emissions would help the public and FERC understand whether the adverse consequences of the Project's emissions are severe enough to tip the balance toward the conclusion that the project is contrary to, and not required by, the public convenience and necessity. Moreover, had FERC concluded that the climate impacts were significant, this would have supported more meaningful evaluation of alternatives that could potentially reduce these impacts. Instead, the DEIS fails to disclose the climate benefits (or lack thereof) of any of the potential alternatives. The Project's GHG emissions and climate impacts should be compared to the emissions and impacts of various alternatives, including the no-action alternative. FERC's arbitrarily narrow Project purpose and need compound this error because it caused FERC to improperly exclude alternatives involving renewable energy and energy efficiency, which would have lower direct and indirect GHG emissions.	See above CO-24h comment response

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CO-24h	In sum, FERC must take a hard look at these impacts so it can consider them when deciding whether to approve the Project, deny it on the ground that it "would be too harmful to the environment," or select a less harmful alternative.[87] The DEIS fails to provide information that would be useful in answering these questions. Estimating the impacts of emissions using the social cost protocols would speak to these issues, regardless of whether FERC concludes that the impact is or is not significant. The DEIS also fails to assess possible mitigation of greenhouse-gas impacts. *See id.* at 1374 (FERC "has legal authority to mitigate" downstream emissions).	See above CO-24h comment response
CO-24i	**IV. The DEIS Fails to Adequately Analyze Impacts to Aquatic Resources Because It Unreasonably Relies on Minimization and Mitigation Measures That Have Proven Ineffective in Practice** The Project would require crossing 224 waterbodies, including three major waterbodies, using primarily a dry, open-cut crossing technique. DEIS at 4-32. It would also traverse substantial areas of steep slopes. *Id.*, Appendix C.3. FERC recognizes that > Construction activities in-stream channels and on adjacent banks may affect waterbodies. Clearing and grading of stream banks, in-stream trenching, the installation and removal of temporary crossing structures (e.g., culverts, cofferdams), trench dewatering, and backfilling could each cause temporary, local modifications of aquatic habitat involving sedimentation, increased turbidity, and decreased dissolved oxygen concentrations; DEIS at 4-43. FERC likewise notes that > The clearing and grading of stream banks could expose soil to erosional forces and would reduce riparian vegetation along the cleared section of the waterbody. The use of heavy equipment for construction could cause compaction of near-surface soils, an effect that could result in increased runoff into surface waters in the immediate vicinity of the proposed construction right-of-way. Increased surface runoff could transport sediment into surface waters, resulting in increased turbidity levels and increased sedimentation rates in the receiving waterbody. Disturbances to stream channels and stream banks could also increase the likelihood of scour after construction *Id.* at 4-44. Nonetheless, FERC concludes that these impacts would be temporary and localized and that Mountain Valley's compliance with FERC's Plan and Procedures and the Project-specific Erosion and Sediment Control Plan would minimize impacts to the level of	See response GEN-9 in appendix I.2

CO-24	Appalachian Mountain Advocates	
CO-24j	FERC's conclusions are not supported by the available evidence showing that pipeline construction has substantial adverse impacts on water quality, primarily through sedimentation associated with slips and runoff from cleared areas adjacent to stream crossings. FERC offers no explanation for why past projects, which were subject to the very same sorts of Best Management Practices in FERC's Procedures and the Project-specific ES&C Plan, led to significant water quality impacts but the MVP Southgate Project will not. FERC's conclusions are thus arbitrary and capricious. Pipeline construction has a long, unacceptable track record of causing severe water quality problems in this region. In particular, Mountain Valley and its contractors have caused severe adverse impacts to water quality during construction of the MVP mainline in Virginia and West Virginia. In light of these past problems, FERC may not reasonably rely on its standard mitigation measures, particularly for erosion and sedimentation control, to conclude that impacts to aquatic implementation of those controls. FERC knows that implementation is never perfect and that, with this particular project applicant, it has been anything but. FERC's assurances that its standard mitigation measures can effectively minimize aquatic impacts have unfortunately proven hollow in experience. For example, on the MVP mainline the U.S. Forest Service's compliance monitoring firm, Transcon Environmental, cited Mountain Valley for causing sediment pollution in Jefferson National Forest and noted that the company's sediment control measures were "failing" and "not functioning properly," resulting in sedimentation impacts as far as 300 feet downstream from a Project stream crossing.[90]	See response GEN-6 in appendix I.2.

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CO024j	Likewise, the West Virginia Department of Environmental Protection (WVDEP) on April 3, 2018, cited Mountain Valley for violations at the construction sites of two compressor stations, noting that the erosion control measures had failed to contain sediment and sediment-laden water from leaving the work site.[91] WVDEP issued another Notice of Violation on May 9, 2018, for an incident where sediment controls at a stream crossing "failed and were breached allowing sediment laden water to enter stream. … Sediment deposits were observed in stream causing conditions not allowable" under West Virginia's water quality standards.[92] Additionally, separate WVDEP inspections on June 6, 2018, resulted in two Notices for failure of control measures leading to sediment and sediment-laden water leaving the pipeline right-of-way, noting that MVP's plans were inadequate and that additional mitigation measures were required.[93] More recently, a July 6, 2018, WVDEP inspection led to yet another notice for failing to prevent sediment and sediment laden water from leaving the right-of-way.[94] The Virginia Department of Environmental Quality (VADEQ) issued a Notice of Violation on July 9, 2018 for widespread sedimentation impacts identified in citizen-complaint driven investigations conducted on May 21, May 23, May 24, May 30, June 6, June 13, June 26, and June 27, 2018.[95] Those impacts occurred along the project route in Craig, Franklin, Giles, Montgomery, Pittsylvania and Roanoke Counties.[96] VADEQ noted that many of Mountain Valley's erosion and sedimentation controls were ineffective and that the company did not repair failing controls within the required timeframe.[97] In one instance, "[c]ombined impacts to the two stream channels covered a distance of approximately 2,800 linear feet. This unauthorized fill ranged in depth up to eleven inches of sediment, which was released from MVP's construction right of way due to overwhelmed and damaged erosion and sediment controls."[98] Failing controls at another site led to 6,009 linear feet of impacts with sediment depositions up to seven inches deep.[99] Mountain Valley itself has identified numerous sedimentation events, including events not cited in the above notices, in its weekly status reports to FERC.[100] Those failures continue to this day.[101]	See above CO-24j comment response

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CO-24j	Such failures are not simply a result of faulty implementation, but in many cases inadequacy of the chosen mitigation measures. Indeed, following a severe event that resulted in asserted that its "controls were installed properly."[102] The fact that FERC has not taken a single enforcement action or issued a stop work order for violations of its own Plans and Procedures on which it relied further demonstrates that the mitigation measures themselves, not just Mountain Valley's implementation, are inadequate. Such incidents have not been limited to the MVP mainline or to other large 42-inch diameter pipelines. Indeed, there are numerous examples of significant sedimentation and other pollution impacts occurring during smaller pipeline construction despite the use of industry-standard erosion and sedimentation controls. For example, in 2006, during construction of a 20-inch East Tennessee Gas Pipeline in Tazewell and Smyth Counties, Virginia, slopes failed in two independent events in Indian Creek and North Fork Holston River, resulting in a kill of several hundreds of individuals and multiple species of endangered mussels.[103] The worst sediment problems originated not directly at the stream crossings, but high in the watershed where small streams transported sediment to the larger streams. Evidence of the sediment was detected as far as two kilometers downstream of the slips. These impacts occurred despite extreme care taken by FERC, USFWS, the Virginia Department of Conservation and Recreation, and the company to ensure that state-of-the-art erosion control measures were in place.[104] Similarly, a 2014 Columbia Gas of Virginia project to add a 12-inch pipeline adjacent to an existing 6-inch pipeline along Peter's Mountain near a portion of the Jefferson National Forest in Giles County, Virginia, led to extreme sedimentation impacts.[105] Inspection reports by the US Forest Service describe sediment movement that "looked like a lava flow" and note that the inspector had "never seen that much sediment move off site before."[106] Much of the sediment became embedded in a nearby stream.[107] These impacts occurred despite the existence of comprehensive erosion control plans, implementation of Best Management Practices, and weekly inspections by the company to ensure proper implementation.[108]	See above CO-24j comment response

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CO-24j	Additionally, construction of Dominion's G-150 and TL-589 gas pipelines in West Virginia led to slope failure at pipeline stream crossing locations during and post construction, resulting in harm to streams despite the application of industry-standard erosion and sediment control practices. West Virginia Department of Environmental Protection Consent Order No. 8078, dated October 1, 2014, addressed a series of 13 locations in West Virginia where lower slope slippage or landslides along pipeline construction right-of-ways introduced sediment into streams in violation of regulations concerning conditions not allowable in waters of the State, specifically sediment deposits. Likewise, the Stonewall Gathering Line, a 36-inch pipeline constructed in the central part of the state, racked up 53 violations from the West Virginia Department of Environmental Protection (WVDEP) for failure to maintain sediment and erosion controls, not using the proper best management practices and failing to comply with their stormwater pollution prevention plan and groundwater protection plan. The same story occurred in Pennsylvania with construction of Tennessee Gas Pipeline's (TGP) 300 Line Project, part of the Susquehanna West Project.[109] In May of 2010, FERC issued an environmental assessment for the 300 Line Project, finding there would be no significant impacts when TGP crossed streams in northeast and north-central Pennsylvania. FERC relied on TGP's plan to follow construction guidelines created by the Corps, USDA, NRCS, and FERC. In addition, FERC imposed its own conditions. However, despite what FERC believed to be adequate measures, TGP's construction violated Pennsylvania's Clean Water Law multiple times. The majority of the project's compliance reports contained at least one violation of the project plans, but the plan was never enforced.[110] Whether the plan was inadequate in its substance or inadequately enforced, the end result is the same; the pipeline's stream crossings, which FERC believed would cause no significant environmental impact, resulted in numerous violations and an $800,000 penalty settlement with the Pennsylvania DEP.[111]	See above CO-24j comment response

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CO-24j	More recently, construction of the Rover Pipeline resulted in the WVDEP having to issue a Cease and Desist Order issued on July 17, 2017, after numerous violations for failure to maintain erosion control devices which allowed sediment to enter nearby streams. The photos included with that order demonstrate that FERC's erosion and sedimentation control measures are insufficient to prevent significant violations of water quality standards. Importantly, the violations cited there made clear that it was not simply that Rover failed to follow its plans, but that the stormwater pollution prevention plans themselves were inadequate.[112]. Rover's violations did not end there, however. Prior to the cease and desist order being lifted, Rover was cited for additional violations of West Virginia's water quality standards associated with sediment discharges and failure of BMPs.[113] These consistent failures make clear that FERC cannot reasonably rely on its standard erosion and sediment control measures to conclude that impacts to aquatic resources will not be significant. FERC must instead calculate the amount of sedimentation that would occur in the absence of controls, the expected reductions to be achieved by those controls, and how the uncontrolled sediment would affect aquatic resources in terms of increased turbidity, sediment deposition on stream bottoms, lowered dissolved oxygen levels, and other known consequences of increased erosion and sedimentation. FERC's failure to do so means that its DEIS does not satisfy NEPA's hard look standard.	See above CO-24j comment response
CO-24k	**V. The DEIS Fails to Adequately Analyze Impacts to Sensitive Wildlife Species** FERC has not provided sufficient information in the DEIS for Commenters to assess the actual impacts to listed species, or to assess the *not likely to adversely affect* determination was made. Therefore, FERC has failed to provide the "hard look" required in an EIS, and has thereby precluded the public from having sufficient information on which to base comments on the impacts that the Project will have on these species. Providing the public with sufficient information to analyze the circumstances and impacts of a proposed project is essential to the NEPA process.	See response GEN-4 and T&E-2 in appendix I.2. A majority of species surveys have been completed by Mountain Valley and section 4.7 of the EIS has been updated with this information. Our analysis of impacts to T&E species has been updated; however, survey data did not alter our determinations in section 4.7.1. Federal agency compliance for the Endangered Species Act (ESA) Section 7, including concurrence of determinations of effect by the FWS, would be required as described in section 4.7.1 of the EIS

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CO-24k	FERC may not gloss over the impacts to listed species that may be adversely affected by the Project. By declaring that it will gather more information on such impacts at a later time, and/or will begin or complete formal consultation with the U.S. Fish and Wildlife Service on certain species at a later time, FERC is in direct violation of 40 C.F.R. §1502.25(a), which states that "[t]o the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with environmental impact analysis and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.), the Endangered Species Act of 1973 ("ESA")(16 U.S.C. 1531 et seq.), and other environmental review laws and executive orders." The concurrency requirement for the NEPA and ESA process is essential for public involvement. There is no opportunity for public comment on the development of a Biological Assessment or Biological Opinion; therefore, it is only through the NEPA process that the public may comment on the impacts to listed species. Furthermore, in order to fully assess the cumulative impacts of the proposal as NEPA requires, all impacts must be fully vetted in the NEPA documents. FERC has undermined this analysis by failing to fully analyze them in the DEIS, and by failing to provide a sufficient Biological Assessment. While FERC has provided a discussion within the DEIS that it claims to be its "Biological Assessment," it is readily apparent that FERC has failed to provide a "hard look" at the impacts that the MVP Southgate will have on listed species as required by NEPA. Pursuant to NEPA, FERC must analyze whether the project will have impacts on species that are listed as endangered or threatened under the Endangered Species Act, 16 U.S.C. §§ 1531–1544. *See* 40 C.F.R. § 1508.27(b)(9). A federal agency's legal obligations under NEPA and the ESA are entirely separate; compliance with the ESA Section 7's prohibition against jeopardizing a species' continued existence, 16 U.S.C. § 1536(a)(2), does not simultaneously satisfy NEPA's requirements to analyze significant impacts short of the threat of extinction. *See Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1275–76 (10th Cir. 2004) (recognizing FWS conclusion that action not likely to cause jeopardy does not necessarily mean impacts are insignificant); *Makua v. Rumsfeld*, 163 F. Supp. 2d 1202, 1218 (D. Haw. 2001) ("A FONSI . . .	See above CO-24k comment response

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CO-24k	must be based on a review of the potential for significant impact, including impact short of extinction. Clearly, there can be a significant impact on a species even if its existence is not jeopardized."); *Portland Audubon Society v. Lujan*, 795 F. Supp. 1489, 1509 (D. Or. 1992) (rejecting agency's request for the court to "accept that its consultation with [FWS under the ESA] constitutes a substitute for compliance with NEPA."). As discussed below, FERC's analysis falls well short of what is required under NEPA. Moreover, the DEIS itself indicates that the information FERC is relying on to understand project impacts is woefully incomplete. The DEIS relies upon unspecified conservation measures to address potential impacts to these species. It catalogues numerous potentially deleterious effects of the proposed action on all of the listed species potentially inhabiting the project area, but lacks complete population surveys and/or critical impacts analyses for each listed species, and supports *not likely to adversely affect* determinations with Mountain Valley's promised adherence to implementation plans with unspecified mitigation measures. DEIS at Section 4.7.1. Further, the DEIS indicates that no construction may begin until "[FERC] staff completes ESA consultation with the FWS." *Id.* at 4-94. This indicates that such consultation has not been completed at this time. Furthermore, the DEIS indicates that surveys still need to be completed for most of the listed and proposed species at issue. Given that these biological surveys have not been completed, it remains entirely unclear how FERC has determined that many of these species are not likely to be adversely affected or whether the Project risks extensive habitat damage due to construction-related and operational impacts.	See above CO-24k comment response

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CO-24k	It is therefore evident that FERC has not undertaken the requisite hard look at the impacts of this Project on listed species, as required pursuant to both NEPA and the ESA. FERC cannot possibly make a determination as to such impacts when consultation has not yet been completed and biological surveys have not been accomplished. FERC should have had this information before it when developing its conclusions as to the Project's impacts in the DEIS. Furthermore, this precludes the public from reviewing such information and providing comments during this DEIS comment period. Rather, FERC must require that all pertinent information on impacts to listed species and their habitats be included in the DEIS, and the failure to do so renders the DEIS incomplete. For example, the DEIS indicates that surveys for the federally listed northern long-eared bat hibernacula portals were not completed prior to the drafting of the DEIS, but that Mountain Valley will continue surveys after publication of the DEIS. DEIS at 4-89. With such inadequate impacts information on record, FERC is left defending its premature *not likely to adversely affect* determinations with patently inadequate statements such as "[d]ue to the lack of hibernacula and maternity roosts in the survey area, and if no additional individuals, hibernacula, or maternity roosts are located during additional surveys . . . we find that the Project . . . *is not likely to* Moreover, FERC's use of the DEIS section on listed species as its Biological Assessment (BA) for the ESA Section 7 consultation process is inadequate, since the DEIS fails to meet the requirements for a BA. A BA is supposed to include "an analysis of the effects of the action on the species and habitat, including consideration of cumulative effects, and the results of any related studies," as well as "an analysis of alternate actions considered by the Federal agency for the proposed action." 50 CFR §402.12(f). Moreover, according to FWS' Guidance for Preparing a Biological Assessment, the BA should include a description of "how the action may affect each protected resource," and the agency should "document [the] analysis of the what, when and how the protected resources will be exposed to and how such individuals or habitat are likely to respond to this exposure."[114] The DEIS falls well short of this requirement. Not only is the information on impacts entirely incomplete – which FERC evidences by requesting that the Applicants provide more information on species locations and conservation measures as discussed above and below – but the species-specific discussions fail to include an analysis of	See above CO-24k comment response

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CO-24k	the cumulative impacts of the Project and do not discuss the potential impacts of Project operation, even though FWS' Guidance requires that the BA analysis include "effects that may occur later in time (e.g., after completion of initial construction)."[115] FERC has therefore failed to provide complete information on the impacts of the proposal and has not fulfilled its ESA or NEPA requirements. Commenters therefore insist that FERC require the Applicants to complete the required field surveys, and then provide a new or supplemental DEIS with this information and a complete Biological Assessment, and reopen the DEIS comment period once formal ESA consultation is complete, so that the public may then have the opportunity to properly participate in analyzing the cumulative environmental impacts of this proposal. **A. Northern Long-Eared Bat** The northern long-eared bat is listed as threatened under the ESA. As discussed above, the DEIS analysis of impacts to this species is entirely inadequate since it is readily apparent that FERC did not have sufficient information on which to base its conclusions. Mountain Valley never completed bat hibernacula portal surveys for the entire project prior to the preparation of the DEIS, which purports to contain the conclusions of a Biological Assessment. DEIS at 4-89. Without complete information regarding the absence or presence of this species in the project area, it is impossible for FERC to analyze the construction or operational impacts of the MVP Southgate pipeline to the species, rendering FERC's *not likely to adversely affect* determination for this species unsupported by facts, arbitrary and capricious. Furthermore, without complete information regarding the absence or presence of this species in the project area, it is impossible for FERC to satisfy its NEPA obligations to take a "hard look" at the impacts of the Project to this species. The DEIS' *not likely to adversely affect* determination for the northern long-eared bat is based, in part, on the presumed application of the 4(d) rule for this species, which prohibits incidental take within hibernacula and alteration of the hibernacula environment in a manner that causes incidental take. *Id.* Manifestly, FERC cannot make a determination as to whether incidental take in hibernacula will be avoided when hibernacula surveys have not been completed for the project area.	See above CO-24k comment response

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CO-24k	**B. Roanoke Logperch** The Roanoke logperch is listed as endangered under the ESA. The DEIS determines that the Project will cross several waterbodies in North Carolina that serve as habitat for this species, and identifies in-water work and upland construction runoff as significant turbidity and sedimentation impacts risk factors for the species. DEIS at 4-90. The DEIS anticipates potential aquatic impacts from the project, including sedimentation, turbidity, drilling fluid spills, collapse of streams, loss of stream bank cover, fuel and chemical spills, water withdrawals and blasting. The DEIS fails to quantify water withdrawal impacts to aquatic species and habitat, and does not quantify blasting impacts to aquatic species and habitat. FERC defends its *not likely to adversely affect* determination with the caveats that Mountain Valley would "attempt to avoid blasting during waterbody crossings," and that it would adhere to a SPCC spill contingency plan that would require 100-foot setbacks for equipment and fuel. DEIS at 4-85,86. However, neither of these caveats provide real assurance that blasting or spill impacts to aquatic habitat will be avoided. The DEIS bases its *not likely to adversely affect* determination for this species on the use of horizontal directional drilling ("HDD") and conventional bore drilling for stream crossings, as well as on the use of stream setbacks, vegetative buffers, sediment barriers and mulch on sloped sections of the construction right of way. However, FERC's reliance on these measures is misplaced. The use of HDD elevates the risk of drilling fluid spills in aquatic habitat for listed species. The DEIS notes an elevated risk of drilling fluid spills near the exit point of the drill for the Dan River and Stony Creek reservoir. DEIS at 4-14. FERC's reliance on stream setbacks for HDD and conventional bore drilling to support its *not likely to adversely affect* determination for this species is inappropriate, particularly where FERC has already granted Mountain Valley variances from its policy of requiring 50-foot setbacks from the stream. Furthermore, FERC's reliance on vegetative buffers for sedimentation impacts from drilling is misplaced, as these buffers are only being required by FERC where practicable. Finally, the DEIS relies on compliance with Mountain Valley's proposed HDD contingency plan to support its *not likely to adversely affect* determination is arbitrary and capricious, as the plan does nothing to prevent drilling fluid spills that result from geological features, and mostly provides means to respond to a spill after it has contaminated aquatic	See above CO-24k

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CO-24k	habitat, and when it is too late to prevent adverse impacts to listed species such as the Roanoke logperch. Further, FERC's reliance on sediment barriers and mulched slopes to support its *not likely to adversely affect* determination for this or any of the other listed or proposed aquatic species is arbitrary and capricious. As the DEIS readily admits, the indirect sedimentation effects analysis has not yet been completed. Furthermore, several site-specific drilling plans have yet to be completed. As such, the DEIS did not fully consider the indirect sedimentation effects of the Project. Without knowing the results of the indirect sedimentation analysis or the particulars of the specific drilling plans involved, FERC can not determine the efficacy of sediment barriers and mulched slopes in protecting aquatic habitat, relative to the amount of sedimentation that is expected to be inflicted on the receiving water bodies. Notably, construction of the MVP mainline has already resulted in severe sedimentation in Roanoke logperch habitat. *See, e.g.*, Letter from Sierra Club *et al.* to U.S. Fish and Wildlife Service requesting stay pending review under CP16-10 (Aug. 12, 2019) (Accession No. These flaws in FERC's analysis render the *not likely to adversely affect* determination and the DEIS arbitrary and capricious. Due to the aforementioned failures of analysis, FERC's DEIS has failed to take a "hard look" at impacts to listed and proposed aquatic species. **C. Freshwater Mussels** Freshwater mussels are some of the most imperiled species in the U.S. According to the FWS website "America's Mussels: Silent Sentinels," no other group of animals is so gravely imperiled. "To put this in perspective, The Nature Conservancy reports that about 70 percent of mussels in North America are extinct or imperiled, compared to 16.5 percent of mammalian species and 14.6 percent of bird species."[116] The James spineymussel is listed as endangered under the ESA. The Atlantic pigtoe is proposed for listing as threatened under the ESA. The DEIS warns of potential turbidity, sedimentation and habitat alteration impacts to mussel habitat in and downstream from the project area. DEIS at 4-92. The proposed Project has the potential to result in significant direct impacts to streams and wetlands from runoff and erosion, and potential contamination of waterbodies through construction activities and leaks or spills of natural gas or other substances (i.e. drilling fluids), with associated impacts to downstream species and communities, including	See above CO-24k comment response

CO-24	Appalachian Mountain Advocates	
	harm to listed mussels. Freshwater mussels are incredibly susceptible to sediment loading. Studies have shown that "[o]ne of the most ubiquitous factors that may adversely affect mussel populations is excessive sedimentation caused, in part, by poor land-use practices. Excessive sedimentation has been suspected as a cause of unionid mussel declines since the late 1800s."[117] Species in the Project area -- such as the James spinymussel, which has been extirpated from 90% of its historic range -- have experienced a precipitous decline over the past several decades due to development of the region. These species have a very restricted distribution, and are therefore incredibly susceptible to water quality impacts, since they are limited to areas of unpolluted water with clean sand and cobble bottom sediments.[118] FERC has failed to consider the downstream impacts of the proposed activities. These activities have the potential to increase sediment loads not only from stream crossing construction activities, but from the loss of riparian vegetation and upland construction activities, which will lead to increased erosion and sedimentation.	
CO-24k	Excessive amounts of sediments, especially fine particles that wash into streams, can potentially affect mussels through multiple mechanisms. Fine sediments can lodge between coarse grains of the substrate to form a hardpan layer,[119] thereby reducing interstitial flow rates. Silt and clay particles can clog the gills of mussels,[120] interfere with filter feeding,[121] or affect mussels indirectly by reducing the light available for photosynthesis and the production of food items.[122] Much of the region contains ecological communities characterized by thin soils and exposed parent material that result in localized complexes of bare soils and rock, herbaceous and/or shrubby vegetation, and thin, often stunted woods and sparse woodlands with shallow, drought-prone soils. Other areas are characterized by rugged, mountainous terrain with steep hills and ridges dissected by a network of deeply incised valleys. These communities are susceptible to erosion from activities that remove vegetation and disturb soil. Construction activities therefore have the potential to cause substantial sediment discharge into receiving waters that provide habitat for endangered mussels.	See above CO-24k comment response

CO-24	Appalachian Mountain Advocates	
CO-24k	The DEIS anticipates potential aquatic impacts from the project, including sedimentation, turbidity, drilling fluid spills, collapse of streams, loss of stream bank cover, fuel and chemical spills, water withdrawals and blasting. The DEIS fails to quantify water withdrawal impacts to aquatic species and habitat, and does not quantify blasting impacts to aquatic species and habitat. FERC defends its *not likely to adversely affect* determination with the caveats that Mountain Valley would "attempt to avoid blasting during waterbody crossings," and that it would adhere to a SPCC spill contingency plan that would require 100-foot setbacks for equipment and fuel. DEIS at 4-85, 4-86. However, neither of these caveats provide real assurance that blasting or spill impacts to aquatic habitat will be avoided. Commenters are very concerned by FERC's failure to properly analyze the potential impacts to freshwater mussels. It is clear that FERC does not even have sufficient information on these species, given that the DEIS states that Mountain Valley has yet to file completed mussel population surveys for the project area in Rockingham and Alamance Counties. DEIS at 4-92. It is axiomatic that completed surveys are necessary to undertake the hard look that NEPA requires, as well as to comply with the ESA, yet FERC has made a *not likely to adversely affect* determination for the James spinymussel and Atlantic pigtoe without even knowing where these species may be. Further, FERC's NEPA analysis and *not likely to adversely affect* determination are based on compliance with the HDD contingency plan, whose terms are neither specified, nor considered in detail. *Id.* Lastly, the use of HDD elevates the risk of drilling fluid spills in aquatic habitat for listed species. The DEIS notes an elevated risk of drilling fluid spills near the exit point of the drill for the Dan River and Stony Creek reservoir. DEIS at 4-14. These drilling fluids can be comprised of any number of toxic substances, provided that FERC has approved of those additives' inclusion in the drilling fluid. DEIS at 4-15. Approval of said substances is planned to take place after the publication of the DEIS, rendering the DEIS incapable of considering the full impacts of drilling fluid spills. *Id.* Moreover, inadvertent returns can adversely impact aquatic ecosystems regardless of toxicity. FERC's willful ignorance regarding listed and proposed mussel populations in the Project area, as well as its lack of consideration of the details regarding crucial mitigation measures, amounts to arbitrary and capricious agency action and a failure under NEPA to give a "hard look" at the Project's impacts to listed and sensitive mussel species.	See above CO-24k comment response

CO-24	Appalachian Mountain Advocates	
CO-24k	**D. Smooth Coneflower** The federally-endangered smooth coneflower has been documented in Rockingham County, North Carolina. FERC has acknowledged that the smooth coneflower is vulnerable to removal and crushing by construction-related activities, and to impacts from altered light exposure, altered hydrology, or sedimentation and runoff caused by the Project. DEIS at 4-93. The U.S. Fish and Wildlife Service has recommended population surveys for these plants in the section of the Project area in North Carolina. However, while Mountain Valley has identified 88.3 acres of potential suitable habitat within the Project area, it has not completed these surveys. Without knowledge of where these plants are in the Project area, FERC's *not likely to adversely affect* determination in the DEIS is arbitrary and capricious. Furthermore, for the same reason, FERC's NEPA duties to take a "hard look" at impacts to smooth coneflowers were not fulfilled. **E. Small Whorled Pogonia** The U.S. Fish and Wildlife Service has indicated that the federally-endangered small whorled pogonia may be in the Project area in Rockingham and Alamance Counties, North Carolina. The DEIS indicates that this species is vulnerable to the same impacts listed above for the smooth coneflower. DEIS at 4-92. While Mountain Valley has identified 271 acres of potential suitable habitat in the Project area, it has not completed adequate population surveys for the species. Without knowledge of where these plants are in the Project area, FERC's *not likely to adversely affect* determination in the DEIS is arbitrary and capricious. Furthermore, for the same reason, FERC's NEPA duties to take a "hard look" at impacts to small whorled pogonia were not fulfilled.	See above CO-24k comment response

CO-24	Appalachian Mountain Advocates	
CO-241	**VI. The DEIS Inflates the Project's Economic Benefits and Understates Its Adverse Impacts** Relying in part on a study that Mountain Valley commissioned from consulting firm FTI, FERC claims that the "Project would result in temporary beneficial impacts on the state and local economics." DEIS at 4-129. That study and FERC's resulting analysis simultaneously overestimate the Project's benefits and ignore or improperly discount its adverse economic impacts to communities affected by the Project. *Id.* at 4-137—4-138. The FTI study's bias towards overestimating economic benefits is inherent in its methodology.[123] The study uses an input-output model called IMPLAN to determine the direct, indirect, and induced economic benefits of the Project. These types of models wrongly assume that all future spending and hiring decisions are made the same way that they have historically been made, such that any additional marginal income generated is assumed to be spent in local communities to the same degree as existing income, despite evidence showing that is not the case in reality.[124] This flaw leads to an overestimate of firm spending and "multiplier effects."[125] Mountain valley's study is further flawed because it uses the entire states of North Carolina and Virginia as its impact area, instead of a more appropriate region that focuses on the local communities that would be affected by the Project. The larger the impact region, the more likely that direct, indirect, or induced spending can happen within it. A much smaller subset region would more appropriately reflect potential benefits to the areas most impacted by the project. For example, "MVP Southgate may be able to buy materials in northern Virginia, over 200 miles away from where the pipeline would be located in southern Virginia, but by including all of Virginia in the impact region, the impact of that spending is still counted as direct spending and then, due to the multiplier effect, counted as additional indirect and induced spending."[126] FERC thus cannot rely on Mountain Valley's claims of economic benefits to support its conclusions.	Section 4.9 provides a discussion of socioeconomic impacts. See responses SOCIO-8, SOCIO-7, and CI-1 in appendix I.2. The cost to ratepayers is outside of the scope of this EIS. The commission will consider rates and may address this in any Order it issues for the Project.

CO-24	Appalachian Mountain Advocates	
CO-24l	Not only does the DEIS rely on inflated projections of the Project's economic benefits, it also ignores or wrongly dismisses its adverse economic impacts. First, it ignores that ratepayers will likely be on the hook for this expensive, unnecessary infrastructure and fails to disclose the socioeconomic impacts of those rate increases. Further, the DEIS fails to account for the loss in ecosystem services that is currently provided by air, water, forest, and other natural resources that will be disturbed or destroyed by Project construction and operation. Such losses were estimated at between $4.12 and $14.8 million per year for the MVP Mainline.[127] Nor does the DEIS account for the economic impacts due to the increase in greenhouse gas emissions caused by the Project, which could be monetized using the Social Cost of Carbon tool. Finally, the DEIS wrongly accepts Mountain Valley's claims that its pipeline would not adversely affect adjacent property values, which claims rely on flawed studies that do not account for importance of pristine, undeveloped character to the value of the type of rural properties that will be primarily impacted by the Project.[128] DEIS 4-126–4-128. These failures undermine the DEIS's conclusions regarding socioeconomic impact and violate NEPA.	See above CO-24l comment response
	CONCLUSION	
CO-24m	For all of the reasons stated above, FERC's DEIS for the Mountain Valley Pipeline Southgate Project does not comply with NEPA. In order to meet the requirements of that statute, FERC must remedy the flaws identified herein and reissue a revised DEIS for review and comment by the public.	See response GEN-4 in appendix I.2.

CO-25	Blue Ridge Environmental Defense League

September 16, 2019

TO: Federal Energy Regulatory Commission

FROM: Ann Rogers, Section 106 Coordinator, Blue Ridge Environmental Defense League

RE: OEP/DG2E/Gas 3
Mountain Valley Pipeline, LLC.
Southgate Project
Docket No. CP19-14-000

SUBJECT: Request for realignment of Southgate ATWS to avoid impacts to Little Cherrystone property

Introduction to Little Cherrystone

Little Cherrystone is a historic home located near Chatham, in Pittsylvania County, VA which was listed on the National Register of Historic Places in 1969. The portion that remains standing was described in the National Register of Historic Places Inventory-Nomination Form in 1969 as follows:

> . . . a circa 1800, two-story brick structure with gable roof and exterior and chimney. The brick is laid in three-course American bond with queen closers. The nine-over-nine sash windows have thin Federalist muntins, architrave framing and plaster flat arches with double keystones. The fine cornice with its dentils, mutules and guttae are matched by the arched entrance doorway on the east front which uses pilasters, strapwork and pierced detailings. The doorway is unfortunately in a deteriorated condition. A west porch, which until recently also existed in a deteriorated condition, ws removed and replaced by a frame wing. . . . It is in the two rooms of the circa 1800 brick section where the exterior woodwork style is continued. The interior framing of the old entrance doorway, now a window, matches the exterior arch design, but the pilasters have been removed; architrave moldings frame all doors. The south room has a marbleized dado combined with imitation ashlar. The chair rail has a frieze of alternating reeded and fluted panels. The cornice combined a cable design with a corbel motif repeated from the exterior cornice. The mantel consists of twin turned colonnettes on either side of the fireplace with a frieze of three sunbursts above, each of which swells gently outward in a low convex curve. The marbleizing is repeated around the sunbursts, and at either end of the frieze are small lancet arched tabernacles."

The old frame wing of Little Cherrystone was probably on the land when Col. Robert Wooding of Halifax gave to Thomas Hill Wooding "a parcel of land containing 200 acres of Pittsylvania County on the draughts of Great Cherrystone Creek ..." just after the latter was married in 1790. Thomas Wooding, who probably build the brick addition, was commander of his home militia in Pittsylvania in 1806 and served in the House of Delegates between 1799 and 1821.

As a collection of traditional Virginia architectural styles, Little Cherrystone is a valuable example, especially considering the pleasant contrast of size and shape among the various units. Its finely carved and painted woodwork, especially on the interior, is exceptional not only for the South Piedmont area but as an example of provincial Virginia design.

According to a Works Progress Administration of Virginia Historical Inventory published in 1938, the property owner, Col. Thomas H. Wooding was the son of Col. Robert Wooding of Halifax, commandant of Halifax's military forces during the Revolutionary War.

Please see photos of Little Cherrystone in **Attachment 1, Attachment 2,** and **Attachment 3.**

CO-25

Little Cherrystone Manor/Wooding Cemetery/Site 71-36 is mentioned on page 4-166 of the draft EIS as a NRHP-listed property and listed on table 4.10-9, with the recommendation to "avoid or mitigate." In an environmental information request issued by the FERC on October 3, 2019 we asked Mountain Valley to file either an avoidance plan or a treatment plan for Little Cherrystone Manor. In an October 18, 2019 filing, Mountain Valley stated it would be filing an avoidance plan for Little Cherrystone Manor.

CO-25	Blue Ridge Environmental Defense League	
CO-25	***Cemetery and mound at Little Cherrystone*** The Little Cherrystone property includes a family cemetery located about 275 feet southwest of the Little Cherrystone dwelling. Please see photos 2in **Attachments 4 and 5**. According to the same 1938 Works Progress Administration of Virginia Historic Inventory cited above, the cemetery at Little Cherrystone contains the graves of Thomas A. Wooding's son, George, born in 1813, and at least two other relatives, J.B. Wooding, born 1840, and Mary Nat Wooding, born 1849. Adjacent to the stone wall on the western side of the cemetery is a mound. Please see photo of this mound in **Attachment 6**. The mound is potentially significant from an archaeological standpoint in that it may contain unmarked graves, which can commonly be found on the perimeter of rural cemeteries of this era. Additionally, there is potential for the mound to have significance as a Native American burial site. ***Proximity of proposed Southgate pipeline to Little Cherrystone, cemetery, and mound*** The Southgate pipeline has been routed in close proximity to Little Cherrystone, its cemetery, and the mound adjacent to the cemetery. **Attachment 7**, a map of Little Cherrystone and the planned Southgate pipeline, illustrates that the Little Cherrystone structure, its cemetery, and the mound are all contained within the Southgate pipeline's Study Corridor Boundaries. An Additional Temporary Work Space (ATWS) is planned to be constructed and utilized within about 100 feet of the cemetery and 50 feet of the mound. ***Request to FERC*** Little Cherrystone and its accompanying cemetery and mound make important contributions to the history of Pittsylvania County. They offer the visitor a glimpse into the landscapes and architecture of 18th and 19th century Pittsylvania County, an area from which many farmers eventually migrated westward to form settlements in the Blue Ridge region of Virginia and elsewhere. It is very important for us to keep structures like Little Cherrystone and their surrounding landscape features intact, so as to inform future generations of how and where Americans lived in times past. For these reasons, BREDL requests that the edge of the Southgate pipeline's Additional Temporary Work Space (ATWS) be moved a minimum of 500 feet west of its current location, in order to buffer Little Cherrystone and its cemetery and mound from ground disturbances and visual impairment which would likely result during pipeline construction with the current position of the ATWS, as illustrated on **Attachment 7**. Thank you for your prompt attention to this matter.	See above CO-25 comment response

CO-26 Appalachian Voices

AppalachianVoices.org
outreach@appvoices.org

BOONE
589 West King Street
Boone, NC 28607
828.262.1500

CHARLOTTESVILLE
812 East High Street
Charlottesville, VA 22902
434.293.6373

KNOXVILLE
2507 Mineral Springs Ave.
Suite D
Knoxville, TN 37917
865.291.0083 ext. 700

NORTON
816 Park Avenue NW
Norton, VA 24273
276.679.1691

September 16, 2019

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE
Washington, DC 20426

RE: Docket No. CP19-14-000 Draft Environmental Impact Statement for the Mountain Valley Southgate Project

Dear Secretary Bose:

Appalachian Voices and approximately 1,289 supporters, whose names are attached below, respectfully submit the following comments on the Draft Environmental Impact Statement for the proposed Mountain Valley Project Southgate Project:

CO-26a

The MVP Southgate Project is not in the public interest. Not only will it create permanent adverse impacts on the local environment, it will also contribute to several more decades of global climate pollution. Studies show that existing gas infrastructure is more than sufficient to meet regional energy needs for residents and industry. Therefore, the primary beneficiaries of the pipeline will be private companies. This is deeply concerning, given that a Certificate of Public Convenience and Necessity would allow the taking of private property for this project. The Draft Environmental Impact Statement (DEIS) issued by the Federal Energy Regulatory Commission (FERC) fails to provide adequate information for public comment and fails to fully account for all of the environmental threats posed by the MVP Southgate Project.

See response GEN-2 in appendix I.2.

CO-26b

See response GEN-4 in appendix I.2.

CO-26c

Construction of the pipeline is expected to cause heavy erosion and consequent sedimentation of local waterways. The developer has already been cited for numerous water quality violations during the construction of the MVP mainline, so FERC's assumption that the developer will comply with standard water protection measures and uphold water quality standards is misguided, undermining the credibility of the analysis.

See response GEN-6 in appendix I.2.

CO-26	Appalachian Voices	
CO-26d	Erosion and sedimentation is an ongoing concern in the Haw River basin where many of the streams are impaired due to poor aquatic life. Sedimentation, erosion and increases in stormwater velocity, has left many creeks with steep, inaccessible banks, void of healthy aquatic habitat. Cutting forested streamside buffers and wetlands increases the risks of erosion and sedimentation, increasing turbidity levels and impacting aquatic life.	See response SURF-2 in appendix I.2.
CO-26e	Much of the pipeline is in the flood zone of the Haw River, which has seen record flooding the past two years. The volume and velocity of water will be increased with less buffer protection and compacted soils from heavy machinery. The Haw River watershed has extremely variable high flow tendencies. The high and low flow points have not been factored into this review.	See response SURF-7 in appendix I.2.
CO-26f	Adjacent communities already face contaminated drinking water sourced from the Dan River, Haw River and surface water reservoirs. Additional public water supply intakes are located downstream of these stream crossings. Though these intakes are further downstream than the DEIS assessment limit of three miles, many of the contaminants that could impact drinking water quality do not break down, and, therefore, the three-mile limit for downstream impacts is arbitrary and does not provide an accurate assessment of the full scope of impacts.	See response SA-2A-2 in appendix I.3 and response SURF-4 in appendix I.2.
CO-26c	We have seen the work MVP contractors have done on the mainline and have little faith that the requirements of the erosion and sediment control plan will be met at all. Including clauses like "when practicable" leaves too much subjectivity to MVP Southgate contractors. We have seen over 300 water quality and sediment and erosion control violations committed by the same construction teams on the MVP mainline . However, leaving so much subjectivity in what is or what is not practicable allows MVP Southgate to argue that the bare minimum is all that is necessary. This is a sensitive watershed, and this project cannot be completed in a way that prevents serious watershed degradation.	See response GEN-6 in appendix I.2.
CO-26g	Construction of the pipeline would have long-term, permanent impacts to 615 acres of forested uplands, 10 acres of forested wetlands and nearly 12 acres of protected riparian forested lands in the Jordan Lake Watershed. These areas would require decades to recover from the kind of blasting, demolition and construction contemplated for this project.	Comment noted.

CO-26	Appalachian Voices	
CO-26h	FERC is ignoring the significant impacts of this project. The DEIS identifies widespread, permanent impacts like the long-lasting or permanent destruction of hundreds of acres of forests and wetlands, but then says that impacts will not be significant because mitigation measures will be used during construction. Mitigation cannot prevent or repair the significant impacts of permanent forest and wetland destruction. The agency's reliance on mitigation measures to argue that the project will cause no significant impacts is inadequate because many of the mitigation measures proposed are unspecified. In many instances, the DEIS instructs Mountain Valley Pipeline to come up with mitigation measures that are currently not defined. It is disingenuous for FERC to claim that unknown measures will prevent significant environmental impacts.	See response GEN-9 in appendix I.2.
CO-26i	FERC concludes that no significant environmental impacts would be inflicted by this project, yet it lacks the necessary information to assess what the impacts to various environmental resources would be. For example, MVP has yet to provide FERC with its feasibility studies to cross Deep Creek, a site where imperiled aquatic species are suspected to live. FERC acknowledges that MVP will use 5.9 million gallons of water in constructing the project, but MVP has not identified where it will source that water, preventing FERC from assessing the environmental impact of those water withdrawals. Lastly, archaeological surveys have not been completed for the project area, preventing analysis of impacts to cultural resources.	See response SURF-8, SURF-6, and CULT-1 in appendix I.2.

Sincerely,

Tom Cormons, J.D.
Executive Director

CO-27	Atlantic Coast Pipeline

707 East Main Street
Richmond, VA 23219

September 16, 2019

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

Re: Mountain Valley Pipeline, LLC, Docket No. CP19-14-000
Comments of Atlantic Coast Pipeline, LLC on
Draft Environmental Impact Statement for Southgate Project

Dear Ms. Bose:

CO-27a

In accordance with the procedures established in the "Notice of Availability of the Draft Environmental Impact Statement for the Proposed Southgate Project" issued in the above-captioned proceeding on July 26, 2019, the Atlantic Coast Pipeline, LLC (Atlantic) respectfully submits these comments on the draft environmental impact statement (DEIS) prepared by the Commission Staff for the Southgate Project (Southgate or the "Project") proposed by Mountain Valley Pipeline LLC (MVP).

Atlantic limits its comments on the Southgate DEIS to the discussion of System Alternatives provided in DEIS Section 3.3. As explained in the DEIS, "[s]ystem alternatives to the proposed action would make use of existing or other proposed natural gas transmission systems/facilities to meet the stated purpose of the Project. Implementing a system alternative would make it unnecessary to construct all or part of the Project, although some modifications or additions to an existing transmission system/facilities may be necessary."[1] In particular, the discussion of Atlantic Coast Pipeline (ACP) as an alternative to Southgate in DEIS Section 3.3.2.3 is inaccurate.

MVP has explained that the purposes of its Project include: meeting the growing needs of natural gas users in the southeastern U.S.; adding a new gas transmission pipeline to provide competition and to enhance the reliability and resiliency of the existing pipeline infrastructure in North Carolina and southern Virginia; and providing North Carolina and southern Virginia with direct pipeline access to Marcellus and Utica gas supplies.[2] Atlantic is serving these same important purposes with the ACP, an approximately 600-mile, 1.5 Billion Cubic Feet per day (BCF/d), pipeline certificated by the Commission and currently under construction. ACP will begin from the gas supply region in West Virginia, extend through Virginia with a lateral extending east to Chesapeake, Virginia, and then continue south into eastern North Carolina, ending in Robeson County.

See revised section 3.3.2.3 for a discussion of the Atlantic Coast Pipeline Alternative.

CO-27	Atlantic Coast Pipeline	
CO-27a	a precedent agreement for 300,000 Dekatherms per day ("Dth/d") of firm transportation capacity on Southgate. Both MVP and PSNC itself have explained the growing demand for natural gas in North Carolina generally and by PSNC in particular, as well as PSNC's desire for direct access to Marcellus and Utica supplies and for a new pipeline alternative to serve North Carolina.[3] Atlantic fully understands and appreciates these factors, which also help undergird the need for the ACP. Atlantic also readily acknowledges that PSNC has elected to contract with MVP for the incremental transportation capacity of the Project, and Atlantic does not question that decision here. Furthermore, Atlantic does not contend or believe that the Commission should "look behind" precedent agreements to judge a pipeline customer's decision. Nevertheless, the alternative of ACP should not be dismissed based on incorrect assumptions as was done in the DEIS. The DEIS recognized the under-construction ACP project as a potential system alternative, stating that the ACP route is approximately 100 miles east of Southgate's proposed delivery points at the Dan River (in Rockingham County, North Carolina) and the Haw River (in Alamance County, North Carolina).[4] Based on that location, the DEIS asserted that "a minimum of 100 miles of new pipeline and compression infrastructure would be required to modify the ACP Project to serve as an alternative to the Project."[5] And, *for that reason alone*, the DEIS concluded that ACP would not provide a significant environmental advantage to the Project and did not warrant any further study.[6] Staff should ***not*** assume when considering ACP as an alternative to Southgate that ACP would deliver gas to PSNC at the same delivery points proposed by MVP. The ACP route is close to the *eastern* side of PSNC's service area whereas the planned Southgate delivery points are to the west of that service territory.[7] Furthermore, Atlantic has leased capacity on the Piedmont system (as approved in the ACP certificate order) in Johnson County, North Carolina that can be used to transport gas from ACP directly to the PSNC system near Clayton, North Carolina.[8] Deliveries from ACP to PSNC would be on that side of the PSNC service territory (near the heart of its demand growth). There would be no need for ACP to construct a pipeline across the PSNC territory to make deliveries to the west where Southgate would be located – as is incorrectly assumed in the DEIS. Indeed, ACP could offer more effective infrastructure support for the areas of PSNC that are projected to experience demand growth, and better supply support for the PSNC system overall. Notably, Raleigh, one of PSNC's largest and fastest growing markets,[9] is only about 30 miles from the ACP route, and even closer to Clayton (the end-point of ACP's capacity leased on Piedmont). Additionally, with its location to the east side of the PSNC territory, ACP would provide greater geographical diversity (with the resulting reliability and resiliency benefits) compared to the existing Transcontinental Gas Pipe Line and Southgate route, which are in the similar vicinity to the west of the PSNC territory. Furthermore, the ACP alternative provides for direct access to Marcellus and Utica gas supplies in the most liquid natural production areas in the northeast and to Dominion Southpoint, a very active virtual trading hub.	See response CO-27a above

CO-27	Atlantic Coast Pipeline	
CO-27a	The DEIS states, at Section 3.3.1, that ACP and other potential pipeline alternatives do not have the capacity to individually or combined meet the needs served by the Project. Yet, Atlantic has available capacity of as much as 140,000 Dth/d of its own to serve PSNC's needs beyond the quantities already subscribed on ACP by PSNC. Additional gas demand for PSNC could be accommodated through limited ancillary facility enhancements on ACP which likely would be less environmentally impactful than the new facilities proposed for the Southgate Project. If it were necessary, the existing Piedmont infrastructure leased by Atlantic also could be upgraded as needed to transport additional volumes from APC to the PSNC system – which also could require less intrastate facility construction (and accompanying environmental impacts) than what may be necessary to transport gas from the proposed Southgate delivery points further downstream to the areas where needed by PSNC. The DEIS simply fails to consider any of these factors bearing on the reasonableness of ACP as an alternative to the Southgate project. Accordingly, Atlantic is filing these comments to correct for the record the viability of ACP as an alternative for the Project.	See response CO-27a above

CO-28	Appalachian Voices

AppalachianVoices.org
outreach@appvoices.org

BOONE
589 West King Street
Boone, NC 28607
828.262.1500

CHARLOTTESVILLE
812 East High Street
Charlottesville, VA 22902
434.293.6373

KNOXVILLE
2507 Mineral Springs Ave.
Suite D
Knoxville, TN 37917
865.291.0083 ext. 700

NORTON
816 Park Avenue NW
Norton, VA 24273
276.679.1691

September 16, 2019

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

RE: Federal Energy Regulatory Commission Draft Environmental Impact Statement for OEP/DG2E/Gas 3 Mountain Valley Pipeline, LLC Southgate Project (FERC/EIS0297D; FERC Docket Number CP19-14-000.

Dear Secretary Bose:

In response to FERC's draft Environmental Impact Statement for the MVP Southgate project Appalachian Voices engaged Dr. Pamela C. Dodds, Licensed Professional Geologist, to prepare a Hydrogeological Assessment of the Mountain Valley Pipeline Southgate Project's expected construction impacts in Virginia and North Carolina.

This report provides details and comments concerning the adverse impacts to streams and wetlands, the highlights of which are summarized here:

1. Deforestation, soil compaction, and dewatering will result in increased peak stormwater discharge, which will transport sediment to receiving streams and will cause increased downstream stream bank erosion.

2. Pre- and post-construction peak stormwater discharge calculations were not presented in the DEIS in order to evaluate the increase in peak stormwater discharge as it impacts stream bed scour and downstream stream bank erosion.

3. The minimal Best Management Practices selected by the agency will allow the transport of sediment to receiving streams, thereby degrading and destroying aquatic habitats.

CO-28a	See response SURF-2 in appendix I.2. As indicated in Table 4.13-2 of the EIS, Project construction would affect no more than 0.3 percent of any HUC-10 watershed affected by the Project. Additionally, as described in the EIS, Mountain Valley would decompact soils and revegetate areas after construction is complete. Due to the relatively small footprint of the Project and due to Mountain Valley's proposed erosion control measures, as well as measures to return areas to pre-construction condition, we determined that there would not likely be a discernable effect on peak storm water discharge.
CO-28b	See response SURF-2 in appendix I.2.

CO-28	Appalachian Voices	
CO-28c	4. Headwater areas and associated seeps and wetlands will be deforested, compacted, and dewatered, thereby destroying aquatic habitats at the base of the food chain for the river continuum.	The EIS includes an analysis of all water features affected by the Project, including wetlands (Section 4.3 and 4.4 of the EIS). No seeps were found in the Project area. Mountain Valley would follow its Plan and Procedures and E&SCP to minimize impacts on sensitive water features and aquatic habitat. The EIS discusses impacts on less mobile species, noting that there is a chance that some will be killed. However, the footprint of the Project is not large enough to have a significant impact on the food chain for the river continuum. Mountain Valley would return all areas to pre-construction condition thereby allowing aquatic habitats to recover shortly after construction.
	5. Numerous headwater areas and tributaries to specific larger streams will cumulatively impact the larger streams.	See response SURF-4 in appendix I.2.
CO-28d	In addition, the report provides details concerning the deficient and dismissive discussion of earthquake activity and soil liquefaction, as well as release of Lead-210 (radioactive) and Lead-206 (toxic) to the atmosphere during gas venting (blowdown events) for maintenance and resulting from cleaning the pipe interior with "pigs" (devices used to clean gas pipelines). You can find these conclusions and further research in the report attached.	Earthquakes and soil liquefaction are discussed in section 4.1.4 in the EIS.
CO-28e	Thank you for the opportunity to comment on this important matter. Sincerely,  Peter Anderson, Virginia Program Manager Appalachian Voices 812 E. High Street Charlottesville, VA 22903	Radon can be entrained in fossil fuels and decay into isotopes such as Lead-210 and Lead-206, which could form a thin coat on the interior of the pipeline. If the replacement or removal of portion of the pipeline or equipment should take place during maintenance, the pipeline company must comply with the Resource Conservation and Recovery Act (RCRA) to ensure that high levels of contaminants (including lead) are not disposed of improperly. In addition, cleaning "pigs" used to remove solid and liquid materials from the pipeline would be disposed of properly in compliance with the RCRA and state laws.

CO-29	Transcontinental Gas Pipeline Company, LLC

Transcontinental Gas Pipe Line Company, LLC
2800 Post Oak Boulevard (77056)
P.O. Box 1396
Houston, Texas 77251-1396
713-215-2000

September 17, 2019

Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Attention: Ms. Kimberly D. Bose, Secretary

Reference: Mountain Valley Pipeline, LLC
Southgate Project
Docket No. CP19-14-000
Comments on Draft Environmental Impact Statement

Ladies and Gentlemen:

Transcontinental Gas Pipe Line Company, LLC (Transco) is pleased to provide the following information to assist in the Federal Energy Regulatory Commission's (Commission) review of potential alternatives to the Mountain Valley Pipeline (MVP) Southgate Project as part of its environmental review process under the National Environmental Policy Act. As described below, Transco most certainly would be able to meet the market needs of the Southgate Project with significantly less environmental impact, lower cost, and greater security and resiliency than as proposed by MVP.

CO-29a	The Commission's Draft Environmental Impact Statement (DEIS) issued in the referenced proceeding states that to meet the purpose of the Southgate Project using the Transco pipeline system, "major system modifications similar to the proposed Project would be necessary," including "approximately 40 miles of new pipeline from the Transco pipeline system to the T-21 Haw River Interconnect, mainline pipeline upgrades to the Transco pipeline system, and additional compression." The DEIS concludes that these modifications would result in environmental impacts "similar" to those that would occur as proposed by the Southgate Project, and that, therefore, a Transco alternative "would not provide a significant environmental advantage." As shown below, the DEIS has missed the mark with regard to the configuration of a Transco alternative that would provide the same firm transportation service as the Southgate Project and, accordingly, the Commission has completely overlooked the advantages that a Transco alternative would have over the Southgate Project.	See section 3.3.2.1 of the EIS for a discussion of the Transco Pipeline System Alternative.

CO-29	Transcontinental Gas Pipeline Company, LLC	
CO-29a	For the Southgate Project, MVP requests authorization to construct and operate new pipeline facilities that would provide 375,000 dt per day of new pipeline capacity from Pittsylvania County, Virginia to delivery points with Dominion Energy (formerly Public Service Company of North Carolina, Inc., a long-time customer of Transco) (PSNC) in Rockingham County, North Carolina and Alamance County, North Carolina. The Southgate Project will involve the construction of 73 miles of new, greenfield pipeline, three new greenfield interconnect facilities, and a new greenfield 29,000 horsepower compressor station in order to provide such capacity to PSNC. While the firm transportation capacity of Transco's system is currently fully subscribed, given the efficient expandability of the Transco pipeline system and the integrated operations of the Transco system with its intrastate affiliate in North Carolina, Cardinal Pipeline, Transco would be able to expand and extend its system following the existing Cardinal Pipeline right-of-way in a significantly less impactful manner than MVP Southgate. Specifically, to provide the same capacity to PSNC as being proposed by MVP, Transco would need only to install a 37.7-mile pipeline lateral, which would follow the existing Cardinal Pipeline right-of-way, and perform only *minor* modifications to *existing* compression at Transco's Compressor Station 160 in Rockingham County, North Carolina. This Transco alternative would completely eliminate the need for MVP to construct its Southgate Project, which is comprised entirely of greenfield pipeline and compression facilities, including a greenfield compressor station in Pittsylvania County, Virginia, and would thus represent a substantial reduction in required facilities and land use. And, because Transco would require no new compression, this solution would help ensure that emissions from gas-driven compression in Pittsylvania County would not be increased. Also, inasmuch as the Transco alternative could be constructed entirely within existing right-of-way and by expanding existing facilities, it would significantly reduce costs to the shippers and their customers. While MVP is proposing a recourse rate for firm transportation service consisting of a monthly reservation rate of $18.7659 per dt, Transco, in stark contrast, estimates that its monthly reservation recourse rate would be at least 40% lower, a major savings for ratepayers.[1] The Transco alternative would provide shippers with the reliability of Transco's multi-line mainline system (up to six loops in parts of our system), numerous compressor stations that are generally designed to provide bi-directional flows, and approximately 200 Bcf of directly connected operating gas storage. In contrast, the Southgate Project would only consist of a single line and one compressor station, which would not have the flexibility or reliability that Transco's system offers.	See response CO-29a above

CO-30	Virginia Forest Conservation Group

Mitigation Recommendations for Impacts of the proposed Southgate Extension of the Mountain Valley Pipeline on Virginia's Forests

developed and presented by

The Virginia Forest Conservation Partnership

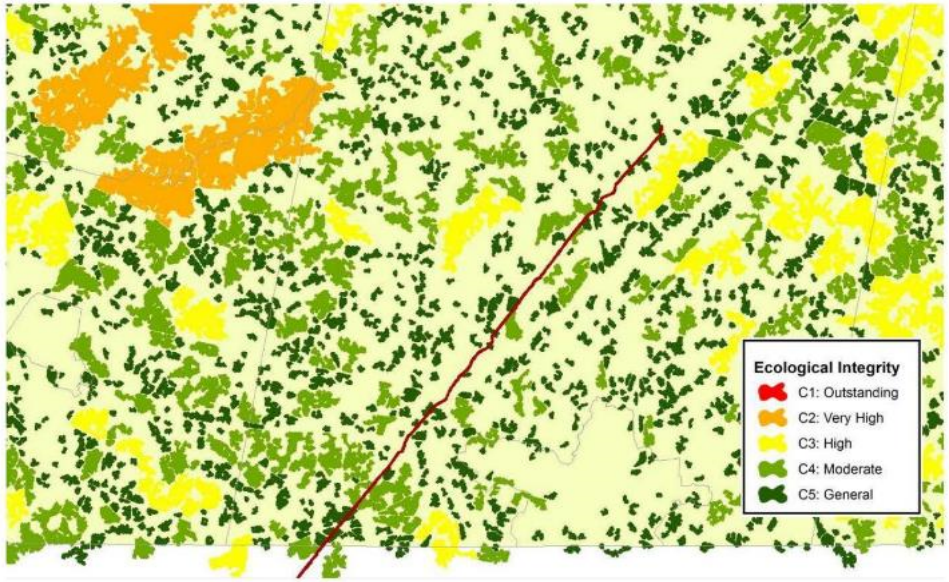
26 March 2019

CO-30a

This is a review of the proposed Southgate extension of the Mountain Valley Pipeline (MVP Southgate) for forest fragmentation impacts, conducted by the Virginia Forest Conservation Partnership (VFCP) using the spatial representation provided by the developer's consultant, EQT Corporation, in a compressed file named "Frozen_08202018_Proposed_Route.zip." The Virginia portion of MVP Southgate is entirely within Pittsylvania County (Figure 1). The VFCP, instituted by the Virginia Secretary of Natural Resources is comprised of Virginia state agency representatives and subject matter experts from the Department of Conservation and Recreation (DCR), the Department of Forestry, the Department of Game and Inland Fisheries, and the Department of Environmental Quality. This review assesses and quantifies both direct and indirect impacts of the proposed construction to forests, and provides recommendations to specifically address these impacts with long-term compensatory mitigation approaches, by comparing the proposed MVP Southgate route to features identified by the 2017 Virginia Natural Landscape Assessment (VaNLA 2017) (Figure 2). VaNLA 2017 identifies, classifies, and ranks all existing "Ecological Cores" (≥100-interior-acre forest patches) and smaller non-core (10-99-interior-acre forest patches) "Habitat Fragments" in Virginia based on several key indicators of biodiversity and ecological functions of forests. For more detail on VaNLA 2017, see http://www.dcr.virginia.gov/natural-heritage/vaconvisvnla.

Figure 1. Location of the proposed MVP Southgate project in Virginia.

Section 4.5.4.3 of the EIS discusses impacts related to forest fragmentation. This section has been updated with additional analysis on forest fragmentation. In addition, Mountain Valley has committed to minimizing impacts on forest land and continues to coordinate with VADCR on tree clearing mitigation prior to clearing trees.

CO-30	Virginia Forest Conservation Group	
CO-30a	Figure 2. Ecological Cores and Habitat Fragments from the VaNLA 2017 with the proposed MVP Southgate project route.  This review employs the same methodology used to assess forest fragmentation impacts of the main route of the MVP (i.e. the 303-mile span from northwestern West Virginia to southern Virginia). This method addresses both direct and indirect impacts by calculating forest lost, even if only temporary, as well as loss of integrity of core forest due to fragmentation that reduces interior area, increases perimeter, and/or decreases the depth of core forest. For background information and methodology specifics, see this document on the Federal Energy Regulatory Commission (FERC) docket: "Commonwealth of Virginia Department of Conservation and Recreation comments on MVP FEIS and Forest Fragmentation Impacts and Mitigation Recommendations of Virginia State Agency Staff under CP16-10" (http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20170721-5183).	See response CO-30a above

CO-30	Virginia Forest Conservation Group	
CO-30a	The proposed route of MVP Southgate aligns with an existing utility corridor in Virginia, thus, significantly minimizing potential forest impacts. The VFCP recognizes colocation as an important consideration for minimizing forest impacts. **Results** A total of 15 Ecological Cores and Habitat Fragments would be impacted by the proposed MVP Southgate project. Tables 1 and 2 summarize these features by type and rank. Table 1. Summary by type of Ecological Cores or Habitat Fragments impacted by MVP Southgate. **Type** / **Count** / **Acres** Non-Core Forest / 11 / 1,318.6 Small-sized Core Forest / 3 / 985.9 Medium-sized Core Forest / 1 / 1,516.9 Table 2. Summary by rank of Ecological Cores or Habitat Fragments impacted by MVP Southgate. **Ecological Integrity Rank** / **Count** / **Acres** C4 / 3 / 2,177.6 C5 / 12 / 1,643.7 The raw impact totals were calculated for each of the 15 Ecological Cores and Habitat Fragments intersected by MVP Southgate (Table 3). Note that indirect impacts were not estimated for Habitat Fragments because they do not qualify as cores due to insufficient interior area. Direct and indirect impacts were also separated based on the ecological integrity of the intersected cores; C1-Outstanding and C2-Very High ranked cores were treated separately than cores ranked C3, C4 and C5, to allow mitigation ratios and mitigation activities to account for the fact that some forest cores would receive disproportionately greater impacts due to having greater ecological integrity.	See response CO-30a above

CO-30 Virginia Forest Conservation Group

CO-30a

Table 3. Raw impact summary showing direct and indirect impacts to forests by MVP Southgate.

	Direct Impact Acres	Indirect Impact Acres
C1 and C2 Cores	0	0
C2 – C5 Cores	13.7	198.4
Habitat Fragments	24.1	n/a
Total	37.8	198.4

The DCR comments on the FERC docket describe three mitigation activities, their rates of implementation, and specific mitigation ratios as recommended by the VFCP for forest fragmentation impacts of the MVP. These mitigation activities are afforestation, avoided deforestation, and forest enhancement. Stated simply, afforestation is the conversion of open land to forest by planting trees, avoided deforestation is permanent protection of forestland from conversion, and enhancement is implementation of forest management to improve ecological integrity. A different ratio of mitigation acres to impact acres was identified for each of these mitigation activities, as were different rates of implementation, to ensure mitigation results in effective conservation. Separate mitigation ratios were developed to specifically account for the impacts to C1 and C2 cores; C3-C5 cores, and Habitat Fragments. Full descriptions of mitigation activities and their rates, and justifications for mitigation ratios, are provided in the DCR Comments on the FERC docket. Tables 4 and 5 summarize the mitigation activities, their ratios, and their rates of implementation, and Table 6 summarizes the recommended total mitigation acreage broken down by activity. The VFCP recommends a total of 472 acres of land be identified, placed under permanent conservation, managed, and protected as core forest as mitigation for MVP Southgate.

See response CO-30a above

CO-30 **Virginia Forest Conservation Group**

CO-30a

Table 4. Recommended direct impact mitigation activities, ratios, and rates of implementation to address MVP Southgate impacts.

Direct Impact	Impact Acres	Afforestation - 25%		Avoided Deforestation - 75%	
		Ratio	Acres	Ratio	Acres
C1 and C2 Cores	0	5.0	0	7.0	0
C3 – C5 Cores	14	3.0	10	5.0	51
Non-Core Forest Blocks	24.1	1.5	9	3.0	54
TOTAL	38		19		106

Table 5. Recommended indirect impact mitigation activities, ratios, and rates of implementation to address MVP Southgate impacts.

Indirect Impact	Impact Acres	Forest Enhancement - 50%		Avoided Deforestation - 50%	
		Ratio	Acres	Ratio	Acres
C1 and C2 Cores	0	3.0	0	4.0	0
C3 – C5 Cores	198	1.5	149	2.0	198
TOTAL	198		149		198

Table 6. Recommended total acres of impact mitigation broken down by mitigation activity to address MVP Southgate impacts.

Afforestation	Avoided Deforestation	Forest Enhancement	Total Acres
19.3	304.0	148.8	472.1

See response CO-30a above

CO-37	Mr. Joyner - Danville Historical Society	
CO-37a	MR. JOYNER: Since this is indeed a draft EIS, or whatever, there are a couple of issues that I have. As President of the Danville Historical Society, the historical society has never been contacted by MVP, Precision or EQT. They contacted the City of Danville and Pittsylvania Historical Society, but since it goes through the Danville region, they never contacted Danville Historical Society for comments on this. That's the first thing.	In an October 18, 2019 filing, Mountain Valley indicated that it would provide the Danville Historical Society with copies of cultural resources investigations reports covering the Project APE in Pittsylvania County, Virginia.
CO-37b	And then the second issue is--there are many issues, but I'm just gonna go over a few of them--this is, at the very beginning stages of this, there is a state and national historical property that is listed on both of them, right here in the very beginning, and it's all lays with inside of the LOD. There is a cemetery sitting right here that also has a Native American Indian ground outside of the cemetery, but it butts up to the cemetery, as well as a 1790s house right here that is affected by the LOD that's on both State and National Register of Historic Properties. So there's gonna have to be a route adjustment. They're not gonna be able to deal with this cemetery, period. Because, especially with a Native American Indian burial ground being there. And with it being inside of the t no construction workers can approach it, interpret it, sit in it, sit on the stone wall, protraction to it, etcetera, etcetera, to keep it monitored. And so that's one of the big issues right there is this historic property through here.	Little Cherrystone Manor/Wooding Cemetery/Site 71-36 is mentioned on page 4-166 of the DEIS as a NRHP-listed property and listed on table 4.10-9, with the recommendation to "avoid or mitigate." In an environmental information request issued by the FERC on October 3, 2019 we asked Mountain Valley to file either an avoidance plan or a treatment plan for Little Cherrystone Manor. In an October 18, 2019 filing, Mountain Valley stated it would be filing an avoidance plan for Little Cherrystone Manor.

CO-37	Mr. Joyner - Danville Historical Society	
CO-37c	Now, one of the other things is, is that here at Lambert station 165 is being abandoned. They're building their new substation back here behind it for the interconnect to come through. They must indeed, even though they've been given a carte blanche angle on "no special-use" permits to build lines, but the compressor station to go down to Burlington, North Carolina, requires a special-use permit through County of Pittsylvania. I mean that is just an absolute requirement.	Mountain Valley would be required to comply with all federal and federally-delegated permits. These permits along with other state and local permits are identified in table 1.4-1.
CO-37d	But we also have a secondary historic site. Other than Little Cherrystone, which is zero feet in distance away from the pipeline, we have Mountain View is another historic, 1790s home, finished and completed in 1840, and that's also in the Chatham District on Route 29, zero distance. So it's gonna affect both of these.	Historical architectural site 71-25 (Mountain View Manor) was recorded during surveys conducted by TRC for Mountain Valley between September 2018 and June 2019 (Karpynec, September 2019). It was noted as listed on the NRHP. We have revised the FEIS to reflect this new information.
CO-37e	And in the EIS, with their archeological information, whatever, is they've listed a few of the archeological sites, but they've given no indication as to any of their findings, any of their attempts to what their findings are, even though usually they consider that as what's the word, not private, but, having a brain issue	See response CO-37a.

CO-37	Mr. Joyner - Danville Historical Society	
CO-37e	here--exclusive information, no. Help me with the word. Proprietary information, to not release any of the archeological data and information. But the EIS doesn't even cover that other than these two pages of archeology in the State of Virginia to North Carolina. And that's all it is. And it doesn't tell us anything about any of the information or the sites in which then noted as prehistoric, historic, contact, post-contact, any kind of that information. And so then, just to show you--let's see, right here, that Little Cherrystone, this is through all of y'all's paperwork. Cherrystone, oh, there it is. That even in your EIS, it shows that it is already listed for both national and Virginia State historic properties. And so that requires a route adjustment to go around this historic site. And there is no route adjustment planned at this time to go around this historic location. So there's gonna be a lot of argumentation, a lot of fight against Southgate and MVP with EQT about going through this piece of property, as well as the property directly across the street here. This land owner has specifically been told they're only going to remove one fence post to allow their vehicles to come into the property, because it's fenced at both of these road accesses. And that is absolutely not	See response CO-37a.
CO-37f		See above for response in CO-37b.
CO-37g		See response LU-1 in appendix I.2.

CO-37	Mr. Joyner - Danville Historical Society	
CO-37h	along with these two additional work spaces, but this is also a Native American village site through here. And our archeological company's already been able to verify this information by doing our own study out there that we've been studying now for twelve years, as well as Native American Indian over here. So the suggested route adjustment is, from this shortest property, is that is out of the interconnect station, the compressor station that the pipeline needs to come around this way, and at one time, they were considering that, but they have, for some reason, abandoned that idea of doing a route adjustment to go away from this historic property. So the state's gonna be arguing that against MVP and EQT, also in a legal format, about protecting this particular site, because this is one of the oldest standing homes in Pittsylvania County. And then, of course, other than that, there's also the endangered species, and you know, you're gonna hear a lot of that tonight. But those are mainly my main issues that I have with Southgate, other than also the compressor station.	See response CO-37a.
CO-37i		See response T&E-3 in the appendix I.2.

CO-37	Mr. Joyner - Danville Historical Society	
CO-37j	The 155 acres that was purchased back here, there is also an additional old home site, there is an additional home site sitting right back in here, so with the 155 acres purchased, whatever, we're not sure how this new compressor station -- because we know the main line's gonna have an interconnect into Transco and then a substation, compressor station going down to Burlington, North Carolina, to pressurize it till it gets to the first main valve compressor. So we're concerned about this whole track of land back through here. It's just gonna have to go around it. And other than that, I'm not one of these jump up and down and wear the badges and get out there with a sign protesting. There are proper ways to go through these channels to deal with the EIS. Now, since this is just the draft EIS, when are they gonna come back with the final EIS? Do you have any kind of recommended date on that? Another major concern is the use of Precision Pipeline doing the construction and building of the Southgate line. It's obvious that they've already created such a havoc with the main line with over 300 violations, lot of water issues, game and wildlife issues, endangered species, that Precision Pipeline has always had a very bad reputation in doing pipeline construction. And they've already had so many violations with the main line that we're concerned that they're gonna continue to do so with the Southgate line. Because one of the first rivers that they're gonna cross is our Banister River, and that is registered as a scenic waterway, and they're gonna have to cross that twice to get even through our county.	See response LU-1 in appendix I.2. This site is listed in appendix E.2 and has been purchased by Mountain Valley for use during construction.
CO-37k		Response to comments are incorporated into the FEIS.
CO-37l		See response GEN-6 in appendix I-1
CO-37m		Section 4.3.2 of the EIS discusses the Project's impacts on surface water resources

CO-38	Sojna Ingram: Preservation Virginia	
CO-38a	MS. INGRAM: I'm Sonja Ingram, and I work for Preservation Virginia. I'm concerned mostly about the historic resources along the route. One thing I wanted to mention is that I submitted a letter back several months ago, but I never received any response, and I don't know if that's typical, but I did wanna mention that. And another thing is, usually, Preservation Virginia, since we're the statewide non-profit and we filled out all the appropriate documents, we usually receive the archeological reports, but I haven't received any for the Southgate Pipeline, so I'd like to get those. One of the reasons is, I was reading the draft	In an October 18, 2019 filing, Mountain Valley indicated that it would provide Preservation Virginia with copies of cultural resources investigations reports covering the Project APE in Pittsylvania County, Virginia.
CO-38b	EIS and I saw there's a lot of comments back and forth between the archeology firm and DHR, but usually we are in those comments. We have an opportunity to comment on that as well. There's some sites that I noticed that were previously identified, but the archeologists have not relocated them this time.	In section 4.10.4 of the DEIS, we acknowledge that the entire pipeline route has not yet been completely inventoried for cultural resources, and recommend that the Commission Order authorizing the Project contain an environmental condition that construction may not begin until after all archaeological surveys have been completed and reviewed, and we have completed the process of compliance with the NHPA
CO38c	And another thing that I wanted to mention is there's a few really important historic resources. One is Little Cherrystone, and this is a historic house, it's one of the earliest houses in Pittsylvania County. There's a cemetery next to it, and according to the maps, it shows that the pipeline right away is very close to that house and the cemetery.	See response CO-25

CO-38	Sojna Ingram: Preservation Virginia	
CO-38c	There's also -- I know that there was a historic scatter of artifacts recovered at one point, and I don't know if that was in relation to this pipeline or to maybe the previous Williams Pipeline, but that whole area out there is so historic, and it's just the pipeline is going way too close to it. I mean the cemetery probably has more burials outside of it. There's a stonewall and also a little metal iron wall, but there's probably more graves on the outside of those walls. And there's also this really odd little mound just beside of that cemetery that I'm just curious about it. It could be where they had just piled up soil when they were digging graves, but it also looks similar to Native American mounds that I've seen in the past. So that particular site and also Mountain View, which is also another historic plantation. It's very close to that. These are some of the ones that have stood out, just from looking at the draft EIS, but like I said, I haven't had a chance to look at the archeological reports to be able to really see what was recovered and comment on those in detail. So I will be submitting the written comments, but I do wanna get those reports, too, and that's about it.	See response CO-25
CO-38d		See response CO-37d
CO-38e		See response CO-38a.

CO-39 Deep Creek Church

United States of America
Federal Energy Regulatory Commission

Attention: Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Southgate Project Mountain Valley Pipeline, LLC.
Docket No. CP19-14-000

Date: August 22, 2019

Mountain Valley has requested authorization to construct and operate approximately 73 miles of natural gas transmission pipeline, one new compressor station, and accompanying facilities, which will environmentally affect Deep Creek Church and Cemetery located in Alamance County, North Carolina.

Deep Creek Church and Cemetery offers the following comments concerns on the above-referenced docket environmental impact statement (EIS).

a. That the Deep Creek Church and Cemetery burial site remains intact and undisturbed by said Mountain Valley pipeline.
b. That future burial(s) be unimpeded by said Mountain Valley pipeline.
c. That future upkeep of the Deep Creek Church and Cemetery be unimpeded by said Mountain Valley pipeline.
d. That access to Deep Creek Church and Cemetery be unimpeded by said Mountain Valley pipeline.
e. That clear signage specify demarc between Deep Creek Church, Cemetery, and the Mountain Valley pipeline.
f. That Mountain Valley Pipeline, LLC. SHALL be fiscally responsible for any and all damage caused by the installation, the maintenance, and the transmission of said Mountain Valley Pipeline.
g. That Deep Creek Church and Cemetery receive fiscal compensation for loss of land, building structure, procuring proper demarc signage/fencing, and restoration of landscaping from Mountain Valley pipeline LLC.

Sincerely,

Crystal D. Chandler
Deep Creek Church and Cemetery
Alamance County, NC
336.253.5518

CO-39a

An avoidance plan for the Deep Creek Primitive Baptist Church and
Cemetery was filed by Mountain Valley on October 23, 2019.

IND-3	Janek Patel	
	Janak Patel, Haw River, NC. Dear Secretary;	
IND-3a	I am a lodging business(Days Inn) owner of land located at 1370 Truby Drive, Haw River,NC 27258 which is off Jimmie Kerr road. Based on my understanding from FERC/EIS-0297D Truby drive dead ends to within 400 to 500 feet from proposed gas line. Being a hotel having entrance on this road and line near the hotel I am seeking more details of this project. 1) what kind of environmental impact to hotel	Access roads are discussed in sections 2.3.5 and 4.8.1.4 of the EIS. At the location off Jimmy Kerr Road, Truby Drive is an existing paved road and no improvements are anticipated. Limited and temporary noise and traffic impacts may result from the use of this access road during construction.
IND-3b	2) the exact scope of construction plan	Section 2.0 details the construction methods of the Project. Alignment sheets showing the construction plan in this area are available on the FERC elibrary using accession number 20191220-5298.
IND-3c	3)Use of Truby drive during construction	Truby Drive would be used by Mountain Valley to access temporary access road TA-AL-188.
IND-3d	4)Traffic and access impact to hotel	Traffic impacts and management are discussed in section 4.9.4 of the EIS.
IND-3e	5)Noise impact to hotel guest.	Noise impacts are discussed in section 4.11.2.3 of the EIS. There would be limited, temporary noise impact to hotel as the use of nearby roadways are likely, but the use would be temporary and limited to a few days as the work is accomplished in a given area and then moves elsewhere. Any work outside the hours of 7am to 7pm, or sunrise to sunset in non-residential areas, other than low noise generating activities would require approval from FERC.

IND-4	David Hill	

8/16/2019

FERC
MVP Southgate Project DEIS
Docket # CP19-14-000

Dear Sir or Madam:

IND-4a	I would like to comment on the MVP Southgate Project DEIS. My family and I live in Alamance County, NC and our access to drinking water is from a well located on our property. We live 1.5 miles from the Haw River and 9 miles south of the proposed terminus of the MVP Southgate pipeline. The DEIS summary states that the Project will have limited adverse environmental impacts. I totally disagree with this and it is false.	Comment noted.
IND-4b	The DEIS states that there would only be temporary or localized surface water impacts. I disagree with this and it is false. The crossing of 7.1 miles of protected watersheds and 1.5 miles of critical watersheds, within the last 20 miles of the project, endangers those watersheds. The crossing of 161 water bodies within NC is an example of the broad potential for permanent negative impacts along the Project route. The HDD crossings of major water bodies carries the risk of IR's with them.	Section 4.3.2 of the EIS discusses surface waters, watersheds, and floodplains. Section 4.3.2.7 of the EIS discusses Mountain Valley's impacts of blasting and the mitigation efforts needed if there are negative effects in the project area. Section 4.1.4.4 of the EIS discusses the potential of landslides occurring with project operations and how Mountain Valley will minimize the chances of a landslide occurring.
IND-4c	Just within the last 4 miles of the Project, there are numerous examples of potential serious, permanent surface water impacts. The last 4 miles are within ¼ mile of the Haw River. There are 5 workspaces within 50 feet of the River, including 2 at Mile Posts (MP) 70 & 73 right on the River. There are 23 crossings of tributaries of the Haw. There are 3 points where the Project is within 15 feet of the Haw. There are 7 sites of landslide concern, including MP 72.7 (52 feet from the Haw). There are 5 potential blasting sites. There are 30 sites listed as steep slopes. All of these instances are capable of causing adverse, permanent damage to the Haw River, associated tributaries, and associated groundwater.	Section 4.3.1 includes a detailed discussion of the potential impacts that construction and operation of the Project could have on groundwater resources, including aquifers.
IND-4d	The DEIS states that there would be no significant groundwater impacts. I disagree with this. The water quality of the Haw River directly affects nearby aquifers. This project would permanently damage the waters of the Haw River, and permanently damage aquifers close to the Haw River. The Project is a direct threat to the aquifer that supplies drinking water for my family.	See response SURF-7 in appendix I.2.

IND-4	David Hill	
IND-4e	With the last 4 miles of the Project, it crosses a 100 year flood plain of the Haw River. Six of the last 26 greatest recorded high water crests of the Haw River happened in 2018 alone. Major flooding of this area would devastate the pipeline, including the T-21 Interconnect and Project terminus. Right of way maintenance will use herbicides to control vegetation. These would be a potential source of toxic pollution of nearby waterways and harm to nearby citizens. There are reports that the epoxy coating used on the pipeline is very toxic.	Mountain Valley's Plan does not allow the use of herbicides within 100 feet of a wetland or waterbody except as allowed by the appropriate land management or state agency. As part of Mountain Valley's *Exotic and Invasive Plant Species Control Plan* , If specified for use by federal or state agencies near streams or wetlands, the Project will utilize herbicide applications approved for aquatic use.
IND-4f		Fusion bonded epoxy (FBE) coatings have been in use for over 50 years and have been the subject of numerous scientific studies. Epoxy coatings have undergone NSF/ANSI 61 toxicological review process and been certified for use in applications that bring them into contact with drinking water. Therefore, FBE coatings do not present a risk to human health, including when the pipe coating is exposed to groundwater that may serve as a source of drinking water.
IND-4g	The DEIS states that there would be no significant impact of the Project on property values and insurance of neighboring citizens. This is false. Construction and permanent maintenance of a pipeline owned by major corporations next door to a home will cause a significant lowering of the property values and increase the cost and availability of property insurance.	See response SOCIO-1 in appendix I.2.
IND-4h	The DEIS states that public safety of neighboring citizens would not be affected. I disagree. The County Commissioners of Alamance County, NC are opposed to the project. One of their concerns was that local volunteer fire departments would not have the resources to deal with a pipeline fire. Leaks and fires have happened with major pipelines of this nature.	See response SAFE-3 in appendix I.2.
IND-4i	The MVP pipeline in West Virginia and Virginia has had constant environmental violations during construction there. In April 2019, MVP paid over $250,000 in fines for erosion and water contamination violations in West Virginia (20 notices). The Virginia Attorney General has sued MVP for over 300 water quality violations in Virginia. A pipeline contractor, Precision Pipeline, has had repeated violations and has been fined millions of dollars. Five major construction permits for work in Virginia have been suspended since work began. The NC Department of Environmental Quality denied recently denied a water quality permit for MVP Southgate and also previously stated that there was no public need for the Project.	See response GEN-6 in appendix I.2.

IND-4	David Hill	
IND-4j	The DEIS omits a No Action Alternative. This seems to be counterintuitive to the NEPA process. The No Action Alternative is that the Project is not built.	See response ALT-1 in appendix I.2.
IND-4k	The Project will help create and maintain a market for fracked natural gas. Fracking is source of major air and water pollution where it occurs. Methane is a major cause of global climate change. The MVP Southgate Project would have many serious and permanent environmental impacts on any and all citizens and communities associated with the Project. The Project is a direct environmental threat to associated citizens and communities. This Project would have negative environmental impacts on my family. The Project should not be built.	The evaluation of the market for fracked natural gas, including induced production, is outside of the scope of the EIS. Those activities are regulated by individual states. Section 4.11 of the EIS discusses methane emissions. See response CI-1 in appendix I.2 regarding climate change.
IND-4l	Thank you very much. David Hill Graham, NC	See response GEN-1 in appendix I-2.

IND-8	Eleanor Amidon	
	Eleanor M. Amidon, Afton, VA. Like a big Swiss cheese, the Southgate DEIS is riddled with holes. The gaps in content and conditional statements are red flags identifying areas where a lot more analysis is needed. The following significant shortcomings and omissions need to be rectified and made public for a period of comment before finalizing the EIS. proposed HDD crossings	
IND-8a	The preliminary work on evaluating the proposed Dan River HDD crossing is exactly that: preliminary. Based on two geotechnical borings, the current design is deemed "feasible." (See DEIS, page 4-14.) However, ideally, borings should be spaced approximately every 500 feet. (See https://www.geoengineers.com/wp-content/uploads/2018/02/6H-The-HDD-Evaluation-and-Design-Process-Notes-1.pdf) Since the proposed Dan River HDD would be 2,523 feet, there should be three more borings, and the results of those additional three borings should be included in this DEIS.	See section 4.1.4.9 of the EIS, which has been updated with additional information.
IND-8b	That the Dan River HDD initial hydrofracture risk assessment determined that there would be an elevated risk of inadvertent returns (IRs) of drilling fluid near the exit point of the drill does not sound promising. Exactly what is this "mud-receiving pit" they propose to expand? How close is it to the Dan River? How will toxic spillage be prevented from entering and contaminating the water in the Dan River? Additional hydrofracture analysis for the HDD crossing needs to be done before proceeding, and the results should be included in this DEIS for public comment.	See sections 2.4.2.1, 4.1.4.9, 4.3.2.2, and 4.3.2.7 for further discussion on HDD crossing methods, impacts, and mitigation.
IND-8c	The total crossing length of the proposed Stony Creek Reservoir HDD would be 1,619 feet, and is considered feasible based on one geotechnical boring. Additional borings should be made and the results included for public viewing and commentary in this DEIS. Also, the Stony Creek Reservoir HDD initial hydrofracture risk assessment determined that there would be an elevated risk of inadvertent returns (IRs) of drilling fluid near the exit point of the drill. Again, they propose to expand the "mud-receiving pit." This sounds like a contamination of the Stony Creek Reservoir is inevitable. What guarantees are there, that the toxic drilling fluid won't eventually leak or spill into the reservoir? In the scheme of evaluating sites, avoidance of environmental damage is the number one priority, and mitigation comes into play only as a weak second option. In this case, with the possible contamination of a reservoir, "mitigation" is not an acceptable alternative.	See section 4.1.4.9 of the EIS, which has been updated with additional information.
IND-8d	The proposed HDD sites have not been properly vetted. Making a determination with less than 50% of the necessary data (2 of 5, or 40%, and 1 of 3, or 33% of borings for feasibility analysis) is premature and unreliable. All feasibility studies for the proposed HDD borings under the Dan River and the Stony Creek Reservoir should be completed and their results incorporated into the DEIS so that the public can read and comment on them.	See section 4.1.4.9 of the EIS, which has been updated with additional information.

IND-8	Eleanor Amidon	
IND-8e	Uranium and radioactive contamination Page 4-12 of the DEIS states, "Uranium mobilization in the environment can occur through the exposure of uranium- containing rocks and sediments to the weathering process (physical or chemical), causing uranium to be released from its parent material. Redistribution can further occur via activities and processes that move soil and rock. Therefore, background concentrations of uranium in soils, sediments, shallow bedrock, and groundwater were assessed via a review of publicly available information." The USGS National Uranium Resource Evaluation (NURE) database that was used consists of data obtained through airborne gamma-ray spectrometry, which only detects gamma rays emitted by uranium in the crust of the earth. Deeper deposits are not detected. Disturbing rock and soil, such as would be done by this proposed project, could loosen and expose as yet undetected underground uranium to rainwater. Uranium, being highly soluble, can be easily dissolved and transported into local groundwater. Contrary to the conclusion on page 4-13 of the DEIS, this could lead to significant impacts on human health and the environment. A more detailed and robust study of the amount and location of uranium is needed before unnecessarily engaging in earth-disturbing activities in Pittsylvania County, VA.	See section 4.1.4.8 of the EIS. We consulted the USGS NURE database, which contains the results of sediment and water sampling, and other resources including USGS soil geochemistry data and information obtained from the U.S. Department of Health and Human Services.
IND-8f	Although the DEIS on page 4-30 states that Mountain Valley does not not anticipate long-term or significant impacts on groundwater resources, "not anticipating" is not adequate when the damage could be huge. Water travels. If uranium (or other undisclosed proprietary industrial chemicals used in drilling) contaminate the Staunton River, Dan River, and/or Roanoke River, then Lake Gaston could be affected. Lake Gaston supplies water to a large population in Virginia Beach. Prevention is the only reasonable strategy here, namely, avoiding disturbing areas which contain uranium deposits. "Mitigation" is not an acceptable alternative, and the danger of radioactive contamination of public water supplies should be taken very seriously.	See section 4.1.4.8 of the EIS. We describe the existing conditions relative to concentrations of uranium in soils, sediment, bedrock, and groundwater that may be disturbed, as well as the behavior of and mobility of uranium in the environment.

IND-16 IND-88	Heise and Dyer

Part 1

Pg. 27/421 Draft EIS - ES-2

"The most common comments we received were on project need. The Commission's role in reviewing the details of any project is to make a determination of public convenience and necessity. The Commission bases its decisions on financing, rates, market demand, gas supply, environmental impact, and other issues concerning a proposed project. The forthcoming Commission order for the Project will address need. We also received numerous comments regarding impacts on water quality, socioeconomics, and health and safety. These resources are addressed in the draft EIS."

IND-16a	The scope of this DRAFT EIS appears to address the issues associated only with the pipeline and not the gas contained therein. This is equivalent to discussing the pipeline as if it were pumping compressed air. If this is indeed the scope of the DRAFT EIS then state it explicitly and justify the limited nature of this document. The North Carolina Department of Environmental Quality (NCDEQ), in their September 10, 2019 document submission to FERC makes this precise point when they state (page 2): *"The Department is concerned that the four alternatives proposed in the NOI excludes non-natural gas energy alternatives…Furthermore, the Project induces additional natural gas production resulting in increased direct and cumulative environmental impacts, including reasonably foreseeable indirect impacts."*	The draft and final EIS describe the potential impacts on environmental resources resulting from construction and operation of the Project. Staff considered measures to avoid, reduce, and mitigate impacts on the environment, and as appropriate, are including recommendations in the final EIS to the Commission.
IND-16b	NCDEQ explicitly uses the word "induces" and the DRAFT EIS purposefully constrains itself to the pipeline construction process with an extremely narrow summation of leak potential along the entirety of the pipeline. Production/fracking through induced/increased production at source location appears not to be considered. Additionally the major leak source, the Lambert Compressor Station, " would not result in a significant impact on local or regional air quality" (Pg. 32 Draft EIS. ES-7). However, note that by constraining the leak discussion to the more narrow issue of just the pipeline there is an "end-run" around the Mandatory Reporting of Greenhouse Gas Rule:	See response IND-4k in appendix I.3.

IND-16
IND-88 **Heise and Dyer**

Pg 320/421 DRAFT EIS - 4-191

> *Potential GHG emissions from the Lambert Compressor Station would be greater than 25,000 metric tpy (see table 4.11-3). However, the rule establishes reporting requirements based on actual emissions. Mountain Valley would monitor emissions in accordance with the reporting rule. If actual emissions exceed the 25,000 metric tpy threshold, GHG emissions would be reported to the EPA as required.*

IND-16c	A discussion juxtaposing potential and actual may be missing the purpose of the DRAFT EIS. A statement of probable/expected leakage rates based on other compressor stations leakage rates would be more appropriate.	Section 4.11.1.5 includes discussion of potential emissions of the Lambert Compressor Station, including fugitives from incidental leaks.
IND-16d	By segmenting the DRAFT EIS to address just the pipeline project by eliminating discussion of gas production leak issues in totality (from fracking to consumption), the impact of reporting requirements as a result of meeting certain thresholds can be minimized, thereby allowing the FERC to conclude that the environmental impacts are minimal. **Part 2** There appears to be a disturbingly dismissive undertone to the DRAFT EIS that is decidedly uncharacteristic of a factual undertaking.	The evaluation of upstream and downstream markets and consumption impacts is outside the scope of this EIS. As appropriate, issues outside the scope of an EIS may be addressed in any Order the Commission may issue.

Pg. 187/421 DRAFT EIS - 4-57

> *We received a comment from the Roanoke River Basin Association (RRBA), which suggested mitigation for tree removal at a 5:1 ratio to offset the GHG effects of pipe leakage. The RRBA estimated that five new trees should be planted for every tree removed for construction of the pipeline right-of-way. Their estimate is based on their findings of 1% leakage rates of methane gas from other pipelines. RRBA states that methane is 25 times stronger than carbon dioxide in its effect as a greenhouse gas, and while it would be better to eliminate pipe leakage, the leakage should be offset with tree mitigation until the pipe leakage can be eliminated. We note that Virginia has 15.72 million acres of forestland (Virginia Department of Forestry [VADOF]) and North Carolina has 18.8 million acres of forests (North Carolina Forestry Association [NCFA]). Within this context, we conclude that impacts on forests would be long-term but would not be significant.*

IND-16e	As published in Science, (R. A. Alvarez *et al.*, *Science* 10.1126/science.aar7204 (2018).), https://science.sciencemag.org/content/361/6398/186 actual emissions for the total infrastructure gas production and transmission appear to be much higher. I seriously doubt that the RRBA made the "findings" of a 1% leakage rate, rather they researched the issue. The Science article lists an additional 77 references. RRBA statement of methane being 25 times stronger ghg than CO_2 may be conservative. (https://www.sciencedaily.com/releases/2018/06/180621141154.htm). The 25 time stronger estimate seems to come from a GWP_{100} rather than a GWP_{20} (Global Warming Potential - years measurement). A GWP_{20} estimate for methane impact is much higher as the methane has not degraded into CO_2 thereby lessening its impact.	See response CI-1 in appendix I.2. Emissions are discussed in section 4.11.1.5 and climate change is discussed in section 4.13.2.9

IND-16 IND-88	Heise and Dyer	
IND-16f	The quoted paragraph above then states the acreage of forest in Virginia and North Carolina as if the millions of trees has an impact on assessing methane emissions and thereby dismisses the 5:1 ratio offset. Frankly a 5:1 ratio may be vastly underselling the offset required to mitigate the methane releases from production, transmission leakage and combustion. It is not the existence of forests that offset additional methane release, it is the creation of new forests that offer the potential to mitigate new methane releases. **Part 3** Pg. 81 DRAFT EIS - 2-29 *During public scoping, a comment was submitted regarding the potential for Mountain Valley to further expand the Project and eventually export natural gas. Mountain Valley stated that it has no plans at this time to either expand or abandon the proposed facilities, nor is the Project able or designed to export natural gas. If Mountain Valley proposes any expansion or abandonment of the Project facilities, it would have to seek specific authorization for that action from the FERC. An appropriate environmental review would be conducted, and the public would have the opportunity to comment on Mountain Valley's proposal. Likewise, any proposed abandonment of any facilities approved in these dockets would require additional environmental and regulatory review under section 7(b) of the NGA.*	Mountain Valley has committed to minimizing impacts on forest land and continues to coordinate with VDCR on tree clearing mitigation prior to clearing trees
IND-16g	Having submitted prior comments along these lines, it is important to note some significant difference in these prior submitted statements on 8-23-2018 to Docket No. PF18-4-000. Specifically: *If no declaration is made, is MVP southgate barred from ever exporting gas?* *Is MVP Southgate allowed to petition, post pipeline completion, to allow export if excluded initially?* *Are the MVP investors allowed to increase exports to other outlets as an offset to any restrictions specifically made to the MVP Southgate project?* These questions were posed for a couple of reasons. MVP is an LLC that proposes to sell gas to PSNC for residential consumption. PSNC has since been purchased by Dominion Energy which, not incidentally, is a large shareholder in the Atlantic Coast Pipeline. Any statement or promise to not export gas from the MVP pipeline should include Dominion Energy as a whole. MVP/Dominion should be constrained to delivering gas to the Alamance terminus for distribution to the original PSNC distribution area. The Alamance terminus should not be used as a distribution point to balance excess production for exporting gas from other pipelines to other locales overseas. Additionally, trading bulk LNG through different companies to create artificial local demand is an abuse of a need requirement. If not so constrained, Rockingham and Alamance County residents, landowners and gas consumers are paying multiple times over for this pipeline. The residents would be paying higher prices for unneeded gas through an artificial demand created by export. The residents would be paying for unnecessary	See section 2.8 of the EIS

IND-16 **IND-88**	**Heise and Dyer**	
	discusses the impact of the gas production and consumption as induced by the rp pipeline?	
IND-16g	Finally, it is unusual to see this DRAFT EIS include a discussion about export when the purported intent of this DRAFT EIS was relegated to environmental issues associated with the pipeline. This leaves one to wonder if this was a mistake on the part of the writers' of the DRAFT EIS or whether the issue of restrictions on export will be addressed in the "Commission order for the Project." Additionally, will there be a comment period on the "Commission order for the Project" and will there be an EIS that discusses the impact of the gas production and consumption as induced by the pipeline?	See above IND-16 comment response

IND-19	Katie Whitehead

Docket No. CP19-14-000

General Comment Regarding the MVP Southgate Project

Draft Environmental Impact Statement

Submitted September 10, 2019 by Katie Whitehead

IND-19a	**The Federal Energy Regulatory Commission (FERC) knows that its process for reviewing interstate natural gas pipelines is flawed, yet the agency is repeating its mistakes as it goes through the motions of assessing whether the Mountain Valley Pipeline Southgate Extension would, on balance, provide a vital public benefit.** In February 2017 former Commissioner and FERC Chairman Norman Bay recommended that FERC look at how the Commission determines whether there is a need for new pipelines and conducts environmental reviews. Bay acknowledged that "the Commission has largely relied on the extent to which potential shippers have signed precedent agreements for capacity on the proposed pipeline," in spite of a "litany of other factors to consider." Bay's letter did not slow FERC approval of the highly controversial Mountain Valley Pipeline (MVP) and Atlantic Coast Pipeline (ACP), now poster children for the need for FERC policy reform. Residents of Virginia, West Virginia and North Carolina are experiencing the havoc and controversy that result from a failed initial review as federal and state agencies and courts address charges of regulatory and constitutional violations and project costs soar. Former Commissioner Cheryl LaFleur dissented, a rare move on the Commission, in the 2-1vote approving MVP and ACP in October 2017. She was unconvinced of the need for the pipelines and cited FERC's failure to look at alternatives with less environmental impact. In November 2017 an Analysis Group report described how the gas industry has changed since FERC instituted its now-outdated 1999 policies, under which Commissioners have approved over 400 new pipelines and rejected two. In December 2017 then FERC Chairman Kevin McIntyre announced that FERC would review its 1999 Statement of Policy on Certification of New Interstate Gas Pipeline Facilities. In April 2018 FERC solicited comments on possible reform to better meet its policy's aim "to appropriately consider the enhancement of competitive transportation alternatives, the possibility of over building, the avoidance of unnecessary disruption of the environment, and the unneeded exercise of eminent domain." Predictably, the gas industry spoke for the status quo. Noteworthy among those commenting in support of change were Senators Mark Warner and Tim Kaine; Giles and Roanoke Counties; 61 Public Interest Organizations; and the Niskanen Center, a policy think tank. Frequently expressed concerns were that FERC does not adequately scrutinize project need, investigate alternatives, justify use of eminent domain, evaluate environmental impacts, or facilitate public participation. The comment period ended in late July 2018; there's been no evidence of further action by FERC.	See responses GEN-2 and GEN-4 in appendix I.2.

IND-19	Katie Whitehead	
	Meanwhile, under FERC's old policies, MVP Southgate appears to be moving toward an unscrutinized rubber-stamp approval. Mountain Valley Pipeline, LLC (Mountain Valley) has applied to FERC for certification of the MVP Southgate Extension, 73 miles of natural gas pipeline that could transport as much as 375 million cubic feet of gas per day from the MVP mainline through a new compressor station near Chatham in Pittsylvania County, VA, to Dominion Energy delivery points near Eden in Rockingham County and Graham in Alamance County, NC. **FERC is now soliciting public comment on its Southgate Project Draft Environmental Impact Statement (DEIS). Reading the 700-page DEIS is not just daunting, it's disheartening.** In the DEIS, FERC does not question the purpose and need for Southgate; it merely reports: "In general, as described by Mountain Valley, the purpose and need for the Southgate Project is to meet the specific requests for natural gas transportation service of its anchor shipper, Dominion Energy, a local natural gas distribution company. Mountain Valley states that the Project will provide additional firm natural gas transportation services for Dominion Energy to meet its growing supply needs via interconnections with the under construction Mountain Valley Pipeline project in southern Virginia and the interstate pipeline of East Tennessee in North Carolina to two new delivery points on the Dominion Energy distribution system in Rockingham and Alamance Counties, North Carolina." *(DEIS section 1.1)*	
IND-19b	The DEIS states that FERC has two options: (1) approve the project with or without conditions, or (2) deny approval – the "No Action Alternative." According to the DEIS, No Action would mean no construction, no environmental impacts, and the project's stated purpose not being met. The DEIS then speculates, "If the Project is not constructed, shippers may seek other means to obtain an equivalent supply of natural gas from new or existing pipeline systems … (which) may result in the expansion of existing natural gas transportation systems or the construction of new infrastructure; both of which are likely to result in impacts comparable to those described in … this draft EIS. … Therefore, we dismiss (the No Action Alternative) from further consideration." Poof! Just like that, FERC dismisses any other means of meeting the incremental growth in gas demand that may arise in North Carolina.	See response GEN-2 in appendix I.2.
IND-19c	Here is another example in which FERC avoids its job of evaluating alternatives: "Some commenters recommended that we evaluate the potential for energy efficiency, energy conservation programs, and renewable energy (e.g., wind, solar) to eliminate or meet the need for the Southgate Project. … However, because the purpose of the Project is to transport natural gas, and (these) are not transportation alternatives, they cannot function as a substitute for the Project and are not considered further in this analysis." *(DEIS section 3.1.1)* Poof! Dismissed!	See response ALT-1 in appendix I.2.
IND-19d		See response ALT-2 in appendix I.2.

IND-19	Katie Whitehead	
IND-19e	As former gas and electric utility executive Thomas Hadwin has pointed out, "The National Environmental Policy Act requires (FERC) to consider issues outside of their normal jurisdiction when reviewing alternatives to the proposed project." Yet FERC dismisses all possible alternatives because they are not a pipeline delivering gas from the precise production zone in West Virginia used by Mountain Valley to connection points in North Carolina proposed by Mountain Valley.	See response ALT-1 in appendix I.2.
IND-19f	**FERC has a unique capacity to take the big picture view and abrogates its opportunity and responsibility.** Whereas FERC's DEIS rejects existing pipeline systems as alternatives, Hadwin emphasized the common-sense advantages of using the Transco (Transcontinental Gas Pipe Line, LLC) system: "The future capacity additions that might be needed by PSNC(recently purchased by Dominion Energy, Inc.) can be most easily and certainly less expensively obtained by incremental additions using the existing connections to Transco. Connecting to any of the new pipelines (such as MVP) in the region will add unnecessary expenses for PSNC(Dominion) ratepayers to bear and result in substantial overcapacity. PSNC has been reliably served by Transco for decades. Transco has abundant capacity to continue to do so. … There is no evidence of unreliable supplies of gas to North Carolina that would justify the need for a new pipeline to serve the area … a new pipeline that adds millions or billions to the energy costs of the ultimate gas customers. … The Transco alternative is one that should be fully examined by the Commission before rendering any judgment about the necessity and public convenience of the MVP-Southgate project." Hadwin cited the 2016 Synapse Energy Economics study, "which determined that the expansions to the existing pipeline system would provide more than sufficient capacity for Virginia and the Carolinas through 2030, even under an unlikely 'high demand scenario.'" **There is no reason that alternatives should exactly meet the precise stated purpose of the MVP Southgate project. What's important is to meet North Carolina's energy needs without undue burden on landowners, communities, our environment, and utility customers.** Hadwin's system alternatives involving Transco "are all superior to the proposed project. Although not every option has its primary source of gas from the same production zone as the proposed project, they have access to production zones that offer equivalent prices and more options. They are less expensive, can be accomplished sooner, and can provide a graduated increase in capacity rather than requiring years of payments of $160 million per year for unused capacity from MVP/Southgate that provides no benefit to the customers of PSNC(Dominion). Little or no construction is required by these various alternatives, thus, environmental impacts and intrusion upon landowners is much less or non-existent."	See section 3.3.2.1 of the EIS for an analysis of the Transco Alternative.

IND-19	Katie Whitehead	
IND-19f	FERC does not investigate any of these options. The only Transco option FERC imagines is one contorted to mimic MVP Southgate, which it then dismisses out of hand as having essentially the same environmental impacts. Quoting Hadwin once again, describing one Transco alternative, "Transco could transport the gas to North Carolina and provide appropriate capacity additions to PSNC whenever they are actually needed via existing or upgraded connections. This option would avoid the expense of building the Southgate pipeline and would also avoid the high cost of transportation on the MVP. Dominion Energy would avoid burdening its electricity ratepayers in Virginia with over $4 billion in higher energy costs for a pipeline they don't need, and lower the cost of pipeline transportation for the customers of its new subsidiary, PSNC." **Why doesn't FERC ask Transco how it can meet an increase in gas demand in North Carolina if and when such an increase occurs?** In a petition for rehearing and/or reconsideration of the Atlantic Coast Pipeline, Transco stated, "Factually, **Transco has the infrastructure and pipeline in place to serve the Southeast**, including South Carolina, **for many years.** It is obvious Dominion intends to install duplicative infrastructure and pipeline to serve the ratepayers of South Carolina at great monetary expense to the ratepayers of South Carolina." No doubt, the same could be said for MVP Southgate and the ratepayers of North Carolina. **FERC's Southgate Project Draft Environmental Impact Statement makes no sense. It makes no sense to evaluate the potential environmental impacts of MVP Southgate as if it is the best and only solution to a problem that, according to an increasingly large body of evidence*, does not exist. FERC leaves the question of public need to a later determination, dismisses alternatives that could meet any actual public need, accepts the pipeline developer's word that it will comply with best management practices and FERC conditions, and includes no mention of egregious violations by the same developer during construction of the MVP mainline. FERC concludes that approval of the MVP Southgate would, "through implementation of (FERC) recommendations and Mountain Valley's proposed avoidance, minimization, and mitigation measures," result in "less-than-significant" adverse environmental impacts. That's absurd. And disheartening.**	See above IND-19f comment response

IND-28 Maury Johnson

MY MVP Southgate Draft Comments Please feel free to make comments, suggestions or edits Thanks Maury

September 16, 2019

Ms. Kimberly Bose, Secretary
Federal Energy Regulatory Commission
888 First St, Washington, DC

Dear Ms. Bose,

As a registered inteventor for the Mountain Valley Pipeline Southgate Extension project, FERC Docket CP19-14-000, I wish to have the following complaints and statements placed on the FERC Docket for the DEIS comments.

IND-28a	I have been told by friends in Alamance County, NC that the proposed Mountain Valley Pipeline Southgate extension construction through the northern part of that county would destroy most of the remaining native artifacts, burial mounds left there by ancient Native American cultures. A number of cultures/tribes use to inhabit this area, including the Sissipihaw, Saponi, Shakori, Occaneechi and many more. Unfortunately, the 1986 Alamance County Archaeological Survey Project mentions only a few of the Native American burial sites in Alamance County.	Section 4.10 of the EIS provides a detailed discussion of archaeological surveys and resources identified for the Project.
IND-28b	Legend has it that in early 1700's, settler John Lawson traveled through the Piedmont area of North Carolina. (From Wikipedia -- **John Lawson** (1674? – 1711) was an English explorer, naturalist and writer. He played an important role in exploring the interior of colonial North Carolina, South Carolina and Georgia, publicizing his expeditions in a book. He founded two settlements in North Carolina: Bath and New Bern, both located on rivers in the coastal plain. He was killed by Tuscarora people, who were beginning to resist European encroachment.) You can read more at this link: http://en.wikipedia.org/wiki/John_Lawson_(explorer) Lawson described the land as "extraordinarily rich" and said that no man could have any reason to dislike it. He recorded 27 species of mammals, including buffalo, elk, wolf and panther, which have long vanished from the area. According to Lawson, the Haw River was named for the Sissipahau Indians who lived near and along this stream. Their passage way became known as the Great Trading Path, it ran from Fort Henry (now Petersburg VA) in Virginia to cross the Haw River near the present town of Swepsonville, NC just outside of present day Burlington NC. This is the path that all colonizers and corporate enterprises seem to follow time and time again. The proposed MVP Right-of-Way would largely follow the Native American trading path down the Haw River. It is imperative that the citizens and government agencies protect this historically significant path. Alamance County is named after the Great Alamance Creek which was named by Native Americans. It was called "Alamance" after an old local Native American word used to describe the blue-colored mud in the bottom of the creek. Alamance County is known for its rich Native American history; however, it will not be if the MVP Southgate is allowed to destroy that rich history. It will be known as the county that let the MVP destroy its history and FERC will be complicit in that destruction, to the benefit of an out of state corporation to build an environmentally destructive, unwanted and unneeded pipeline.	Comment noted.

IND-28	Maury Johnson	
IND-28c	The proposed Mountain Valley Pipeline Southgate FERC DOCKET CP19-14-000, project will disrupt over 230 streams and permanently destroy forests and pristine farmland along its path, while releasing over 100,000 tons of greenhouse gases each year if constructed. That statement alone should be enough to cancel this project. This pipeline is a dangerous and unnecessary pipeline and not only threatens the people of southern VA and North Carolina, but it would help push the climate to the brink of complete catastrophe as we race towards the mark where human life on this planet would not be able to exist.	Impacts to streams are discussed in section 4.3.2; forest impacts are discussed in Section 4.5 and 4.8.1; and farmland impacts are discussed in section 4.8.1. The Project's climate change impacts are discussed in section 4.13.2.9.
IND-28d	Mountain Valley Pipeline (MVP) Docket CP16-10-0000 has already caused over 300 documented water quality violations in Virginia, and at least that many more in West Virginia. I have documented over 150 E & S Failures on a small part of Spread F (mostly over a four mile section in Monroe and Summers County WV). It has received multiple stop-work orders during the construction of its main line in VA and was fined nearly $266,000.00 for water quality violation in WV from April 2018 through November of 2018. Even then they continue to rack up NOVs in WV.. The proposed Southgate project is not needed to meet demands for natural gas in North Carolina or anywhere else, and MVP has proven they cannot build a pipeline without severely impacting the environment and local water supplies.	See response GEN-6 in appendix I.2.
IND-28e	The MVP Southgate will put important water resources at risk, including but not limited to the Jordan Lake, the Dan and Haw Rivers all sources for clean water for many families and farms in Virginia and North Carolina. It also will put lots of family farms and the families who live there at risk to multiple impacts including explosions, tainted water, air and land.	Section 4.3.2 describes the effects of the Projects on surface waterbodies. We recognize that in-stream construction would cause temporary and localized impacts on surface water.
IND-28f	The MVP Southgate extension has significant lengths of the proposed pipeline route running over karst terrain with potential cave systems and steep slopes. It will run through watersheds prone to flash flooding. The DEIS makes it clear that the pipeline is at risk of failure due to sinkholes, landslides, and flooding. Even worse, the DEIS points out that the extensive blasting of bedrock during construction will increase the risk of landslides. Blasting poses a threat to private residents and the pipeline itself.	As stated in section 4.1.4.5, no karst features (e.g., caves, sinkholes) were identified.
IND-28g		See response SURF-7 in appendix I.2.
IND-28h		See response GEO-2 in appendix I.2.
IND-28i	Construction of the pipeline is will cause heavy erosion, leading to the pollution of local waterways. MVP construction on the mainline in WV and VA has caused hundreds of documented E & S control failures, with probably thousands of undocumented failures, there is no reason to believe that anything will be different on the Southgate extension. FERC's assumption in the DEIS that the developer will comply with standard water protection measures and uphold water quality standards is misguided and has no basis in reality.	See response GEN-6 in appendix I.2.
IND-28j	MVP Southgate will cross more than water bodies, 3 of which are major water bodies, including designated water supply, high quality, and/or nutrient sensitive water bodies. In addition, MVP is requesting to run the pipeline parallel and within 15 feet of a waterbody in 28 locations, even though FERC standard is greater than 15 feet. Allowing for less than a 50 foot setback is also against the Jordan Lake Rules which are in place to protect streams from nutrient and sediment impairment. Erosion and sedimentation is an ongoing concern in the Haw River basin, and many of our streams are impaired due to poor benthic life. Sedimentation, erosion, and increases in stormwater velocity, has left many creeks with steep, inaccessible banks, void of healthy aquatic habitat. Cutting forested streamside buffers and wetlands increases the risks of erosion and sedimentation, making the water muddier and impacting aquatic life.	See responses SURF-1, SURF-2, and SURF-3 in appendix I.2.
IND-28k	Much of the pipeline is in the flood zone of the Haw River, which has seen record flooding the past two years. This volume and velocity of water will be increased with less buffer protection and compacted soils from heavy machinery. The Haw River watershed has extremely flashy flow tendencies. The high and low flow points have not been factored into this review.	See response SURF-7 in appendix I.2.

IND-28	Maury Johnson	
IND-28l	Blasting and heavy equipment can damage infrastructure and make well water unsafe. Landowner well surveys have not been completed and locations of wells and springs are unknown and therefore impacts cannot be assessed. This is vitally important due to the fact that MVP construction in WV and VA has tainted numerous springs, wells and other water sources.	See response GW-1 in appendix I.2.
IND-28m	Being an impacted landowner and citizen monitor on the MVP mainline (FERC DOCKETCP16-10-0000), I have seen firsthand the work MVP contractors have done on the mainline and have little faith that the requirements of the erosion and sediment control plan will be met at all. Including clauses/statements like "when practicable" leaves too much subjectivity to MVP Southgate contractors. There are over 600 documented water quality and erosion and sediment erosion control violations on the mainline done by the same teams. However, leaving so much subjectivity in what is or what is not practicable allows MVP Southgate to argue the bare minimum is all that is necessary. There are sensitive watersheds along the MVP Southgate and this project and the MVP developers have demonstrated that they are incapable of completing this project in a way that prevents serious watershed or environmental degradation.	See response GEN-6 in appendix I.2.
IND-28n	The construction of the MVP Southgate pipeline extension will have a long term impact on over 25 acres of wetlands. In addition to the pipeline construction, Mountain Valley is asking for a waiver of FERC's wetland protection setbacks and plans to locate 23 additional temporary workspaces within 50 foot wetlands. This is not protective of the sensitive watersheds and should not be allowed. Furthermore,	See response WET-1 in appendix I.2.
IND-28o	construction of the pipeline would have long-term, permanent impacts to 615 acres of forested uplands, 10 acres of forested wetlands and nearly 12 acres of protected riparian forested lands in the Jordan Lake Watershed. These habitats require decades to recover from the kind of blasting, demolition and construction contemplated for this project.	Section 4.5 of the EIS discusses impacts to forests and other vegetation types.
IND-28p	Constructing this project would disturb about 1,439 acres of wildlife habitat, much of which would be permanently destroyed by the project. The project would also cross 21 perennial waterbodies containing fisheries of special concern such as the James River Spiney Mussell and the Roanoke Log Perch, which is one of the Endangered Species that has caused the USFWS to reinitiate consultation on the MVP mainline project and may lead to a loss of the ESA Permit.	Federal agency compliance for the Endangered Species Act (ESA) Section 7 is described in section 4.7.1 of the EIS.
IND-28q	The U.S. Fish & Wildlife Service told Mountain Valley to minimize impacts to vulnerable migratory bird species which uses the project area such as bald eagles, northern bobwhite, and red-headed woodpecker by avoiding clearing vegetation during the peak migratory bird nesting season (March 15 - August 15 in Virginia and April 1 - August 31 in North Carolina). Mountain Valley has defied the agency's guidance and has proposed clearing vegetation during peak nesting season, from March 15 – April 30 and from August 16-31. FERC's DEIS (CP19-14-000) ignored the obvious impacts to migratory birds that would result from this reckless activity.	Section 4.6.3.2 of the EIS discusses impacts on migratory birds.
IND-28r	As mentioned earlier construction of the Southgate extension would harm numerous aquatic species, including the Roanoke logperch, James River Spiney Mussel. It would also put in danger the Atlantic Pigtoe and smooth coneflower which is listed on the Endangered Species list or under consideration for listing, ie the Atlantic Pigtoe.	See response IND-28p
IND-28s	The construction of the MVP Southgate would leave a 72-mile long, 100-foot wide scar across VA and NC for a needless project. It would be a visual blight on the landscape and degrade the lands along its path.	Visual impacts are discussed in section 4.8.4 of the EIS.

IND-28	Maury Johnson	
IND-28t	Residents, landowners and visitors/tourist to the area would be stuck looking at the pipeline every day. It would continue the destruction of the visual impacts to the region and the loss of the use of the land by landowners, much like it already has on over 300 miles of the MVP mainline. Residents will lose the privacy and visual screens of large trees and hedgerows to construction; the pipeline and its numerous new roads that would needed to be built and operated directly next to scores of homes – and will pass right through one home; construction will render many property owners' land unusable for farming, habitation or other uses. Even so, the DEIS make the dubious claim that there will be no impacts on local property values.	See response LU-1 in appendix I.2.
IND-28u	The pipeline would also impact the experiences of countless recreational users of public parks, recreation and conservation areas by generating dust and noise pollution, scaring off wildlife, and disrupting public access during construction. Users of National Wild & Scenic River candidates like the Dan and Haw Rivers; future designated recreational water trails like the Banister River; and public trails like the Mountains-to-Sea Trail and a planned public trail in Alamance County would all be affected. The project would also clear trees within view of the Colonial Heritage Byway (Route 150 in Rockingham County), causing permanent impacts.	Impacts on recreational and special use lands are discussed in section 4.8.4 of the EIS
IND-28v	Construction of the project will cause long term impacts to the environment, yet it is unlikely to provide any positive long term effects to local unemployment rates. FERC found that any potential benefits to local economies would be temporary and minor. Long term operation of the project would create about 6 permanent jobs in each state of Virginia and North Carolina. In addition, construction schedule would overlap with peak tourism season, potentially negatively impacting the tourism economy in the area. Local employment will not be increased, property values will decrease, and any positive impacts to the surrounding economy will be short lived while the long term damage will take decades to overcome, if at all.	See section 4.9.1 of the EIS for discussion of employment. See also responses SOCIO-1, SOCIO-2, and SOCIO-8 in appendix I.2.
IND-28w	In the DEIS, FERC states they have "not yet completed the process of complying with the National Historic Preservation Act" and that miles of the proposed Southgate pipeline route are still not surveyed for cultural resources that could be damaged. In numerous instances for potential archeological sites and historic structures, FERC referenced mitigation as a solution however nowhere in the DEIS does FERC explain what mitigation measures must be or the timeline they must be completed. FERC should pursue communications with the interested indigenous tribes and should complete the process to comply with the National Historic Preservation Act before taking any additional steps on the approval process for the Southgate project. This rush to start the MVP Southgate is unnecessary as the MVP mainline currently under construction has been seriously delayed by loss of permits and other legal challenges and its completion is in doubt. Therefore MVP Southgate extension should not be approved until all legal challenges to the MVP mainline has been resolved and its future has been determined.	See response CULT-1 in appendix I.2.
IND-28x	The Lambert compressor station has the potential to emit 125,000 tons of greenhouse gases, 3.5 tons of formaldehyde each year and over 10 tons of particulate matter each year, putting nearby communities at risk for cardiovascular issues and asthma. The compressor station will be built in proximity to two Transco compressor stations already in operation. Cumulative impacts and the potential to impact human health with two minor source polluting facilities and one Title V facility (pending FERC approval) have not been adequately evaluated to assume that human and environmental health will not be adversely impacted. The added GHG emissions alone should disqualify this project from being approved. If approved it will be the cause of future litigation and probable cancelation of the project as we simply cannot continue down this path and survive as a species in the face of global climate change, largely caused by GHG emissions.	See response AIR-2 and CI-4 in appendix I.2.

IND-28	Maury Johnson	
IND-28y	The DEIS merely states that pipeline developers would comply with minimum construction and operation standards. The developers have not exhibited that they can construct the mainline in an environmentally friendly manner. There is no indication they would change their methods to construct the Southgate any differently. Why would you think the operation or construction of Southgate extension would be any different? Therefore, it gives no reason for people living within the blast radius of either project to feel safe. The National Transportation Safety Board documents interstate pipeline accidents, and its database includes numerous recent natural gas pipeline ruptures, leaks, and explosions. Moreover, studies show a spike in accidents involving new pipelines in recent years. The majority of the pipeline would be in Class 1 population density areas, meaning it would mandate the lowest safety standards and put those living near the pipeline at an even greater risk.	See response SAFE-1 in appendix I.2.
IND-28z	FERC states that impacts from construction and operation of the pipeline will be temporary and localized. However, this assessment failed to take into account the long term cumulative impacts that will occur across the region. The impacts to forest, water resources and visual degradation would most likely be severe. This is borne out by what has already happened on the MVP mainline in WV and VA. The nearly three miles of in stream work paired with the removal of vegetation along streams will have long term negative impacts to already impacted water resources.	See response CI-1 in appendix I.2.
IND-28aa	FERC is being naïve at best and ignoring the significant impacts of this project. The DEIS describes widespread, permanent impacts like the long-lasting or permanent destruction of hundreds of acres of forests and wetlands, but then turns around and says that impacts won't be significant because mitigation measures will be used during construction. Mitigation cannot prevent the significant impacts that permanent forest and wetland destruction cause. Mitigation simplify cannot be done, once these impacts have occurred, they are forever. The DEIS' reliance on mitigation measures to argue that the project will cause no significant impacts falls short because many of the mitigation measures proposed to prevent significant impacts to local resources are unknown. In many instances, the DEIS instructs Mountain Valley Pipeline to come up with mitigation measures that are currently not defined. FERC cannot claim that unknown measures will prevent significant environmental impacts. One only has to examine the MVP mainline construction In WV and VA to see that the above assessment by FERC is totally false and nowhere close to reality on the ground.	See response GEN-9 in appendix I.2.
IND-28bb	Finally the conclusion by FERC that no significant environmental impacts would be inflicted by this project while lacking the necessary information to even assess what those impacts might be is disingenuous. For example, Archaeological surveys have not been completed for the project area, preventing analysis of impacts to cultural resources. Impacted streams a site where imperiled aquatic species are suspected to live need further studies and consultation with the USFWS per the recently litigation concerning ESA permit along the MVP mainline. FERC acknowledges that MVP will use 5.9 million gallons of water in constructing the project, but has no idea where MVP will get that water from, preventing FERC from assessing the environmental impact of those water withdrawals.	See response GEN-4 in appendix I.2.

IND-30	Christopher Lish

Monday, September 16, 2019

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

Subject: Reject the Proposed Mountain Valley Pipeline and Southgate Extension -- Draft Environmental Impact Statement for the Southgate Project (CP19-14-000)

To Federal Energy Regulatory Commission (FERC) Chairman Neil Chatterjee:

IND-30a	The Mountain Valley Pipeline (MVP) Southgate Project is not in the public interest and the Federal Energy Regulatory Commission's draft environmental impact statement (DEIS) for the MVP Southgate Extension is woefully inadequate. The DEIS fails to provide adequate information for public comment, does not properly assess climate-altering greenhouse gas emissions or the effect of those emissions on the environment, and fails to fully account for all of the environmental threats posed by the MVP extension. It also minimizes the risk of impacts to private well owners' water quality. Blasting and heavy equipment can damage infrastructure and make well water unsafe. This is not a risk that affected communities and landowners should be forced to bear. *"Our duty to the whole, including to the unborn generations, bids us to restrain an unprincipled present-day minority from wasting the heritage of these unborn generations. The movement for the conservation of wildlife and the larger movement for the conservation of all our natural resources are essentially democratic in spirit, purpose and method."* *-- Theodore Roosevelt*	See responses GEN-2 and GEN-4 in appendix I.2.
IND-30b		Section 4.3.1 of the EIS includes a detailed discussion of the potential impacts water supply wells. The EIS discusses blasting and associated impacts in section 4.3.1.2. Mountain Valley would adhere to its General Blasting Plan to minimize impacts from blasting.
IND-30c	Not only will the Southgate Project create permanent adverse impacts on the local environment, it will also contribute to several more decades of global climate pollution. Studies show that existing gas infrastructure is more than sufficient to meet regional energy needs for residents and industry. Therefore, the primary beneficiaries of the pipeline will be private companies. This is deeply concerning, given that a Certificate of Public Convenience and Necessity would allow the taking of private property for this project.	See response GEN-2 in appendix I.2.
IND-30d		See response GEN-7 in appendix I.2.

IND-30	Christopher Lish	
IND-30e	*"It is horrifying that we have to fight our own government to save the environment."* *-- Ansel Adams* Construction of the pipeline is expected to cause heavy erosion and consequent sedimentation of local waterways. Yet the DEIS assumes that if MVP complies with FERC's Mountain Valley Pipeline Project Erosion and Sediment Control Plan, it would adequately avoid or minimize damage to surface waters. But current construction of the MVP main line has proven these plans and procedures are inadequate, and that MVP is	See responses SURF-2 in appendix I.2.
IND-30f	unwilling to comply. In Phase I of this project, MVP has already violated commonsense water quality protections over 300 times in West Virginia and Virginia, and is being sued by Virginia's Attorney General. Time after time, pollution and mudslides have run off their worksites and into streams, waterways, and even the homes of people living nearby. FERC's assumption in the DEIS that the developer will comply with standard water protection measures and uphold water quality standards is misguided and undermines the credibility of the DEIS' environmental analysis. If MVP has had so many problems with the first phase of this project, why should we expect that construction of this extension will be any less damaging? *"Our government is like a rich and foolish spendthrift who has inherited a magnificent estate in perfect order, and then has left his fields and meadows, forests and parks to be sold and plundered and wasted."* *-- John Muir*	See response GEN-6 in appendix I.2.
IND-30g	Erosion and sedimentation is an ongoing concern in the Haw River basin, and many of the streams are impaired due to poor aquatic life. Sedimentation, erosion, and increases in stormwater velocity have left many creeks with steep, inaccessible banks which are devoid of healthy aquatic habitat. Cutting forested streamside buffers and wetlands increases the risks of erosion and sedimentation, increasing turbidity levels and impacting aquatic life. Much of the pipeline is in the flood zone of the Haw River, which has seen record flooding during the past two years. This volume and velocity of water will be increased with less buffer protection and compacted soils from heavy machinery. The Haw River watershed has extremely variable high flow tendencies. The high and low flow points have not been factored into this review. *"If some are prosecuted for abusing children, others deserve to be prosecuted for maltreating the face of nature committed to their care."* *-- Henry David Thoreau*	See response SURF-2 and SURF-7 in appendix I.2.

IND-30	Christopher Lish	
IND-30h	Adjacent communities already face contaminated drinking water sourced from the Dan River, Haw River, and surface water reservoirs. Additional public water supply intakes are located downstream of these stream crossings. Though these intakes are further downstream than the DEIS assessment limit of three miles, many of the contaminants that could impact drinking water quality do not break down, and, therefore, the three mile limit for downstream impacts is arbitrary and does not provide an accurate assessment of the full scope of impacts. *"An unwritten compact between the dead, the living and the unborn requires that we leave the unborn something more than…depleted natural resources."* *-- A Washington State Court decision*	See response SURF-4 in appendix I.2 and SA-2a-2 in appendix I.3. See also section 4.3.2.1 of the EIS for discussion of public water supply intakes.
IND-30i	The work MVP contractors have done on the mainline is wholly inadequate and no one should have any faith that the requirements of the erosion and sediment control plan will be met at all. Including clauses like "when practicable" leaves too much subjectivity to MVP Southgate contractors. However, leaving so much subjectivity in what is or what is not practicable allows MVP Southgate to argue that the bare minimum is all that is necessary. This is a sensitive watershed, and this project cannot be completed in a way that prevents serious watershed degradation. *"The ultimate test of a moral society is the kind of world that it leaves to its children."* *-- Dietrich Bonhoeffer*	See response GEN-6 in appendix I.2.
IND-30j	FERC is ignoring other significant impacts of this project. The DEIS describes widespread, permanent impacts--like the long-lasting or permanent destruction of 615 acres of forested uplands, ten acres of forested wetlands and nearly twelve acres of protected riparian forested lands in the Jordan Lake Watershed--but then turns around and says that these impacts won't be significant because mitigation measures will be used during construction. Mitigation cannot prevent or repair the significant impacts of permanent forest and wetland destruction and these habitats will require decades to recover from the kind of blasting, demolition, and construction contemplated for this project. *"As we peer into society's future, we—you and I, and our government—must avoid the impulse to live only for today, plundering for our own ease and convenience the precious resources of tomorrow. We cannot mortgage the material assets of our grandchildren without risking the loss also of their political and spiritual heritage. We want democracy to survive for all generations to come, not to become the insolvent phantom of tomorrow."* *-- Dwight D. Eisenhower*	See response GEN-4 and GEN-9 in appendix I.2.

IND-30	Christopher Lish	
IND-30k	The DEIS' reliance on mitigation measures to argue that the project will cause no significant impacts is inadequate because many of the mitigation measures proposed to prevent significant impacts to local resources are unspecified. In many instances, the DEIS instructs MVP to come up with mitigation measures that are currently not defined. It's disingenuous for FERC to claim that unknown measures will prevent significant environmental impacts. *"Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish—indeed, all the living creatures of prairie and woodland and seashore—from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement."* *-- Theodore Roosevelt*	See response GEN-9 in appendix I.2.
IND-30l	FERC concluded that no significant environmental impacts would be inflicted by this project while lacking the necessary information to assess what the impacts to various environmental resources would be. For example, MVP has yet to provide FERC with its feasibility studies for its plan to cross Deep Creek with the pipeline, a site where imperiled aquatic species are suspected to live. FERC acknowledges that MVP will use 5.9 million gallons of water in constructing the project, but MVP has not identified where	Mountain Valley provided feasibility studies and crossing plans for each of the waterbodies to be crossed by HDD or conventional bore. We have updated section 4.3.2.2 of the EIS with this information.
IND-30m	it will source that water, preventing FERC from assessing the environmental impact of those water withdrawals. Lastly, archaeological surveys have not been completed for the project area, preventing analysis of impacts to cultural resources. *"Do not suffer your good nature, when application is made, to say 'Yes' when you should say 'No'. Remember, it is a public not a private cause that is to be injured or benefited by your choice."* *-- George Washington* I urge FERC to reject MVP's request for a certificate of public convenience and necessity. This dirty, dangerous fracked gas pipeline is a serious threat to the water we drink, the air we breathe, and the fabric of our communities. The record of MVP has proven there's no safe way to build this pipeline. *"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."* *-- Aldo Leopold* Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources. Sincerely, Christopher Lish San Rafael, CA	See response SURF-6 in appendix I.2.

IND-36	Katie Whitehead	
IND-36a	**Docket No. CP19-14-000** **Specific Comments Regarding the MVP Southgate Project** **Draft Environmental Impact Statement** **Submitted September 16, 2019 by Katie Whitehead** Commenting on specific aspects of the proposed MVP Southgate Extension Project is difficult. FERC's Southgate Project DEIS doesn't stand alone. I feel sure that I have not found all the references to my family's property in Mountain Valley's November 2018 application, FERC's repeated requests for more information, and Mountain Valley's multiple responses, supplemental materials, and comments submitted up through just last week. Coded names for land, property owners, access roads, workspaces, streams, etc. are hard to decipher and keep track of. Multiple submissions referencing, changing and amending earlier documents make it almost impossible to know whether I am addressing the current plan. For example, the November 2018 application seems to be the only place to find the proposed route broken down by mileposts, and even that is on a scale too small to show what happens on a particular property. Has the plan for my family's property changed since then? I don't know. Where there is different information within a document or between two documents, does it represent a change or a sloppy inconsistency? There is no one place to look to confirm what is being proposed. Consequently, my comments may not be entirely up to date. I have made my best effort in the time available. I would appreciate more time. Among my primary concerns is the lack of close attention given by Mountain Valley or FERC to the co-location of Southgate with the existing Williams Transco right of way. There is no evidence that Williams Transco, which already delivers gas to Dominion Energy North Carolina, cannot continue to provide the needed gas reliably. There is also no evidence that anyone has recognized and acknowledged the fact that the Williams Transco ROW has ample space for another gas pipeline. Mountain Valley's maps are inconsistent in whether any Williams Transco pipelines are shown; yet, typically, if one is shown, it is drawn at the ROW boundary line, not its actual location, which, on our property is forty feet away.	The most recent information regarding the proposed Project design and layout is available from the FERC eLibrary using accession numbers 20191023-5022 and current alignment sheets are available using accession number 20191220-5298.
IND-36b		See section 3.3.2.1 of the EIS for an analysis of the Transco Alternative.
IND-36c		The existing pipeline right-of-way may or may not be defined on any given parcel. In some circumstances, the right-of-way is defined off the exact location of a specific pipeline per the easement with the landowner and additionally, the maintained right-of-way that is visible on the alignment sheets and in the field may not represent the actual width of the easement. Mountain Valley is utilizing the best available information to route the pipeline, providing 50 feet of spacing from the estimated location of the closest Williams pipeline and the centerline of the pipeline easement, which is an Interstate Natural Gas Association of America (INGAA) standard for parallel facilities. Mountain Valley continues to coordinate with Williams on the location of its pipelines and extent of its easements and anticipates that line locating will take place prior to the start of construction.
IND-36d	Another concern is presumed need for a 100' construction easement. Southern Virginia is not steep terrain. In 2007 Williams Transco was able to install a 42" line from, for the most part, a 40-foot cleared area on one side and piled dirt and rock on the other side – over an existing pipeline. Installing a 24" line alongside should not require clearing 100' of trees.	In its application and as described in the final EIS, Mountain Valley has adequately justified the need for proposed construction workspace.

IND-36	Katie Whitehead	
IND-36e	As I have told FERC staff repeatedly in person, by telephone, and through written comment, my family's land is a tree farm. To use your terminology, our land is in a timber management program; it is a pine plantation; it is silviculture. The proposed Southgate route on our land is through loblolly pines and hardwoods – all of which are growing for production. I see no evidence in any documents that this land use is recognized, much less the impact of Southgate on our trees.	Section 4.8.1.1 discusses impacts to silviculture lands. The section has been updated to clarify that this would include loblolly pines and hardwoods grown for production.
IND-36f	Below I try to show in graphic detail the proposed co-location of Southgate with Williams Transco. As proposed, there is no benefit to co-location. I also show what would be possible if FERC and Mountain Valley and Williams Transco actually look at the existing ROW, the proposed route for a 24" Southgate pipe and cooperate to minimize the impact on the environment and landowners. I use the layout on my family's property; however, I feel sure this situation exists more generally. The entire co-location route should be analyzed and revised.	Comment noted.
IND-36g	Below I also address mistakes regarding proposed Mountain Valley temporary workspaces and an access road on the Williams Transco ROW. This is all I have time for. There's more. I intend to provide additional specific comments.	The EIS has been updated as appropriate.

IND-37	Jeannie Ambrose

Draft Environmental Impact Statement [DEIS] for the Mountain Valley Pipeline-Southgate Project
Docket No. CP19-14-000

Public Comments
September 16, 2019

2019 SEP 16 P 4:38

GENERAL COMMENT.

On August 22nd, 2019, I attended the scoping hearing at the Vailtree Conference Center, Haw River. Unfortunately, no MVP-SG engineer was available at this meeting to answer a few questions that I had. The MVP staffers suggested that I speak to a FERC representative. The FERC personnel were able to direct me to some information in the tables in the appendices.

THE MVP-SG PROJECT IS NOT NECESSARY AND, CERTAINLY, NOT IN THE PUBLIC INTEREST.

IND-37a	I have serious concerns that the adverse impacts to natural resources and public health and personal wealth posed by the construction and operation of the proposed Southgate extension project would outweigh any real benefits to the communities along the pipeline route. The potential risks are especially troubling since the need for the Project is unsubstantiated. According to the NC Department of Environmental Quality and other stakeholders, the existing and upgraded natural gas infrastructure is adequate to handle current and projected regional energy demands. The transition in NC from a 24-inch to 16-inch diameter natural gas transmission pipeline running from the Eden area to Graham seems to indicate the possible lack of demand for extra gas from any new commercial and industrial end user in central NC other than PSNC. The smaller diameter pipeline, currently proposed, no longer required the proposed construction of the Russell Compressor in NC. In addition, the processing of some of the compliance requirements from state and federal cooperating agencies is incomplete. There were items missing in different sections of the draft as noted in bold face. This made it difficult to determine if the applicant adequately satisfied the criteria required for FERC's issuance of a Certificate of Public Convenience and Necessity.	See response GEN-2 in appendix I.2.
IND-37b		See response GEN-4 in appendix I.2.

4.1. GEOLOGY.

IND-37c	Along with soil type, the topography and drainage of the river basins can lead to flash flooding with high velocity flows creating erosion and sedimentation problems.	See response SURF-7 in appendix I.2.
IND-37d	Blasting hard bedrock at some stream crossings during excavation can cause additional erosion.	See response GEO-2 in appendix I.2.

4.2. SOILS.

IND-37e	The proposed pipeline traverses 20 miles of erodible soil in Alamance Co. Erosion and sediment from land-disturbing construction activities is a serious problem. Bare and unprotected soil surfaces are more susceptible to moderate to severe erosion. This is made worse by heavy machinery compacting the soil during construction.	Impacts on soils are discussed in section 4.2.2 of the EIS.

IND-37	Jeannie Ambrose	
IND-37f	**4.3. WATER RESOURCES.** • 81 stream crossings 1. The Haw River and Jordan Lake already have nutrient and sedimentation problems from runoff and erosion that impair aquatic life. 2. Locating pipelines within 15 feet of a water body in 28 locations, including within the Jordan Lake watershed, essentially eliminates the effectiveness of riparian buffers to control water pollution and stabilize the streambank. Less stream buffer protection and more deforestation increases the potential to accelerate erosion and sediment flow and transport. Runoff of sediments into waterways increases turbidity that impairs aquatic life. Water with more suspended particles heats up more than clear water. Nutrient laden runoff and warmer water encourage oxygen-depleting blue-green algal [cyanobacteria] blooms as they decompose.	Section 4.3.2 describes the effects of the Projects on surface waterbodies.
IND-37g	2. Construction and operation of the proposed Project in the flood zone of the Haw River could further degrade water quality in the watershed and disrupt functioning ecosystem services provided by wetlands. Surface and subsurface disturbances from excavation, re-routing of the watercourse, and blasting of stream bedrock could alter pathways of groundwater. The full impacts to land owners who rely on water wells and springs for domestic and agricultural water supplies are unknown since the location of all these water sources have not been completed.	See response SURF-7, GEO-2, and GW-1 in appendix I.2.
IND-37h	3. The construction of the Project will require 5.9 M gallons of water. The potential environmental impacts cannot be determined since the source(s) of the water withdrawal is unknown.	Water sources are addressed in 4.3.2.6 of the EIS.
IND-37i	4. PFAS-related chemicals and 1,4-Dioxane, two of the emerging chemicals of concern, are detectable in our drinking water and agricultural fields. Chemical pollution from the application of Earth Guard Edge, an erosion control product used in West Virginia, and the breakdown of toxic chemicals from exterior, epoxy pipe coating exposed to soil moisture and groundwater could contribute to further environmental degradation. All of these contamination problems affect communities downstream.	See response IND-4f in appendix I.3. EarthGuard Edge pellets contain linear polyacrylamide (PAM) which is synthetic soil stabilizer. According to the VADEQ Erosion and sediment Control Handbook and NCDEQ Erosion and Sediment Control Planning and Design Manual, synthetic soil stabilizers are identified as an option for use in conjunction with mulch as a best management practice for soil stabilization. According to the manufacturer, EarthGuard Edge is non-toxic, 100 percent biodegradable, and meets National Sanitation Foundation (NSF) drinking-water standards.
IND-37j	5. A decision on the 404 permit for dredged or fill material into waters of the U.S. is forthcoming.	Comment noted. Mountain Valley would be required to acquire all necessary federal permits prior to commencing construction.
IND -37k	**4.4. WETLANDS.** • Permanent impact to 10 acres of forested wetlands We cannot afford to lose more wetlands. Intact wetlands are important for biodiversity and provide benefits that improve water quality by slowing water flow, act as a carbon sink, filter pollution, and can be a destination for wildlife enthusiasts that enjoy being in nature.	Comment noted. Section 4.4.2 discusses impacts to wetlands.

IND-37	Jeannie Ambrose	
IND-37l	**4.5. VEGETATION.** Permanent impacts: • 615 acres of forested upland • ~12 acres of protected riparian forested lands in the Jordan Lake 1. As stated in the DEIS, ~39 miles of the pipeline route would be constructed adjacent to existing rights-of-ways. Over a 1/3 of the ~74 mile-long pipeline route is forested. Green field construction would lead to deforestation and destruction of natural habitats. Loss of vegetation can increase the speed of water flowing across surfaces into waterways. 2. Habitat fragmentation can result in the loss of natural plant communities that support wildlife.	Interior forests, habitat fragmentation, and impact to wildlife are discussed in detail in section 4.5.4.3 and 4.6.1.1of the EIS.
IND-37m	3. Easements can act as corridors for dispersal and spread of invasive species. Routine maintenance to control growth of weeds and trees in R-O-Ws may require toxic chemical application that can contaminate the water and/or the soil.	As detailed in section 4.5.4.1, Mountain Valley would follow measures outlined in its Exotic and Invasive Plant Species Control Plan.
IND-37n	**4.6. WILDLIFE AND FISHERIES.** • 1,439 acres of wildlife habitat will be disturbed. 1. Parts of the NC Forest Legacy Areas, Piedmont Land Conservancy Easements in NC, and Virginia Forest Bloc Complex Important Bird Area could be affected. 2. Pipeline crossings occur at 21 perennial water bodies with fisheries of special concern with 8 in Virginia and 13 in NC	Impacts and mitigation to wildlife and fisheries are described throughout section 4.6 of the EIS.
IND-37o	**4.7. THREATENED, ENDANGERED, AND OTHER SPECIES.** 1. Greater riparian buffers are needed if rare species are present. 2. The constant noise and light of a compressor station, running 24/7, negatively affects both people and wildlife populations especially in rural areas. 3. As many as 20 threatened and endangered species of birds like the bald eagle and northern bobwhite. The Roanoke logperch and other fish, mussels and plants could be affected by land disturbance and loss of habitat.	See section 4.7 of the EIS for a discussion of impacts to listed species. See also response T&E-1, T&E-2, and NOISE-1 in appendix I.2.
IND-37p	**4.8. LAND USE, SPECIAL INTEREST AREAS, AND VISUAL IMPACTS.** • 1,300 acres of land disturbance during construction • 452 acres for pipeline operation 1. There may be limited/restricted practical land use for landowners along clear-cut 125-feet easements. 2. The future use of property passed to heirs may be limited.	See response LU-1 in appendix I.2.
IND-37q	**4.9. SOCIOECONOMICS.** *Our streams are too important to our economy & community to risk them to polluting companies.* 1. The economic benefits from any jobs and spending are often short-term gains, ending after the construction phase is completed. It is expected that as few as six permanent jobs in each state of VA & NC will be created. 2. Property values will be reduced by over 10% along the proposed pipeline route. 3. Local governments and residents may eventually bear the brunt of remediation costs for any damages and cleanups not covered by the company. 4. Utility customers should not end up paying for the buildup of unneeded utility infrastructure. MVP should be held accountable for stranded assets. 5. Communities have invested in marketing outdoor recreation to increase tourism. Construction along water bodies detracts from the natural beauty and aesthetics that visitors want to experience.	Socioeconomics are discussed in section 4.9 o f the EIS. See also responses SOCIO-1, SOCIO-6, and SOCIO-2 in appendix I.2.

IND-37	Jeannie Ambrose	
IND-37r	**4.10. CULTURAL RESOURCES.** To protect their natural and cultural resources from potential risks, the Alamance Co. commissioners unanimously voted in 2018 on a resolution against the proposed 20-mile extension into their county. 1. While the survey process for culture resources is being completed, damage to potential archeological sites and historic structures could occur. 2. What mitigation measures would be taken and when would they be completed?	See response CULT-1 in appendix I.2. Section 4.10 of the EIS has been updated with additional information regarding cultural resource surveys and consultations.
IND-37s	**4.11. AIR QUALITY AND NOISE.** Poor air quality is a significant global public health concern. CO, NO_X, volatile organic compounds, coarse and fine particulates, hazardous air pollutants and greenhouse gases are emitted from diesel engines and released from the proposed compressor station. Human exposure to these harmful air pollutants can exacerbate pre-existing health conditions in certain sensitive populations and cause cardiovascular and respiratory problems over time in others.	See response AIR-2 in appendix I.2.
IND-37t	**4.12. RELIABILITY AND SAFETY.** 1. The event of a pipeline emergency may be rare but it can be catastrophic when pipelines rupture, leak, or explode causing loss of life and property [as in Durham, NC, this year]. The pipeline route would mostly run through Class 1 population density areas. Lower safety standards are specified for Class 1: thinner walled pipes and fewer shut-off valves or manual shut-off valves. I live in close proximity to the boundary of the "blast" or "incineration" zone and receive periodic leak recognition and response safety notices. When the gas transmission pipeline was installed in our rural area decades ago, we were classified as Class 1. Since that time, the density of residential homes has increased but I have not been notified of any pipeline upgrades. Are we now at greater risk as this buried pipeline ages? Does the local emergency response team have the expertise and equipment to safely handle a hazardous pipeline accident? Currently, the local fire department has been able to contain but not extinguish a smoldering fire in a nearby development. 2. FERC's DEIS for the MVP-SG assumes that the adverse impacts of pipeline construction will have on natural and cultural resources can be minimized or avoided by following its recommended mitigation plans or procedures. There is no assurance that this is likely based on the hundreds of state and federal water quality violations already reported for the construction work done by the Mountain Valley Pipeline contractors in Virginia and West Virginia. 3. Restoring and maintaining the health of the environment "when practical" are unacceptable responses from the contractors.	See section 4.12 of the EIS for discussion on reliability and safety. See also SAFE-1, SAFE-2, SAFE-3, and GEN-6.
IND-37u	**4.13. CUMULATIVE IMPACTS.** There are information gaps from cooperating federal and state agencies that are not able to submit their survey findings until after the public comment period. Their results would add more evidence for all the environmental threats this pipeline extension poses. This documentary material is needed to fully assess cumulative environmental impacts. Land disturbances can contribute to cumulative impacts associated with the Project's pipeline construction that are detrimental to natural ecosystems and future land use.	See response CI-1 in appendix I.2.

IND-37	Jeannie Ambrose	
	5.0. CONCLUSIONS OF THE DEIS. *We conclude that approval of the Project would result in some adverse environmental impacts, but these impacts would be reduced to less-than-significant levels through implementation or our recommendations and Mountain Valley's proposed avoidance, minimization, and mitigation measures.*	
IND-37v	1. What are these mitigation measures? 2. How will these measures prevent significant environmental impacts?	See response GEN-9 in appendix I.2.
IND-37w	**POINTS NOT INCLUDED IN DEIS.** 1. DEIS fails to fully assess all the environmental threats to our natural resources from the construction and operation of the proposed Southgate project.	See response GEN-4 in appendix I.2.
IND-37x	2. A review of a no-action alternative is missing. For example, what economic benefits could come from improving the energy efficiency of the existing infrastructure? Are there safer and more cost-effective ways to meet our energy needs that can both reduce our dependence on fossil fuels and provide more permanent jobs in our communities.	Section 3.2 discusses the No Action Alternative. See also response ALT-2 in appendix I.2.
IND-37y	3. Assessment of environmental justice issues and demographics on health disparities from pollution exposure in local communities are not provided (e.g. Green Level's Black community). 4. Methane is a component of natural gas and a more potent greenhouse gas than carbon dioxide contributing to the global climate crisis. The assumption that another pipeline is needed to transport fracked gas produced in the Marcellus and Utica shale regions to meet energy demands in NC is questionable. We face an uncertain future if GHG emissions continue at the current rate or begin to accelerate even faster. The rising economic cost of more frequent and intense weather extremes are already being felt. Investing in natural gas infrastructure prolongs our dependence on fossil fuels and away from a sustainable future. The burning of fossil fuels is emerging as a driving force in altering the Earth's atmospheric chemistry.	The Green Level Community is not crossed by the Project. Air quality impacts on public health are discussed in detail in section 4.11.1.7. Additionally, potential air quality impacts on vulnerable populations are discussed in section 4.9.8 of the EIS. See the revised Socioecomic section 4.9.8 for further information on Environmental justice
IND-37z	Reject the MVP's application request for the Southgate expansion for all these reasons. Thank you for the opportunity to submit public comments to communicate our concerns. Jeannie Ambrose Pittsboro, NC 27312	Climate change and greenhouse gas impacts are discussed in section 4.13.2.9. See also response CI-1 in appendix I.2.

IND-41	Katie Whitehead

Docket No. CP19-14-000 - MVP Southgate Project Draft Environmental Impact Statement

Follow-up Comments (per FERC staff recommendation)

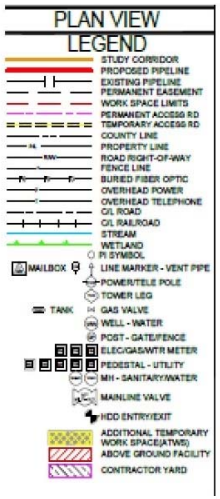
Regarding Co-location of the Proposed MVP Southgate Pipeline and Existing Williams Transco Pipelines

Submitted November 17, 2019 by Katie Whitehead

It's generally understood that FERC Commissioners are responsible for determining whether a proposed interstate pipeline project meets a critical public need that justifies taking private land. But Commissioners should also be accountable for what land along a proposed pipeline route is truly needed. Pipeline companies should not be granted the power of eminent domain and the authority to impose damaging environmental impacts on any more land than is necessary for pipeline construction and maintenance. Companies routinely tout the benefits of co-location, as if co-location automatically minimizes environmental impact. As currently proposed, MVP Southgate does not use co-location to minimize environmental impact.

In response to my September 16 comment on the DEIS, FERC asked Mountain Valley for additional information on Resource Report 10 - Alternatives 49.a. and referred Mountain Valley to my comment. Mountain Valley responded, but only partially. When I pointed this out to FERC project manager Amanda Mardiney, she recommended that I submit a follow-up comment to the FERC docket restating my requests and concerns and clarifying that my comment applies beyond one alignment sheet and my family's property. Due diligence requires that FERC address co-location on all affected properties and revisit the temporary workspace width on all properties.

The alignment sheet copied below, showing the proposed MVP Southgate route and construction areas on my family's tree farm, is an example of co-location of MVP Southgate with the existing Williams Transco right of way through Pittsylvania County, VA and into Rockingham County, NC. We would appreciate further efforts by FERC to minimize environmental impact on our family's tree farm. The same effort should be applied to all properties targeted for co-location on the MVP Southgate route.



Location of Williams Transco Pipelines

If one zooms in to about 300% on the alignment sheet on page four below, one may be able to make out the small print and thin lines identified in the legend.

The map shows the "EXISTING PIPELINE" (labeled "Williams Transco Pipeline") as a single broken black line with vertical bars located near the proposed "WORK SPACE LIMITS" indicated by a broken red line. The single broken black line with vertical bars, in fact, marks the SE boundary of the Williams Transco ROW, a 155' corridor containing four pipelines, a fiber optic cable, and an electric cable. The nearest Williams Transco Pipeline (D-Line) is 40' from the line shown on the map. Not all co-location properties have four Williams Transco pipelines (some have three) or a 155' ROW (many are undefined); nevertheless, the same error occurs on other alignment sheets: the single broken black line with vertical bars is far from the actual location of the closest Williams Transco gas line.

The red cloud-like outline along the bottom of the map appears to indicate an access road on the Williams Transco ROW and work area that were eliminated from the project on our property. We are grateful that Mountain Valley cancelled this part of its plan.

Width of Temporary Workspace

According to MVP's October 18 response, "The Project offers to reduce temporary workspace from 100 feet to 75 feet for the entire distance on this property due to the sensitivity of tree clearing." We are grateful for this offer. Such a reduction would seem appropriate for other properties on the MVP Southgate route, as well. We encourage FERC scrutiny of the full length of the Southgate project.

Need for Metes and Bounds - Where does Mountain Valley propose locating the Southgate pipeline?

In its response to FERC, Mountain Valley did not respond to my inquiry and request regarding where the company proposes locating the Southgate pipeline. Mountain Valley has never indicated precisely where its proposed temporary or permanent ROWs would be located on the ground and in relation to the Williams Transco gas lines. As far as I can tell, **no metes and bounds are provided on the alignment sheets or anywhere else.** This concern relates to my family's property and to all other properties targeted for co-location.

IND-41a	See response IND-36c.
IND-41b	Mountain Valley was able to make this adjustment due to the route, topography, and presence of other environmental features specific to this property. Mountain Valley has reduced workspace in many other locations along the project for multiple reasons, including per the request of landowners through collaborative negotiations.
	Information such as metes as bounds would be included in exhibits prepared for the easement package for land acquisition.

IND-41	Katie Whitehead	
IND-41d	**Distance between Pipelines – What does Mountain Valley propose?** Mountain Valley originally proposed a distance of 80' between the two companies' gas lines and a 15' permanent gap between the two companies' ROWs on our land. (!) Mountain Valley's offer "to reduce temporary workspace from 100 feet to 75 feet for the entire distance on this property" provides no information about the distance between the pipelines or the distance (if any) between the two companies' permanent ROWs. **True Co-location – FERC's Responsibility** My September 16 comment pointed to the appropriateness of reducing the space between the Williams Transco D-Line and the proposed MVP Southgate line to the minimum necessary for safety purposes. **Please ask Mountain Valley to locate its pipeline the standard 25' minimum distance from the existing pipeline, measured from the center of Williams Transco D-Line as illustrated on page five.** • There is approximately 25' between the existing Williams Transco pipelines and cables, which I understand is standard industry practice. • There is no need for more than 25' between the nearest existing Williams Transco line and the MVP Southgate line. I understand that some large gas pipelines are 15' apart. • Williams Transco has a 40' buffer next to its existing D-Line on my family's land. Though this might appear to be space Williams Transco could reserve for a fifth line, it isn't – because the company does not have comparable space on other properties. • I've been told that neither Williams Transco nor Mountain Valley would want the other company to install a pipeline between the existing Williams Transco line and the Southgate line. If there were 25' between the two lines, this would not be an issue. Both companies would be protected. • Using the UNUSED portion of the Williams Transco ROW would significantly reduce environmental impact of MVP Southgate and preserve silviculture. Reducing Mountain Valley's originally proposed 80' distance between the pipelines to 25' would greatly reduce the number of trees to be clear-cut and the permanent loss of silviculture. True co-location could greatly reduce environmental, economic, and other impacts on landowners - both during construction and long-term. FERC Commissioners cannot claim that taking private land is justified if they fail to require true co-location.	See response IND-36c. Alignment sheets note a distance of 50 feet between Transco's pipeline and the proposed Southgate pipeline. placing separate pipelines from differing operators less than 50 feet from one another creates safety concerns and operational difficulties. 50 feet of spacing is the INGAA standard for parallel pipeline facilities. Mountain Valley would use workspace within the Transco permanent right-of-way easement temporarily for spoil storage during construction based on arrangements with Transco. Typical drawings of the Project configuration are provided in Appendix B.2 of the EIS. Standard distances between utilities have been maintained by Mountain Valley as depicted in the Project alignment drawings.
IND-41e	**Spillway – Not Mentioned in Previous Comment** I did not mention in my September 16 comment the mislabeling of a "stream," visible on the alignment sheet at approximately MP4.8. The Williams Transco ROW crosses the spillway for the small lake shown in the aerial view. With the heavy rains of 2018 the spillway was, at times, a stream. We are in negotiation with Williams Transco regarding restoration and maintenance of the spillway.	The spillway is identified as S-E18-4, a surface water feature with intermittent flow on the alignments and in appendix B.5. This feature would be treated as a surface water crossing during construction.

APPENDIX J

Southgate Project Keyword Index

KEYWORD INDEX