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Regulatory Agency Capture: How the Federal Energy Regulatory Commission Approved the Mountain Valley Pipeline

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**Regulatory Agency Capture:
How the Federal Energy Regulatory Commission Approved the Mountain
Valley Pipeline**

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April 30th, 2021

Senior essay submitted in partial fulfillment of the
requirements for the degree of the Bachelor of Arts in Political Science

“One cannot review the procedural history of this case, and others like it, without concluding that something is amiss. Landowners watch as their property is handed over to pipeline companies and irreparably transformed, all without judicial consideration of the crucial question: Should the pipeline exist?”

- Judge Griffith, Judge Katsas, & Judge Rao
in *Alleghany Defense Project et al. v. Federal Energy Regulatory Commission* (2020)

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Abstract

The FERC's history of approving nearly 100% of pipelines and divisive pipeline cases like the Atlantic Coast Pipeline and Mountain Valley Pipeline have driven landowners' long-standing claims of regulatory agency capture of the FERC. The present research substantiates the claim of capture with a case study of the Mountain Valley Pipeline and uncovers that the FERC is both culturally and corrosively captured. This research also suggests that the capture of the FERC began at its conception during the natural gas crisis and subsequent natural gas bubble, which caused the FERC to follow the industry's lead. These findings indicate that the FERC's policies and procedures must be modified to distance it from the natural gas industry and further incorporate the public's voices into its decision-making process.

Key Terms: Federal Energy Regulatory Commission (FERC), Capture, Mountain Valley Pipeline (MVP), Certificate of Public Convenience and Necessity (CPCN), Natural gas pipelines

I. Introduction

The Federal Energy Regulatory Commission (FERC), the agency which approves natural gas pipeline proposals, rejected only two pipelines and approved 400 pipelines from 1997 to 2017.¹ The FERC's record of approving approximately 99% of pipelines including when the necessity for the pipeline is contested has led many landowners to charge it with capture or when "regulators consistently [favor] the preferred policies of targets of regulation, resulting from an exercise of power by the regulated industry."²

While the FERC certifying approximately 99% of pipeline projects over twenty years suggests capture, the record alone cannot substantiate capture for several reasons.³ First, capture is not a dichotomy where an agency is labeled captured or uncaptured.⁴ Instead, a specific mechanism of capture must be identified to prove and remedy capture. Capture has been classified into two main types: 1) material capture where an industry persuades regulators using its resources and 2) cultural capture where the regulator is persuaded by the identity of the regulated industry.^{5,6} There is also 3) corrosive capture where the regulator "corrodes" the legislation's intent, but corrosive capture does not indicate a clear mechanism of capture and often coexists with another form of capture.⁷ Regulatory capture is additionally placed along a

1. Tierney, Susan, *Natural Gas Pipeline Certification Policy Considerations for a Changing Industry*, (New York: Analysis Group), 1-36.

https://www.analysisgroup.com/uploadedfiles/content/insights/publishing/ag_ferc_natural_gas_pipeline_certification.pdf

2. Rex, Justin, "Anatomy of agency capture: An organizational typology for diagnosing and remedying capture," *Regulation & Governance* 14, no. 2 (2020): 273.

3. Carpenter, Daniel, "Protection without Capture: Product Approval by a Politically Responsive, Learning Regulator," *American Political Science Association*, (2004): 613-631.

4. Rex, "Anatomy of agency capture," 271-294.

5. Ibid.

6. Kwak, James, "Cultural Capture and the Financial Crisis," in *Preventing Regulatory Capture*, ed. Carpenter, Daniel & Moss, David, (Cambridge: Cambridge University Press, 2014), 71-98.

7. Carpenter, Daniel & Moss, David, "Introduction," in *Preventing Regulatory Capture*, ed. Carpenter, Daniel & Moss, David, (Cambridge: Cambridge University Press, 2014), 1-22.

dimension of strong to weak capture in a solid capture diagnosis.⁸ Lastly, capture cannot be deduced from a pro-industry record alone because there are a number of parallel forces in the legislature and bureaucracy. For example, an agency's pro-industry record can be the result of the Executive's influence or "electorally sanctioned pro-business governance."⁹



Fig. 1 - 2017 map of MVP route. Figure by Oil Change International & BOLD Alliance¹⁰

Therefore, though the FERC approving approximately 99% of natural gas pipelines suggests capture, it is not sufficient to prove capture.¹¹ As a result of the need to substantiate or debunk the popular claim of the FERC's capture, this research assessed the capture of the FERC using a case-study of the Mountain Valley Pipeline (MVP). The MVP is a 303-mile natural gas pipeline under construction in West Virginia and Virginia (see figure 1). The MVP was selected

8. Ibid.

9. Carpenter, Daniel, "Detecting and Measuring Capture," in *Preventing Regulatory Capture*, ed. Carpenter, Daniel & Moss, David, (Cambridge: Cambridge University Press, 2014), 66.

10. Oil Change International and BOLD Alliance, *The Mountain Valley Pipeline: Greenhouse Gas Emissions Briefing*, (Washington, D.C: Oil Change International, 2017), 1-4,

http://priceofoil.org/content/uploads/2017/02/mountain_valley_pipe_web_final_v1.pdf

11. Tierney, Susan, *Natural Gas Pipeline Certification Policy Considerations for a Changing Industry*, (New York: Analysis Group), 1-36.

https://www.analysisgroup.com/uploadedfiles/content/insights/publishing/ag_ferc_natural_gas_pipeline_certification.pdf

for several reasons including its in limbo status with pending federal authorizations, its substantial record with the FERC, and its location in the Appalachian region which has been disproportionately affected by energy interests. Current FERC Chairman Glick's comments in dissents on the FERC's MVP decisions have also indicated an understanding of why landowners see the FERC as a rubber stamp for the industry, making the MVP ripe for study.¹² In applying a case study approach to the MVP's path to approval and interviewing stakeholders familiar with the MVP, this research finds that the FERC is weakly captured with both cultural and corrosive capture.

The FERC's cultural capture is most clearly demonstrated by the repeated influence the MVP has over the FERC. In numerous instances, the FERC appears to weigh comments from the MVP more than public opinion or the opinion of its own consultants, such as when the FERC approves variance requests, allows the MVP to resume construction without all its permits, or gives into the MVP and abandons environmental impact analysis. Furthermore, the FERC's corrosive capture is exhibited by the FERC's actions which corrode both the Natural Gas Act, Natural Gas Policy Act, and other bedrock environmental laws. For example, the FERC's practice of tolling ~96% of rehearing requests during the study effectively delays due process long enough for the pipeline to near completion. Another key example of the FERC's corrosive capture is the FERC's unprecedented interpretation of Environmental Condition 9 on the MVP, which typically requires that pipelines have their permits together to construct. On the MVP, the FERC decided that this condition meant the MVP only needed permits when it began construction and not throughout construction. In contrast to cultural and corrosive capture evidence, the case study revealed no evidence of material capture besides a weak revolving door

12. Glick, Richard, "Commissioner Richard Glick Dissent Regarding Mountain Valley Pipeline, LLC.," (Dissent, Washington, DC: Federal Energy Regulatory Commission, December 17, 2020).

association. Overall, the FERC's capture is deemed weak by this research because the FERC does useful environmental mitigation and a free-for-all on natural gas pipelines can lead to overbuilding and resource sacrifice zones.

After determining the FERC was experiencing capture via the MVP case, this paper investigated when and how capture began with researching the history of the Federal Power Commission (FPC) which preceded the FERC in regulating natural gas pipelines and reviewing the regulatory history of the FERC. The review exposed that the FPC experienced agency decay, particularly after vague legislation and a ruinous Supreme Court decision that buried the FPC in regulatory work and inadvertently led to the natural gas crisis.^{13,14} Following the early natural gas crisis and the Natural Gas Policy Act of 1978, the FERC also demonstrated corrosive and cultural capture when the FERC codified the industry's actions and sidestepped the certificate process for natural gas pipelines that Congress had intended. This research hypothesizes that the FERC and FPC acted in response to the natural gas crisis and bubble, eventually leaning into the industry's voices and slowly becoming culturally and corrosively captured. Collectively, these findings indicate that the FERC has experienced capture since its conception over 30 years ago. This finding is tempered by recognition that the nascent FERC likely saw an alignment of interests between the public and the energy industry, giving the FERC little reason to worry about balancing the two interests and instead, allowing the FERC to provide the energy industry "protection without capture."¹⁵ However, as the public's interests diverged from the private interest over time, the FERC's policies remained stagnant and capture became more apparent.

13. Bernstein, Marver H., "The Life Cycle of Regulatory Commissions," in *Regulating Business by Independent Commission*, (Princeton: Princeton University Press, 1955), 74-102.

14. Raley, David, "The Philips vs. Wisconsin Decision and the Decline of Regulatory Effectiveness," *Business History Conference. Business and Economic History On-line: Papers Presented at the BHC Annual Meeting*, vol. 15, (2017): 1-11.

15. Carpenter, Daniel, "Protection without Capture," 613-631.

An analysis of capture at the FERC is important because finding and remedying capture should be a goal of ideal governance. When regulated industries dominate regulatory decision-making, the public interest is compromised. As Senator Whitehouse put it, capture lets the regulated industry take a “second secret bite at the apple” after having already lobbied Congress.¹⁶ The forbidden bite then threatens democratic processes. In this case, numerous interviewees mentioned their belief that low public opinion of the FERC had eroded trust in the public participation process and less comments were sent to the FERC as a result. In principle, this is a dangerous self-reinforcing cycle where less landowner concerns are heard by the FERC and the FERC falls deeper into cultural capture. Additionally, capture can lead to less regulation in irrevocable ways. In other words, the Mountain Valley Pipeline cannot be un-built and the damage to the environment cannot be undone.

Moreover, without a diagnosis and understanding of capture, capture cannot be remedied. Given the FERC’s cultural and corrosive capture, the FERC should improve public participation and modify the outdated 1999 policy on how it approves natural gas pipelines. Congress and the Executive should develop oversight of the FERC, implement a more defined legislative agenda for the FERC, and distance the FERC’s interactions with the industries it regulates. The government’s previous attempts to resolve capture by giving landowners a voice was only a meager attempt at solving capture and allowing agencies to fall prey to the invisible strings of capture is an unacceptable danger to the public interest.

16. U.S. Congress, Senate, Committee on Judiciary, *Protecting the Public Interest: Understanding the Threat of Agency Capture*, 111th Cong., 2nd sess., 2010, <https://www.govinfo.gov/content/pkg/CHRG-111shrg64724/html/CHRG-111shrg64724.htm>.

II. Regulatory Capture's Invisibility

While industry corruption has been an age-old concern from Plato's age to the modern day, regulatory capture theory was only recently introduced in 1952.¹⁷ In the early 1950s, Samuel Huntington described the Interstate Commerce Commission's capture and called for its abolition given that the agency had ceased to be independent.¹⁸ Following, Marver Bernstein presented a theory of capture in which vague legislative agendas, restricted administrative powers, and judicial interpretation led to agency decay and the development of a "subtle relationship" between agencies and the industries they regulate.^{19,20} Nearly twenty years later, Huntington and Bernstein's view of capture as an unwelcome guest or aberration in agency function was replaced with the view that capture was the default.²¹ To illustrate, George Stigler's famous capture theory posited that "as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit."²² Stigler and other voices ushered in a new era of public cynicism about agencies' abilities to protect the public interest and thereafter, cynicism about all political institutions became the norm.^{23,24} This cynicism also pervaded the courts, who doubted the ability of agencies to independently regulate.²⁵

As a result of this sentiment and other factors such as a growing dislike of agency incrementalism, the late 1960s and 1970s were a time of political awakening and reeling in the

17. Novak, William J., "A Revisionist History of Regulatory Capture," in *Preventing Regulatory Capture*, ed. Carpenter, Daniel & Moss, David, (Cambridge: Cambridge University Press, 2014), 25-48.

18. Huntington, Samuel P., "The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest," *Yale Law Journal* 61, no. 4 (1952): 467-509.

19. Bernstein, Marver H., "The Life Cycle of Regulatory Commissions," 83.

20. Sabatier, Paul, "Social movements and regulatory agencies: Toward a more adequate—and less pessimistic—theory of "clientele capture"," *Policy Sciences* 6, no. 3 (1975): 301-342.

21. Novak, William J., "A Revisionist History of Regulatory Capture," 25-48.

22. Stigler, George J., "The Theory of Economic Regulation," *The Bell Journal of Economics and Management Science* (1971): 3.

23. Novak, "A Revisionist History of Regulatory Capture," 25-48.

24. Merrill, Thomas W., "Capture Theory and the Courts: 1967-1983," *Chicago-Kent Law Review* (1997): 1039-1117.

25. Ibid.

regulatory state, which shaped the design of American bureaucracy.²⁶ These changes in the environmental domain are evidenced by the subsequent Clean Air Act (1963), National Environmental Policy Act (1970), Clean Water Act (1972), and Endangered Species Act (1973). With robust changes in legislation, Congress gave fresh responsibilities to agencies and also started to put the environment and landowners into agencies' decision processes.²⁷ At the time, Congress believed that giving agencies a specific mandate and encouraging a diversity of viewpoints could prevent capture.²⁸ The courts also responded; in 1971 Judge Wright wrote, "Our duty, in short, is to see that important legislative purposes, heralded in the halls of Congress, are not lost or misdirected in the vast hallways of the federal bureaucracy."²⁹

Although Congress and the courts attempted to remedy capture and some scholars believed environmental bodies were not as susceptible to capture, symptoms of capture have still appeared among these agencies.³⁰ In 1999, "slippage" or a gap between the environmental regulatory intent and the regulatory reality was documented with examples including the Clinton administration's interpretation of the Endangered Species Act.³¹ More recently, academics conducted interviews with EPA employees and alleged that the EPA under President Trump's administration was moving towards agency capture.³²

26. Zinn, Matthew D, "Policing Environmental Regulatory Enforcement: Cooperation, Capture, and Citizen Suits," *Stanford Environmental Law Journal* 21 (2002): 81-176.

27. Glicksman, Robert L., "A Retreat from Judicial Activism: The Seventh Circuit and the Environment," *Chicago-Kent Law Review*, (1987): 209-254.

28. Zinn, "Policing Environmental Regulatory Enforcement," 81-176.

29. *CALVERT CLIFFS'COORD. COM. v. United States AE Com'n*, 449 F.2d 1109 (D.C. Cir. 1971).

30. Zinn, "Policing Environmental Regulatory Enforcement," 81-176.

31. Farber, Daniel A, "Taking slippage seriously: noncompliance and creative compliance in environmental law," *Harv. Envtl. L. Rev.* 23 (1999): 297.

32. Dillon, L., Sellers, C., Underhill, V., Shapiro, N., Ohayon Liss, J., Sullivan, M., et al., "The Environmental Protection Agency in the Early Trump Administration: Prelude to Regulatory Capture," *American Journal of Public Health*, 108 (2018): 89-94.

Despite Congress' and the courts' efforts, why has agency capture been so difficult to deter? In part, because it is difficult to identify. Capture literature has no strong consensus on what capture is. For example, Bernstein did not strictly define capture but mentioned how agencies "relate their goals and objectives to the demands of dominant interest groups in the economy."^{33,34} Others have defined capture as "the result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest and toward the interests of the regulated industry, by the intent and action of the industry itself"³⁵ or "regulators consistently favoring the preferred policies of targets of regulation, resulting from an exercise of power by the regulated industry."³⁶ Moreover, capture means that the agency works against the public's interest and towards the private interest, which means diagnosing capture necessitates defining both the public and private interest and that is often not simple to do.³⁷

Even when capture is broadly defined and identified, it must also be categorized by mechanism. As aforementioned, capture can be divided into 1) material capture and 2) cultural capture. Material capture refers to the industry's use of its resources to influence regulators. For example, material capture frequently refers to campaign donations and the revolving-door phenomenon.^{38,39} Material capture can also be more concealed; legislators fund regulators and industry can provide that funding.⁴⁰ In contrast, cultural capture is more intangible. As Kwak defines, cultural capture entails the regulator being persuaded by three factors: "identity, status,

33. Bernstein, "The Life Cycle of Regulatory Commissions," 92.

34. Rex, "Anatomy of agency capture," 273.

35. Carpenter & Moss, "Introduction," 13.

36. Rex, "Anatomy of agency capture," 273.

37. Carpenter, "Detecting and Measuring Capture," 57-68.

38. Rex, "Anatomy of agency capture," 271-294.

39. Zinn, "Policing Environmental Regulatory Enforcement," 81-176.

40. Kwak, James, "Cultural Capture and the Financial Crisis", in *Preventing Regulatory Capture*, ed. Carpenter, Daniel & Moss, David, (Cambridge: Cambridge University Press, 2014), 71-98.

and relationships.”⁴¹ This theory recognizes the humanity of the regulator, who is vulnerable to a variety of known and unknown psychological forces. For example, research has suggested regulators who become inundated by information from the industry they regulate may believe it more and regulators who run in the same social circles as industry actors may buy into their arguments more. This type of cultural capture is commonly discussed in the context of the 2008 financial crisis and the Securities and Exchange Commission. However, cultural capture is not exclusive to agency-industry relationships. For example, one study identified that rangers from the Forest Service were captured by the people they lived with in the field because they started to identify with them.⁴² Lastly, both material and cultural capture can also coexist with 3) corrosive capture, when the agency “corrodes” the intent of the legislation.⁴³ This type of capture is now common as industries seek less regulation than what Congress intended.

Though even when capture is likely, it is often invisible and difficult to prove to be the driving force behind regulatory outcomes. Capture is a state of “being persuaded” where evidence is rare, whereas corruption entails some impropriety or clandestine acts where sometimes evidence can be found.⁴⁴ Weak capture, when captured agencies still serve the public but lean into the industry’s voices, can be insidious. Likewise, strong capture, when agencies or policies should be replaced, may be more clear than weak capture but is still difficult to find evidence of.⁴⁵ Without well-defined evidence of capture, it is both easy to ignore capture and allege capture. As Carpenter & Moss explain, the capture literature has a significant number of capture misdiagnoses with scholars who jump to pin administrative failures on capture without

41. Ibid, 80.

42. Kaufman, Herbert, *The Forest Ranger*, (Baltimore: The Johns Hopkins University Press, 1960), 3-100.

43. Carpenter & Moss, “Introduction,” 1-22.

44. Hempling, Scott, ““Regulatory Capture:” Sources and Solutions,” *Emory Corporate Governance Accountability and Review* 1, no. 1 (2014): 25.

45. Carpenter & Moss, “Introduction,” 1-22.

describing how the capture occurs, particularly after the 2008 financial crisis and the Deepwater Horizon (BP) Oil Spill.⁴⁶ Instead, some of these claims may instead be what Carpenter dubs “protection without capture,” what he finds when the FDA protects its own interests in high stakes drug approvals.⁴⁷ Furthermore, other actors confound any capture case. The FERC provides natural gas pipelines a Certificate of Public Convenience and Necessity (CPCN) after weighing the public interest and conducting an environmental analysis in accordance with the Natural Gas Act and Natural Gas Policy Act, which involves several other state and federal agencies.

46. Carpenter & Moss, “Introduction,” 1-22.

47. Carpenter, “Protection without Capture,” 613-631.

III. Methods

Given the frequent misdiagnoses of capture, Carpenter & Moss emphasize the below method as the gold standard for diagnosing capture:

1. “Provide a defeasible model of the public interest
2. Show a policy shift away from the public interest and toward industry (special interest)
3. Show action and intent by the industry (special interest) in pursuit of this policy shift sufficiently effective to have plausibly caused an appreciable part of the shift”⁴⁸

Applying the Carpenter & Moss (2014) criteria, this research diagnosed the FERC’s regulatory capture using the MVP case study. The research focused on interviews with fourteen stakeholders and review of public records from the Federal Energy Regulatory Commission’s eLibrary, the Federal Register, and archives. Interviewees included Chairman Glick’s office, environmental attorneys, a former energy lobbyist, journalists, environmental group leaders including from the Sierra Club, a local government pipeline committee member, and a former regulator – many of whom lived near the MVP. A full list of interviewees is available in Appendix A. Interviews were conducted with Yale University Institutional Review Board review.

In this case study, capture was defined as “regulators consistently favoring the preferred policies of targets of regulation, resulting from an exercise of power by the regulated industry.”⁴⁹ In addition, the private interest was defined according to previous studies as completing the project and avoiding heavy regulation.⁵⁰ In contrast, the public’s interest was defined in accordance to how the FERC should see it. Although the courts have ruled the FERC’s concept of the public interest should focus on having natural gas supplies, the public interest is more aptly defined using the themes of Congress’ delegated actions to the FERC.⁵¹ The FERC’s

48. Carpenter & Moss, “Introduction,” 15.

49. Rex, “Anatomy of agency capture,” 273.

50. Sidney A. Shapiro, “The Complexity of Regulatory Capture: Diagnosis, Causality, and Remediation,” *Roger Williams University Law Review* 17, no. 1 (2012): 221-257.

51. Federal Energy Regulatory Commission, “Certification of New Interstate Natural Gas Pipeline Facilities,”

interest should be ensuring an adequate energy supply, protecting the public’s health, preserving the environment, and looking after the public’s general democratic rights.⁵² This interpretation of public interest is also supported by the FERC’s statements when opening inquiry into the 1999 policy on certifying natural gas pipelines.⁵³

The analysis applied a process-tracing methodology and was supplemented by the Institutional Analysis and Design (IAD) Framework.^{54,55} The IAD framework is a method to understand the factors which influence decision-making. Process-tracing involves producing a description of events and treating the events as tests for one’s hypothesis to find causal inference (see figure 2 and 3).

Causal Puzzle: To explain the influence of industry on the FERC’s actions on the MVP		
Main actors:		
<ul style="list-style-type: none"> • FERC • Sister agencies including USFWS, USACE, EPA, USDA, BLM • State actors including WVDEP & VDEQ 		<ul style="list-style-type: none"> • Local government • Elected officials • Interest groups • Public
Hypotheses:		
H1) If the FERC is captured, the public and private interests diverge.		
H2) If the FERC is captured, it consistently favors the industry’s interests over the public’s interest.		
H3) If the FERC is captured, the industry exercises some influence over the FERC.		
H3-a) If the FERC accepts material contributions from the energy industry, the FERC is materially captured.		
H3-b) If the FERC disproportionately weighs voices from the energy industry, the FERC is culturally captured.		
H4) If the FERC corrodes the Natural Gas Policy Act or Natural Gas Act, the FERC is corrosively captured.		
Independent variable: Industry influence	Intervening variables: Agency-industry cooperation Ex parte cooperation Lobbying “Electoral sanctioned pro-business governance” ⁵⁶	Dependent variable: Regulatory outcomes

Fig. 2 - Causal puzzle of FERC’s regulatory capture. Original figure based on Collier (2011)⁵⁷

(Notice of Inquiry, Washington, DC, 2018).

52. King, Stephen M., Chilton, Bradley S., and Roberts, Gary E., “Reflections on Defining the Public Interest,” *Administration & Society* 41, no. 8 (2010): 954-978.

53. Federal Energy Regulatory Commission, “Certification of New Interstate Natural Gas Pipeline Facilities,” (Notice of Inquiry, Washington, DC, 2018).

54. Collier, David, “Understanding Process Tracing,” *PS: Political Science & Politics* 44, no. 4 (2011): 823-30.

55. Polski, Margaret M., & Ostrom, Elinor, “An Institutional Framework for Analysis and Design,” *Indiana University*, 1999: 2-49

56. Carpenter, “Detecting and Measuring Capture”, 66.

57. Collier, “Understanding Process Tracing,” 823-830.

Table 1
Process Tracing Tests for Causal Inference

		SUFFICIENT FOR AFFIRMING CAUSAL INFERENCE	
		No	Yes
NECESSARY FOR AFFIRMING CAUSAL INFERENCE	No	1. Straw-in-the-Wind	3. Smoking-Gun
		a. Passing: Affirms relevance of hypothesis, but does not confirm it.	a. Passing: Confirms hypothesis.
		b. Failing: Hypothesis is not eliminated, but is slightly weakened.	b. Failing: Hypothesis is not eliminated, but is somewhat weakened.
	Yes	c. Implications for rival hypotheses: Passing <i>slightly</i> weakens them. Failing <i>slightly</i> strengthens them.	c. Implications for rival hypotheses: Passing <i>substantially</i> weakens them. Failing <i>somewhat</i> strengthens them.
		2. Hoop	4. Doubly Decisive
		a. Passing: Affirms relevance of hypothesis, but does not confirm it.	a. Passing: Confirms hypothesis and eliminates others.
		b. Failing: Eliminates hypothesis.	b. Failing: Eliminates hypothesis.
		c. Implications for rival hypotheses: Passing <i>somewhat</i> weakens them. Failing <i>somewhat</i> strengthens them.	c. Implications for rival hypotheses: Passing <i>eliminates</i> them. Failing <i>substantially</i> strengthens them.

Source: Adapted from Bennett (2010, 210), who builds on categories formulated by Van Evera (1997, 31–32).

Fig. 3 - Collier's tests for process-tracing. Figure source: Table 1, Collier (2011)⁵⁸

Collier's tests (see figure 3) indicate whether the test is sufficient and/or necessary for accepting the hypothesis. A straw-in-the-wind test is both unnecessary and insufficient for confirming a hypothesis and an event which passes a straw-in-the-wind test may be a pro-industry decision that alone does not confirm capture but does affirm the relevance of the hypothesis. Next, a hoop test is necessary but not sufficient for affirming the hypothesis. An example of a hoop test is whether the FERC's original certification of the MVP works against the public interest. Moreover, a smoking-gun test is not necessary but is sufficient for affirming capture. In this case, an event which is a smoking-gun test for the hypothesis is proof of material or cultural capture, such as the exchange of material contributions or evidence from an agency representative that the agency is influenced by the industry. Lastly, there is the doubly decisive test which is both necessary and sufficient. A doubly decisive test is uncommon in social science, but an event which passes this test could be a direct conversation with an agency executive who admits repeated capture with evidence of that capture.⁵⁹ The remainder of the

58. Ibid.

59. Ibid.

paper applies these tests to the case study of the MVP then analyzes the history of natural gas pipeline regulation.

IV. Mountain Valley Pipeline – Cultural & Corrosive Capture

This chapter process-traces the MVP's path from 2014 to the current state with the major highlights in the FERC's rulings and record via the hoop tests, straw-in-the-wind tests, and smoking-gun tests for capture. This regulatory history is complicated by the interactions of several actors such as other agencies, but the FERC oversees the MVP's approval as the arbiter of the natural gas pipeline's Certificate of Public Convenience and Necessity (CPCN).

The Interstate Natural Gas Association of America breaks the process for pipeline approval generally into five phases that this chapter will explore in greater detail:

1. Conduct a pre-market assessment
2. Conduct FERC pre-filing
3. File a formal application with the FERC
4. Analysis is conducted, receive CPCN
5. Receive permits, get final approval to begin construction⁶⁰

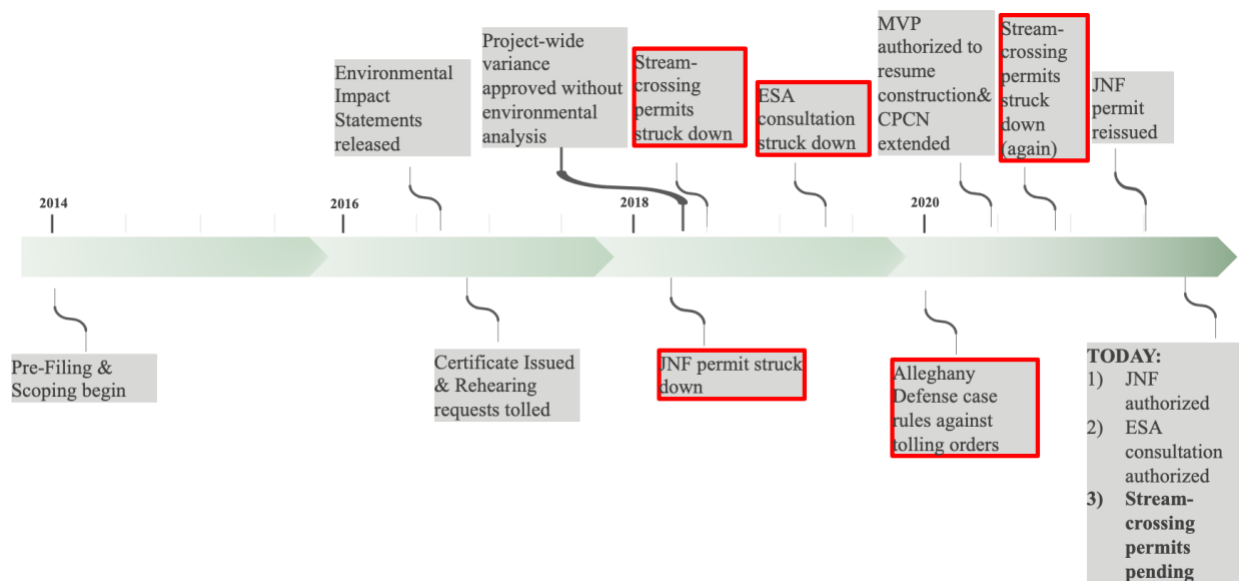


Fig. 4 - Timeline of the MVP's approval process.

60. Interstate Natural Gas Association of America, *Pipeline Permitting*, (Washington D.C: Interstate Natural Gas Association of America).

Hoop Tests: The Certificate of Public Convenience and Necessity

The FERC's analysis from 2014 to the issuance of the CPCN in October 2017 is a hoop test which the hypotheses on public and private interests diverging (H1), the FERC consistently favoring the industry interest (H2), and the industry exercising influence over the FERC (H3) pass. This is demonstrated primarily by two points: a) lack of necessity for the pipeline b) evidence of harm to the public and the environment. These concerns are exacerbated by the FERC's inadequate analyses and public comment process.

To begin, the FERC's analysis of necessity substantiates that the private interest is outcompeting the public interest within the FERC. The MVP crosses 303 miles from Wetzel County, West Virginia to Pittsylvania County, Virginia, transporting gas from an interconnection in West Virginia to a compressor station in Virginia (see appendix B for specific route).⁶¹ The MVP's location is strategic; the companies spearheading the project (namely Equitrans) intend for the MVP to transport gas from the booming shales in the Appalachian region (see figure 5). According to the MVP, the Marcellus and Utica shale production rates have grown by 13 Bcf/d from 2010 to 2014 and the Appalachian Basin produces approximately 40% of America's natural gas.⁶² The U.S. is also relying on the shale gas boom for the country's energy independence.⁶³ The MVP is further motivated by estimated increased natural gas consumption, coal-switching, declining supplies of natural gas from the Gulf, and the need for more natural gas in areas along the pipeline route.⁶⁴

61. Federal Energy Regulatory Commission, "Draft Environmental Impact Statement," (Environmental Impact Statement, Washington, D.C, 2016).

62. Mountain Valley Pipeline, LLC., "Application for Certificate of Public Convenience and Necessity," (Application, Washington, D.C: Federal Energy Regulatory Commission, 2015).

63. Lu, Hongfang; Ma, Xin; Azimi, Mohammadamin, "US natural gas consumption prediction using an improved kernel-based nonlinear extension of the Arps decline model," *Energy* 194 (2020): 116905.

64. Mountain Valley Pipeline, LLC., "Application for Certificate of Public Convenience and Necessity," (Application, Washington, D.C: Federal Energy Regulatory Commission, 2015).

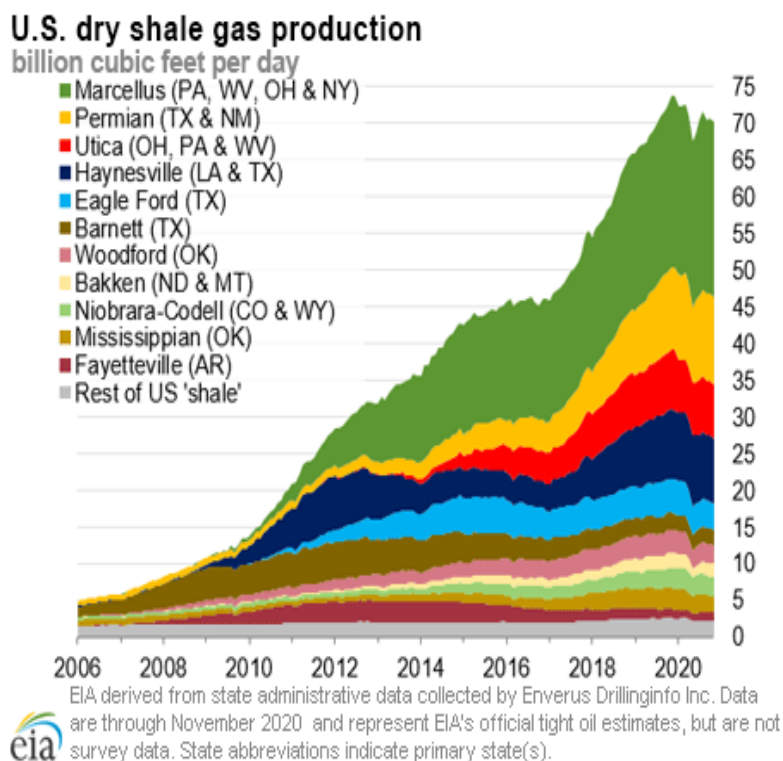


Fig. 5 - U.S. dry shale gas production per day. Figure Source: Energy Information Administration (2020)⁶⁵

Though the MVP contends the pipeline is necessary and will have local benefits such as “construction spending benefits, operational benefits, [and] direct-use benefits,” others are not so convinced.^{66,67} The FERC considered the MVP in the public necessity according to precedent agreements with shippers, which the FERC said were “best evidence that additional gas will be needed.”⁶⁸ However, these subscribers are affiliates with the MVP that have a percentage share of ownership of the MVP and many have argued the affiliate relationship should change the

65. Energy Information Administration, “Natural gas explained: where our natural gas comes from,” (Webpage, Washington, D.C., 2020), <https://www.eia.gov/energyexplained/natural-gas/where-our-natural-gas-comes-from.php>

66. Ditzel, Ken, Fisher, Rob, and Chakrabarti, Kaustav, *Economic Benefits of the Mountain Valley Pipeline Project in West Virginia*, (Pittsburgh: FTI Consulting/Mountain Valley Pipeline, 2015), 1.

http://www.mountainvalleypipeline.info/wp-content/uploads/2019/03/Mountain_Valley_Pipeline_West-Virginia_Report_02Oct2015.pdf

67. Ditzel, Ken, Fisher, Rob, and Chakrabarti, Kaustav, *Economic Benefits of the Mountain Valley Pipeline Project in Virginia*, (Pittsburgh: FTI Consulting/Mountain Valley Pipeline, 2015), 1.

http://www.mountainvalleypipeline.info/wp-content/uploads/2019/03/Mountain_Valley_Pipeline_Virginia_Report_02Oct2015.pdf

68. Federal Energy Regulatory Commission, “Order Issuing Certificates and Granting Abandonment Authority,” (Order, Washington, D.C., 2017), 17.

FERC's interpretation. However, the FERC has a policy that it does not need to "look behind" precedent agreements and the FERC has disagreed that affiliation changes the understanding of the market need.^{69,70} These agreements were additionally incomplete. Commissioner LaFleur described that the ACP had signed precedent agreements with percentages for where the gas will go (such as 8.9% industrial), whereas the MVP had 13% of its gas where the destination was unclear and would be decided later.⁷¹ These agreements were not provided to commenters.

The need for the pipeline is also not supported by natural gas usage trends. Previously, the FERC had weighed whether the MVP would be overbuilding, and the MVP replied with its own market study which Appalachian Mountain Advocates deemed relied on data from a "cold winter."⁷² A later report concluded that the MVP was expecting the need for natural gas to grow over the next 20 years, which it was using to justify the development, but the report expected the pipeline's supply to exceed demand over time.⁷³ Another report found that demand growth in foreign markets could be lower than the MVP expected.⁷⁴ U.S. Energy Information Administration data also demonstrates that natural gas consumption has dipped recently, dropping by 1.89 bcf/d from 2019 to 2020.⁷⁵ These data points suggest that the MVP is both not

69. Federal Energy Regulatory Commission, "Certification of New Interstate Natural Gas Pipeline Facilities," (Policy, Washington, DC, 1999), 3.

70. Federal Energy Regulatory Commission, "Order Issuing Certificates and Granting Abandonment Authority," (Order, Washington D.C, 2017).

71. Ibid.

72. Federal Energy Regulatory Commission, "Order Issuing Certificates and Granting Abandonment Authority," (Order, Washington D.C, 2017), 16.

73. Wilson, Rachel, Fields, Spencer, Knight, Patrick, McGee, Ed, Ong, Wendy, Santen, Nidhi, Vitolo, Thomas and Stanton, Elizabeth, *Are the Atlantic Coast Pipeline and the Mountain Valley Pipeline Necessary?*, (Cambridge: Synapse Energy Economics, 2016), 1-26.

74. Kunkel, Cathy, Williams-Derry, Clark, and Mattei, Suzanne, *Mountain Valley Pipeline Faces Uphill Struggle to Financial Viability*, (Lakewood: Institute for Energy Economics and Financial Analysis, 2021), http://ieefa.org/wp-content/uploads/2021/03/Mountain-Valley-Pipeline-Faces-Uphill-Struggle-to-Financial-Viability_March-2021.pdf?fbclid=IwAR3Q-iheaKWe7MAqQ-YfvCUCauNCm038DKxYRC8YvwXMd0LB_2OQdNpqIvA

75. Energy Information Administration, "Short-Term Energy Outlook," (Report: Washington, D.C: Energy Information Administration), <https://www.eia.gov/outlooks/steo/marketreview/natgas.php>

clearly necessary for ensuring an adequate national energy supply and also that the FERC relied on industry data in approving the MVP.

Next, the issuance of a Certificate of Public Convenience and Necessity (CPCN) demonstrates the harms of the MVP and how the FERC inadequately assessed those, often ceding to the MVP. The FERC evaluated considerations such as air quality, water quality, forest impacts, erosion, and impacts to endangered species. These impacts are summarized below. In terms of health impacts, the MVP will primarily impact localities near its three compressor stations.⁷⁶ A 2017 report on the health effects associated with chemical emissions from New York state compressor stations found that in a 7-year period, 18 of the compressor station sites released pollutants made of 70 chemicals linked to 19 of 20 major categories of disease.⁷⁷ Compressor stations are usually located on 15-22 acres of rural land, but the MVP compressor stations will use around 5.6-7 acres in fairly populous areas.^{78,79}

The MVP also threatens water quality at a unique risk because it crosses a steep terrain, where the soil may be saturated and runoff can occur.⁸⁰ The MVP is close to crucial drinking water areas such as the Roanoke River, just 1.1 miles from the drinking intake for the Western Virginia Water Authority which provides water for 60,000 people in Virginia and West Virginia.⁸¹ According to an interview with Maury Johnson, an affected landowner and non-profit leader, MVP construction on his farm has made his water too turbid to drink.⁸² The FERC's

76. Mountain Valley Pipeline, LLC., "Application for Certificate of Public Convenience and Necessity," (Application, Washington, D.C: Federal Energy Regulatory Commission, 2015).

77. Russo, P.N, and D.O. Carpenter, *Health Effects Associated with Stack Chemical Emissions from NYS Natural Gas Compressor Stations: 2008-2014*, (Rensselaer: Institute for Health and the Environment, 2017).

78. Folga, S. M, "Natural gas pipeline technology overview," (Technical Report, Washington, D.C, 2007), 1-56.

79. Federal Energy Regulatory Commission, "Final Environmental Impact Statement," (Environmental Impact Statement, Washington, D.C, 2017).

80. Folga, "Natural gas pipeline technology overview," 1-56.

81. Hansen, Evan, Clingerman, Jason, and Betcher, Meghan, *Threats to Water Quality from Mountain Valley Pipeline and Atlantic Coast Pipeline Water Crossings in Virginia*, (Morgantown: Downstream Strategies, 2018).

82. Maury Johnson in discussion with the author, February 2021.

interactions with the MVP on some of these water concerns are also telling of the influence of industry voices on the FERC. The MVP was asked to have a 75-foot right-of-way in wetlands in accordance with standard FERC policy around the time of the DEIS, but by the release of the FEIS, the MVP was allowed to have a greater right-of-way against the original recommendations of the FERC.⁸³

The MVP's location across Karst terrain and in a seismically active zone further adds to the risk to public health. Karst terrain is prone to landslides, sinkholes, and caves. According to Joan Walker, a Senior Campaign Representative for the Sierra Club's Beyond Dirty Fuels, this pipeline cannot be legally built because of the route.⁸⁴ Similarly, a professor of geology produced a report on the MVP calling karst terrain a "no build" zone.⁸⁵ An MVP-filing with the FERC in 2019 demonstrates the effects of Karst; as a result of a landslide, the MVP had to clear more trees and decided the home near the right-of-way was now uninhabitable.⁸⁶ Johnson, the aforementioned landowner who has become a watchdog activist, also mentioned there had been 2 earthquakes since construction began. Johnson has now written over 200 complaints of the MVP's violations to the West Virginia Department of Environmental Protection (see figure 6). In response to Johnson's complaints, the West Virginia Department of Environmental Protection has fined the MVP twice, but Johnson continues to find construction problems frequently.^{87,88,89}

83. Federal Energy Regulatory Commission, "Final Environmental Impact Statement," (Environmental Impact Statement, Washington D.C., 2017).

84. Joan Walker in discussion with the author, February 2021.

85. Duncan, Adams, "Mountainous karst landscape should be a 'no build zone for pipeline,'" *The Roanoke Times*, (2016).

86. Mountain Valley Pipeline, LLC., "Supplement to Variance Request No. A-78," (Supplement, Washington, D.C.: Federal Energy Regulatory Commission, August 8, 2019).

87. West Virginia Department of Environmental Protection, "Consent Order Issued Under the Water Pollution Act West Virginia Code, Chapter 22, Article 11," (Order, Charleston, 2019).

88. Tony, Mike, "Mountain Valley Pipeline faces \$300,000 fine for continued erosion, but pipeline opponents call for bigger penalty," *WV Gazette Mail*, (2021),

https://www.wvgazettemail.com/news/energy_and_environment/mountain-valley-pipeline-faces-303-000-state-fine-for-continued-erosion-but-pipeline-opponents-call/article_d7e1d317-834d-5a22-9747-41ece2de8e36.html

89. Maury Johnson in discussion with the author, February 2021.



Fig. 6 - Slope slipping in Monroe county, WV. Figure Source: Personal communication with Maury Johnson.

Moreover, the MVP places animal and plant populations at risk. The FERC determined the MVP could affect 23 threatened or endangered species. For example, the Roanoke logperch has been listed as an endangered species since August 1989 in part due to the construction of the Roanoke river Basin in the 1950s and 1960s.⁹⁰ Aside from these endangered species, other reports have found the MVP could affect other more common species like trout.⁹¹ Furthermore, there is risk of pipeline leak or rupture which will hurt both animals and humans. The majority of interstate pipelines are around 24-36 inches in diameter, but the MVP is 42 inches in diameter, which aggravates this risk.^{92,93} The Pipeline and Hazardous Materials Safety Administration

90. U.S. Fish and Wildlife Service Virginia Field Office, "Roanoke Logperch," (Endangered Species Sheet, Gloucester, 2010).

91. Federal Energy Regulatory Commission, "Final Environmental Impact Statement," (Environmental Impact Statement, Washington D.C, 2017).

92. Folga, "Natural gas pipeline technology overview," 1-56.

93. Mountain Valley Pipeline, LLC., "Application for Certificate of Public Convenience and Necessity," (Application, Washington, D.C: Federal Energy Regulatory Commission, 2015).

(PHMSA) reports that since 2000, there have been 5,754 significant pipeline incidents associated with 280 fatalities and 1,183 injuries. There were also 316 incidents in 2019 alone.⁹⁴

Lastly, the FERC has a duty to look after the public's democratic rights.⁹⁵ When the FERC confers a CPCN to a pipeline, the natural gas company obtains the right of eminent domain which is then overseen by the states. The FERC has held it does not give pipelines eminent domain power, The Natural Gas Act does.⁹⁶ There is an unassessed side to the agreements though; interviewees who wished to remain anonymous disclosed landowners who do not comply with the MVP's demands on easements face bullying when working with the pipeline. Landowners have also been asked to sign confidentiality agreements. Ken Ward, a journalist interviewed in this research, mentioned that these types of easements have precedent in coal mining in West Virginia as well.⁹⁷ Environmental attorneys also explained that many landowners are lied to by the pipeline company about their neighbors signing the offer, causing them to take a lowball offer.⁹⁸

Protecting democratic rights also includes protecting the public's cultural lands such as Peters Mountain, Jefferson National Forest (JNF), the Appalachian Trail (AT), and the Blue Ridge Parkway (BLRI) (see figure 7). The MVP crosses the JNF along a 3.5-mile corridor in a manner that is not consistent with JNF Forest Plan standards.⁹⁹ Moreover, the MVP crosses the

94. U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration, *Pipeline Incident 20 Year Trends*, (Report, Washington, D.C, 2021), <https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-incident-20-year-trends>

95. King, Chilton, and Roberts, "Reflections on Defining the Public Interest," 954-978.

96. Federal Energy Regulatory Commission, "Order Issuing Certificates and Granting Abandonment Authority," (Order, Washington D.C, 2017).

97. Ken Ward in discussion with the author, March 2021.

98. Environmental attorneys in discussion with the author, names confidential, February & March 2021.

99. U.S. Forest Service, "Jefferson National Forest; Monroe County, West Virginia; Giles and Montgomery County, Virginia; Mountain Valley Pipeline and Equitrans Expansion Project Supplemental Environmental Impact Statement," *The Federal Register*, (July 30, 2020). <https://www.federalregister.gov/documents/2020/07/30/2020-16507/jefferson-national-forest-monroe-county-west-virginia-giles-and-montgomery-county-virginia-mountain>

BLRI, a 469-mile expanse through Virginia and North Carolina that attracts millions of visitors every year. Similar to crossing JNF, crossing the Blue Ridge Parkway has been controversial due to the hazardous impacts the pipeline could have on the community and ecology there. Citizens raised these cultural concerns in part because their families had land for generations and they were now being forced to change their way of life. For example, Roberta Johnson from Bottom Creek George in Virginia described that “Third, the southern portion of Virginia has been occupied by humans for at least 11,500 years; and there are rich cultural resources along the Roanoke River and its tributaries.”¹⁰⁰ Similarly, two journalists interviewed during this research explained that several landowners had owned the farms the MVP was taking for generations but were moving from the region due to the pipeline.¹⁰¹ Aside from disturbing these cultural resources, the MVP has also been criticized for disturbing indigenous peoples’ resources and native homelands.¹⁰²

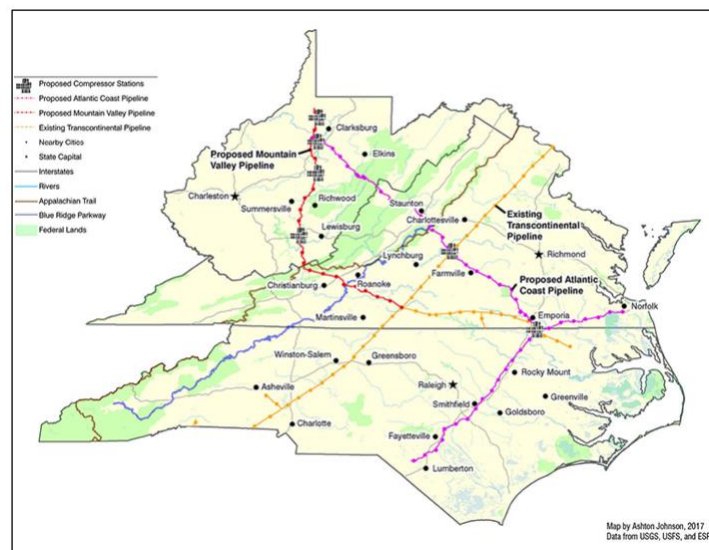


Fig. 7 - Map of MVP and ACP. Figure Source: Appalachian Voices, Ashton Johnson.¹⁰³

100. Federal Energy Regulatory Commission, “Mountain Valley Pipeline Project. Eastern Montgomery High School,” (Scoping Meeting Transcript, Washington D.C, 2015).

101. Journalists in discussion with the author, January & March 2021.

102. Ridder, Kevin, “The Appalachian Pipeline Resistance Movement: ‘We’re Not Going Away,’” *Appalachian Voices*, (2020), <https://appvoices.org/2020/10/28/the-appalachian-pipeline-resistance-movement/>

103. Graham, Ridge, “It’s high time to abandon ship on the Atlantic Coast Pipeline,” *Appalachian Voices*, (2020), <https://appvoices.org/2020/05/05/its-high-time-to-abandon-ship-on-the-atlantic-coast-pipeline/>.

The FERC's analysis of these many considerations has been criticized as inadequate. For example, the U.S. Department of the Interior stated the "current DEIS lacks sufficient information to perform adequate analysis of impacts." The Bureau of Land Management also asked for a revised or supplemental draft statement.¹⁰⁴ The FERC's initial calculation of the GHGs was also criticized by the Environmental Protection Agency after the FERC gave a figure for GHGs emissions using carbon monoxide instead of carbon dioxide (carbon monoxide is not a GHG) and the FERC claimed there was no standard for assessing GHGs.¹⁰⁵

Lastly, those facing the consequences of the MVP are not reaping the benefits or in other words, the FERC does not follow principles of distributive justice.¹⁰⁶ West Virginia has historically been labeled an energy sacrifice state. In 1910, the coal companies were invited to "take what they wanted" from West Virginia and when West Virginia subsequently had a recession, mining companies retreated.¹⁰⁷ Work eventually returned after World War 2 but living conditions near mines did not improve and poverty was rampant. This led to the invention of the Appalachian Regional Commission (ARC) which reduced poverty but also encouraged development, including a regional highway system that made coal mining feasible.¹⁰⁸ A statement from a member of the Upper West Fork River Watershed Association to the 95th Senate reveals extent of these ongoing sacrifices, "The people of the state of West Virginia have been asked time and time again to sacrifice their land –for the railroads, for the timber industry,

104. Adams, Duncan, "State, feds call for improved pipeline environmental impact statement," *The Roanoke Times*, (2016), https://roanoke.com/news/local/state-feds-call-for-improved-pipeline-environmental-impact-statement/article_be89bea6-4a36-5734-8d54-cbb5d03a634e.html

105. Oil Change International and BOLD Alliance, *The Mountain Valley Pipeline: Greenhouse Gas Emissions Briefing*, (Washington, D.C: Oil Change International, 2017).

106. Lake, Robert W., "Volunteers, NIMBYs, and Environmental Justice: Dilemmas of Democratic Practice," *Antipode*, (1996): 160-174.

107. Stoll, Steven, "Negotiated Settlements," in *Ramp Hollow*, (New York: Hill and Wang, 2017), 258.

108. Ibid, 244-289.

for the coal industry, for the gas industry, and for the interstate highway system.”¹⁰⁹ In 1990, the mining industry changed, largely switching to mountaintop removal mining and by 1997, West Virginia outpaced other states in mountaintop mining by several metrics.¹¹⁰ President Obama began to acknowledge the inequity of West Virginia’s sacrifice, citing that coal was not sustainable for the Appalachian economy, but President Trump reverted back to a pro-energy industry stance. Today, Appalachians are turning with the energy tide from a coal-sacrifice state to a natural gas sacrifice state and the MVP is one more example of that. To transport gas from the Appalachian shales, at least 19 new pipelines or pipeline extensions are being constructed in the region and the MVP is one of the largest.¹¹¹ The FERC has disagreed that pipelines should be evaluated on a region-wide basis because the policy is to evaluate individual pipelines.¹¹² However, at the time the MVP was approved, it was would have been working in tandem to the ACP. Commissioner LaFleur dissented from granting the CPCN for this reason.¹¹³ Likewise, Collin Rees, a Senior Campaigner at Oil Change International, said the MVP was part of an “asymmetric war.”¹¹⁴

To understand the extent of inequity, population level indicators were analyzed (see table 1 below). The population sizes revealed more dense counties are affected in Virginia, but more counties overall are affected in West Virginia. The results also indicate that the populations affected by the MVP are predominantly low-income. In West Virginia, the per capita personal

109. U.S. Congress, Senate, Committee on Appropriations, *Public Works for Water and Power Development and Energy Research Appropriations for Fiscal Year 1979*, 95th Cong., 2nd sess., 1978.

110. Fox, Julia, “Mountaintop Removal In West Virginia: An Environmental Sacrifice Zone,” *Organization & Environment* Vol. 12, no. 2 (1999): 163-183.

111. Stockman, Lorne and Muttit, Greg, *A Bridge Too Far: How Appalachian Basin Gas Pipeline Expansion Will Undermine U.S. Climate Goals*, (Washington, D.C: Oil Change International, 2016), http://priceofoil.org/content/uploads/2016/08/bridge_too_far_report_v6.3.pdf

112. Federal Energy Regulatory Commission, “Order Issuing Certificates and Granting Abandonment Authority,” (Order, Washington D.C, 2017).

113. Ibid.

114. Collin Rees in discussion with the author, February 2021.

income in 2017 was \$38,927, \$13,191 lower than the national figure. The health data also revealed high rates of disabled persons and persons with fair or poor health. Fayette, West Virginia stood out with a disability rate of 26.9% (14.3% more than the national figure) and as a site where a compressor station will be built. A 2019 study had similar findings, discovering spatial inequities for jobs and air-polluted related deaths in counties of energy-producing states like West Virginia. The study also discovered high temporal inequity from the shale boom.¹¹⁵

115. Mayfield, Erin N.; Cohon, Jared L.; Muller, Nicholas Z.; Azevado, Ines M.; Robinson, Allen L., “Quantifying the social equity state of an energy system: environmental and labor market equity of the shale gas boom in Appalachia,” *Environmental Research Letters* 14, no. 12 (2019): 124072.

Location	Population Estimate (2016) ⁽¹⁾	Population Density (persons/sq. mi) (2010) ⁽²⁾⁽³⁾	Per Capita Personal Income (\$) (2017) ⁽⁴⁾	Persons in Poverty (%) (2016) ⁽⁵⁾	Disabled Persons (%) (2015-2019) ⁽⁶⁾	% Fair or Poor Health (2020) ⁽⁷⁾	Average Number of Physically Unhealthy Days (2020) ⁽⁷⁾
US	322,941,311	87.4	52,118	14.0	12.6	N/A	N/A
West Virginia	1,831,023	77.1	38,927	17.9	19.5	24	5.3
Braxton, WV*	14,323	28.4	30,319	21.3	20.7	23	5.4
Doddridge, WV	8,576	26.1	26,850	19.7	20.1	19	4.8
Fayette, WV*	44,179	68.9	33,050	19.7	26.9	24	5.6
Greenbrier, WV	35,532	35	36,499	16.0	20.9	22	5.2
Harrison, WV	68,349	165.8	45,314	14.6	18.1	21	5.0
Lewis, WV	16,289	42.7	36,868	18.4	19.8	23	5.4
Monroe, WV	13,487	28.5	30,099	17.3	25.1	23	5.4
Nicholas, WV	25,381	40.1	32,132	21.4	20.9	26	5.7
Summers, WV	12,978	37.6	32,206	24.7	28.9	25	5.5
Webster, WV	8,557	16.1	27,285	30.0	18.0	26	5.7
Wetzel, WV*	15,644	45.3	33,432	19.5	19.7	24	5.6
Virginia	8,382,321	202.6	55,631	11.0	11.8	16	3.5
Craig, VA	5,120	15.8	36,942	12.6	15.9	13	3.4
Franklin, VA	56,158	81.6	39,233	13.2	14.5	16	3.7
Giles, VA	16,827	48	38,325	12.2	14.3	14	3.5
Montgomery, VA	98,172	248.6	36,125	20.3	10.0	16	3.5
Pittsylvania, VA	61,704	64.4	36,750	13.6	18.0	18	3.9
Roanoke, VA	93,528	373.3	50,460	7.4	11.0	14	3.2

Table 1 - Characteristics of populations affected by MVP. Asterisk indicates compressor station site. Data sources¹¹⁶

116. Sources:

(1): U.S. Census Bureau, *County Population Totals 2010-2019*, (2020), <https://www.census.gov/data/datasets/time-series/demo/popest/2010s-counties-total.html>

(2): U.S. Census Bureau, *Density Data*, (2010)

(3): Federal Energy Regulatory Commission, "Final Environmental Impact Statement," (Environmental Impact Statement, Washington D.C, 2017).

(4): Bureau of Economic Analysis, *Personal Income by County, Metro, and Other Areas*, (2019), <https://www.bea.gov/data/income-saving/personal-income-county-metro-and-other-areas>

Lastly, the public comment period in 2015 and 2017 revealed mixed public opinion about the MVP. A 2016 poll conducted for the West Virginia Oil & Natural Gas Association determined that 41% of West Virginians strongly supported underground pipelines in West Virginia to transport natural gas.¹¹⁷ Similarly, a 2021 Mason-Dixon Polling & Research poll found that 62% of Virginians supported the MVP and specifically, 74% of residents around Roanoke supported the MVP.¹¹⁸ To supplement polls, the comments from the meetings can serve as a rough proxy for the public opinion of those who attempted to participate in the FERC process. This research categorized the comments from the original scoping meetings as pro-MVP or against-MVP, finding that 6% of comments were for the MVP. However, the low-percentage of speakers for the MVP at the meetings may be because the building state is perceived as the status-quo and there is no need to comment as several interviewees in this research noted. It may also be due to pressure; a commentor who spoke in favor of the MVP was “boo’d” by their peers. Procedural errors with the comment period could also explain the breakdown of speakers. These meetings were not interactive and lacked notice (the first group received six days’ notice), lacked some relevant speakers (speakers like the DOT were missing at times), and lacked

(5): U.S. Census Bureau, *Small Area Income and Poverty Estimates (SAIPE)*, (2016), https://www.census.gov/data-tools/demo/saipe/#/?map_geoSelector=mhi_c&s_state=51.54&s_year=2016&s_county=54007,51045,54017,54019,51067,51071,54025,54033,54041,54063,51121,54067,51143,51161,54089,54101,54103&map_yearSelector=2016&s_measures=mhi_snc

(6): US Census Bureau, *American Community Survey Narrative Profile*, (2019),

<https://www.census.gov/acs/www/data/data-tables-and-tools/narrative-profiles/2019/>

(7): Robert Wood Johnson Foundation, *County Health Rankings & Roadmaps*, (2020)

<https://www.countyhealthrankings.org/app/virginia/2020/overview> and <https://www.countyhealthrankings.org/app/west-virginia/2020/overview>

117. Coalition for the Expansion of Pipeline Infrastructure, “Poll: Widespread Support for Natural Gas Pipelines in West Virginia,” *Coalition for the Expansion of Pipeline Infrastructure*, (2016),

<https://expandpipelineinfrastructure.org/widespread-support-for-natural-gas-pipelines-in-west-virginia/>

118. Hammack, Laurence, “Polls show support for pipeline in Southwest Virginia,” *The Roanoke Times*, (2021), https://roanoke.com/business/local/poll-shows-support-for-pipeline-in-southwest-virginia/article_ee312750-5aad-11eb-b0f5-87e28b83eb2b.html

information (the compressor stations and route was not finalized).^{119,120} According to David Sligh, the Conservation Director for Wild Virginia, others had told him FERC representatives at meetings told participants they didn't need to comment on something.¹²¹ Yet, the comments may still be a good proxy because interviewees described residents are eager to speak; Walker from the Sierra Club said that, "The in-person meetings mean a lot to people. [They think] at least I got my day to stand up and say what I wanted to."¹²²

In sum, the analysis above uncovers that the MVP has clear harms to the public health, the environment, and democratic principles which disproportionately affect populations who have suffered in an energy sacrifice zone. The research also demonstrates several areas where the FERC conducted an inadequate environmental analysis and ceded to the requests of the MVP for less mitigation measures, suggesting cultural and corrosive capture. Therefore, the hypotheses that the public and private interests diverge (H1), the FERC favors the private interest (H2), and the industry exercises some influence on the FERC (H3) pass the first hoop test. This event is a hoop test because these factors must be true (the hypotheses must jump through the hoop), but the event cannot be a smoking-gun or doubly decisive test because it is not clear that the FERC acts this way because of capture or another factor like detrimental reliance on its 1999 policy statement which it mentions in the CPCN.

In contrast, this analysis reveals no evidence of material capture (H3-a) and therefore, the hypothesis on material capture fails the hoop test. Material capture was not apparent from the environmental analysis or the issuance of the CPCN, though some might point to the revolving

119. Federal Energy Regulatory Commission, "Mountain Valley Pipeline Project. Nicholas County High School," (Scoping Meeting Transcript, Washington D.C, 2015).

120. Federal Energy Regulatory Commission, "Mountain Valley Pipeline Project. James Monroe High School," (Scoping Meeting Transcript, Washington D.C, 2015).

121. David Sligh in discussion with the author, February 2021.

122. Joan Walker in discussion with the author, February 2021.

door as proof of material capture.¹²³ Chairman Chatterjee, Commissioner LaFleur, and Commissioner Powelson considered the CPCN order and Commissioner LaFleur dissented. Commissioner LaFleur was appointed by President Trump and previously criticized for her roots working at National Grid USA (a utility company) which is a partner on a pipeline project. LaFleur's dissent could be the result of a human-capital theory that suggests regulators work against the industry to suggest their experience to the industry, or a market-expansion theory where LaFleur attempts to expand the market for when LaFleur exits to industry.¹²⁴ Under either theory, there is not sufficient evidence for a revolving-door phenomenon driving the regulatory outcome. Furthermore, a single regulator would not be sufficient evidence for a revolving-door phenomenon.

Straw-in-the-Wind Tests

Next, this research evaluates the straw-in-the-wind tests which are not sufficient or necessary for confirming capture. When the hypotheses pass these tests, it only confirms the relevance of the hypothesis on capture, but it does not confirm capture.

The first straw-in-the-wind test which the third hypothesis on industry influence (H3) passes is the FERC's frequent inadequate analysis of environmental impacts. Inadequate analysis is a straw-in-the-wind because agencies can fail to meet standards for several reasons such as a high workload, weak personnel, or failure to check on statutory requirements. For example, when the FERC evaluated carbon monoxide instead of carbon dioxide for GHGs, it could have been an honest mistake or the influence of industry.¹²⁵ In other examples, the influence of the

123. Cantu, Aaron and Galbraith, Robert, *Oil & gas industry dominates federal agency responsible for pipeline approvals*, (Buffalo: Public Accountability Initiative, 2017), <https://public-accountability.org/report/oil-gas-industry-dominates-federal-agency-responsible-for-pipeline-approvals/>

124. Wentong Zheng, "The Revolving Door," *Notre Dame Law Review* 90, no. 3 (2015): 1265-1308

125. Oil Change International and BOLD Alliance, *The Mountain Valley Pipeline: Greenhouse Gas Emissions Briefing*, (Washington, D.C: Oil Change International, 2017).

MVP seems more likely. To illustrate, the MVP was asked to have a 75-foot right-of-way in wetlands in accordance with standard FERC policy, but MVP was allowed to have a greater right-of-way against the recommendations of the FERC in the DEIS and without more analysis.¹²⁶ Similarly, David Perry, the Executive Director of the Blue Ridge Land Conservancy, explained that in his experience on the local Roanoke Pipeline Advisory Committee, everyone was blindsided by the pipeline and he had to explain how the pipeline would affect his area to agency officials.¹²⁷ These inadequate analyses do not prove the influence of industry but do affirm the relevance of the hypothesis on capture.

The second straw-in-the-wind test is the stream-crossing permitting process which the hypothesis on favoring private interest (H2) fails. The MVP obtained permits from the U.S. Army Corps of Engineers (USACE) and state governments for the Section 404 and Section 10 permits under the Clean Water Act and Rivers and Harbors Appropriation Act, namely the Nationwide Permit 12 (NWP12) in December 2017.¹²⁸ The NWP12 is advantageous for companies because with the NWP12, the USACE does not conduct individual reviews of every crossing and there is no project-specific public comment period.¹²⁹ With the NWP12, state regulators would also have to approve the use of the NWP12. The NWP12 soon turned into a large controversy, because there was a less thorough review of the stream crossings with the NWP12. In 2018, the courts ruled the USACE incorrectly approved the permit when it was not consistent with West Virginia state laws.^{130,131} Across the country, Judge Morris ruled on the

126. Federal Energy Regulatory Commission, “Final Environmental Impact Statement,” (Environmental Impact Statement, Washington D.C, 2017), 4-162.

127. David Perry in discussion with the author, February 2021.

128. Mountain Valley Pipeline, LLC., *Weekly Status Report Nos. 8 and 9*, (Pittsburgh: Mountain Valley Pipeline, LLC., 2018).

129. United States Environmental Protection Agency, “Permit Program Under CWA Section 404,” (Regulation, Washington, D.C, n.d.), <https://www.epa.gov/cwa-404/permit-program-under-cwa-section-404>

130. *Sierra Club v. US Army Corps of Engineers*, 905 F.3d 285 (4th Cir. October 2, 2018).

131. *Sierra Club v. US Army Corps of Engineers*, No. 18-1173, 909 F.3d 635 (4th Cir. Nov. 27, 2018).

Keystone XL pipeline that the NWP12 should not apply to large infrastructure projects like pipelines without Endangered Species Act consultation. The Trump administration jolted to action and the USACE brought the case to the Justice Department.¹³² Maury Johnson described that soon after, the Trump administration had the Supreme Court issue a one-page decision.¹³³ The Supreme Court granted a stay until writ of certiorari, allowing the NWP12 to be used for other pipelines aside from the Keystone XL.¹³⁴ Now, the Keystone XL pipeline has stopped which has put the NWP12 case to rest.

Regardless, the MVP's opposition remained focused on the issue when the MVP reapplied for the NWP12 and received the NWP12 again.¹³⁵ An environmental attorney explained West Virginia had already started to change regulations to remove the maximum size for pipelines and litigation ensued.¹³⁶ Conservation groups quickly took the NWP12 back to court in October 2020. The brief filed by Appalachian Mountain Advocates describes a troubling thought-process the MVP has, with a reference to a quote from Diana Charletta, the President and COO of the MVP, who said, "I think the important thing is the ones that are really critical, we would try to do it as quickly as possible before anything is challenged and just strategically go through it with that kind of thought process" in reference to the stream-crossings.^{137,138,139}

132. Gilmer, Ellen M, "Judge Retains Freeze on Streamlined Pipeline Permitting," *Bloomberg Law*, (2020), <https://news.bloomberglaw.com/environment-and-energy/federal-judge-retains-freeze-on-streamlined-pipeline-permitting>

133. Maury Johnson in discussion with the author, February 2021.

134. *Army Corps of Engineers, et. al. v. N. Plains. Res. Council, et. al.*, Supreme Court of the United States, Order in Pending Case, July 6, 2020, https://www.supremecourt.gov/orders/courtorders/070620zr_2d83.pdf

135. Mountain Valley Pipeline, LLC., "Permitting Updates in Support of Requests," (Washington, D.C: Federal Energy Regulatory Commission, September 25, 2020).

136. Environmental attorney in discussion with the author, March 2021.

137. Ward, Ken, "Federal Regulators Are Rewriting Environmental Laws So a Massive Pipeline Can Be Built," *ProPublica*, (2020), <https://www.propublica.org/article/federal-regulators-are-rewriting-environmental-rules-so-a-massive-pipeline-can-be-built>

138. *Sierra Club v. United States Army Corps of Engineers*, United States Court of Appeals for the Fourth Circuit, Petitioners' Motion for Stay Pending Review, October 5, 2020, 2, https://www.documentcloud.org/documents/20418521-2020_10-05_mvp-brief

139. Equitrans Midstream Corp, *Q2 2020 Earnings Call Transcript*, The Motley Fool, (2020),

When the case was later heard in the Fourth Circuit, the court issued a stay of the USACE decision/permit in November 2020.¹⁴⁰ Around the same time, the MVP alleged it was half-way done with the pipeline and had crossed about 1/3 of the streams it needed to.¹⁴¹

In January 2021, the MVP finally announced via a letter to the FERC it would pursue individual stream crossing permits with the USACE after a two-year legal battle.¹⁴² The FERC then considered the MVP's request to allow it to work on components of its stream crossings in portions of West Virginia in 2021. The FERC's commissioners were deadlocked when a commissioner abstained, leaving the question in the balance. Though the question went unanswered, many such as POWHR took the pause as a victory. In contrast, the MVP responded to the deadlock with hope for the FERC deciding on the question in the future.¹⁴³ It is also worth noting that this deadlock came in January 2021 just after Commissioner Christie and Commissioner Clements were sworn in.¹⁴⁴ The FERC's action on stream crossings is a straw-in-the-wind-test which the hypothesis on the FERC consistently favoring the industry (H2) fails, because a hypothesis on the FERC consistently favoring the industry (H2) would predict that the FERC would have sided with the MVP to allow the MVP to construct across these streams.

The last straw-in-the-wind test which the hypothesis on the FERC consistently favoring the industry (H2) passes is the FERC's track record up to and including the MVP case. As

<https://www.fool.com/earnings/call-transcripts/2020/08/04/equitrans-midstream-corp-etn-q2-2020-earnings-cal.aspx>

140. Ward, "Federal Regulators Are Rewriting Environmental Laws."

141. Hammack, Laurence, "Opponents seek further delay of work on Mountain Valley Pipeline," *The Roanoke Times*, (2020), https://roanoke.com/news/local/opponents-seek-further-delay-of-work-on-mountain-valley-pipeline/article_0fe69f36-4d9f-5c80-b2eb-cb51bec7d409.html

142. Hammack, Laurence, "New stream-crossing permits sought in an attempt to finish Mountain Valley Pipeline," *The Roanoke Times*, (2021), https://roanoke.com/news/local/new-stream-crossing-permits-sought-in-an-attempt-to-finish-mountain-valley-pipeline/article_778177ae-6025-11eb-812b-1b1c63b8f290.html

143. Hammack, Laurence, "In a rare rebuke, FERC fails to approve Mountain Valley Pipeline's proposal," *The Roanoke Times*, (2021), https://roanoke.com/business/local/in-a-rare-rebuke-ferc-fails-to-approve-mountain-valley-pipelines-proposal/article_a56b47aa-5aab-11eb-98f2-130f01d71a26.html

144. Ibid.

aforementioned, from 1997 to 2017, the FERC approved 400 pipelines and rejected only two pipeline proposals, which equates to an approximately 99% approval rating.¹⁴⁵ The FERC's history approving most pipelines indicates the FERC has a track record of favoring the industry's interests. However, it is not clear that the industry's interests always diverged from the public's interest. Before renewable energy took off, it was arguably in the public's interest to have more natural gas pipelines. Therefore, the approval rate only affirms the relevance of the hypothesis on the FERC consistently favoring the industry (H2).

Smoking-Guns

Smoking-gun tests are a metaphor for when a suspect is found with a smoking gun and is presumed guilty.¹⁴⁶ The FERC record demonstrates several smoking guns in the MVP case.

The first smoking-gun test the hypotheses on favoring the industry's interest (H2), industry influence (H3), cultural capture (H3-b), and corrosive capture (H4) pass is the FERC's granting of MVP variance requests (when the MVP requests a change to the original construction plan).¹⁴⁷ After the MVP began construction, it began causing landslides, slips, and erosion, which caused it to file variance requests with the FERC and deviate from its original construction plan. The MVP filed 151 variance requests since beginning construction to February 2021.¹⁴⁸ Two aspects of the FERC's track-record on the MVP's variance requests are troubling. To begin, a collection of variances from the non-profit Protect Our Water, Heritage,

145. Tierney, Susan, *Natural Gas Pipeline Certification Policy Considerations for a Changing Industry*, (New York: Analysis Group), 1-36.
https://www.analysisgroup.com/uploadedfiles/content/insights/publishing/ag_ferc_natural_gas_pipeline_certification.pdf

146. Collier, "Understanding Process Tracing," 823-830.

147. Hileman, Jacob, "MVP's Violations show 'complete absence of any and all meaningful regulation,'" *Virginia Mercury*, (2019), <https://www.virginiamercury.com/2019/07/15/mvp-shows-complete-absence-of-any-and-all-meaningful-regulation/>

148. Protect Our Water, Heritage, Rights, *Master List of MVP Variance Requests Through FERC*, (Pembroke: Protect Our Water, Heritage, Rights, 2021), <https://powhr.org/2019/05/14/master-list-of-mvp-variance-requests-through-ferc/>

Rights (POWHR) showed the FERC had approved every variance request and some requests are posted within hours of the approval, which voids a useful public comment period. POWHR additionally reported the MVP sometimes implemented the change before the FERC sent their response.¹⁴⁹ The removal of the public comment period and the MVP's choice to implement changes before the FERC's decision is a corrosion of bedrock environmental laws meant to protect the environment and the public's rights. Moreover, the FERC's approval of nearly every variance request is also suggestive of cultural capture.

Next, the FERC's decision to approve a project-wide variance request without environmental analysis is highly suggestive of cultural capture. A filing by the Indian Creek Watershed Association (ICWA) demonstrates that the FERC approved a project-wide variance to reduce the depth at which the pipeline would be buried under streams in September 2018 without new environmental analysis, even after the FERC's Senior Consultant had previously asked the MVP to conduct site-specific analyses on previous variance requests. In the past, the MVP deemed the analysis would be excessive. The variance request stated, "The original Vertical Scour and Later (sic) Channel Erosion and Analysis was a theoretical desktop analysis and did not take site specific constructability issues (elevation, terrain, workspace) into account."¹⁵⁰ Despite the FERC's Senior Consultant's request for environmental analysis, the FERC Environmental Project Manager, Paul Friedman, then approved this variance without the analyses and mitigation was allowed with the assumption of safety.¹⁵¹ This research found no evidence of material exchange between Friedman and the MVP, therefore indicating material

149. Protect Our Water, Heritage, Rights, *Report on MVP Variances Through FERC*, (Pembroke: Protect Our Water, Heritage, Rights, 2019), https://powhr.org/wp-content/uploads/2020/01/Kaine_Warner-Variance-Report.pdf

150. Indian Creek Watershed Association, *ICWA Calls for a Project-Wide Stop Work Order and Supplemental EIS based on MVP's Request for VARIANCE MVP-006 and MVP/FERC/USACE "Privileged Communication," FERC Docket 16-00-000*, (Union: Indian Creek Watershed Association, 2018), 4.

151. Ibid, 5-6.

capture was not the likely culprit. However, Friedman's siding with the MVP over the FERC's Senior Consultant is suggestive of cultural capture. Friedman might be valuing relationships with the industry more, adopting the view of the industry, or perceiving industry reps as of a higher status.¹⁵² This interpretation is supported by previous criticisms of Friedman when he was charged with "badgering, speaking over people" at FERC public meetings which "whitewashed the public record."¹⁵³ Therefore, the hypotheses on favoring the industry's interest (H2), industry influence (H3), cultural capture (H3-b), and corrosive capture (H4) pass this smoking-gun test.

The next smoking-gun the hypotheses on the FERC favoring the industry's interest (H2) and corrosive capture (H4) pass is the FERC's rehearing request process. After the FERC issues orders such as the CPCN, parties with standing have 30 days to submit rehearing requests.¹⁵⁴ Submitting a rehearing request and having it denied is key for legal recourse, because until the rehearing request is denied, one cannot pursue action in court. Instead of denying the rehearing requests within 30-days as required, the FERC sent participants tolling orders which give the FERC time to consider the request further and did not deny the request so the parties could seek legal action. By the FERC's own admission, tolling orders "also delayed the ability of the parties to seek judicial review."¹⁵⁵ A search of the FERC eLibrary revealed that from the CPCN issuance in 2017 to December 2020, 100% of the rehearing requests on the CPCN were ultimately rejected, dismissed, or denied. Furthermore, 96% of the denials came after the FERC's 30-day timeline for considering rehearing requests and around 77% were approximately

152. Kwak, James, "Cultural Capture and the Financial Crisis," 80.

153. Delaware River Keeper Network, *People's Dossier of FERC Abuses: Public Participation Undermined*, (Bristol: Delaware River Keeper Network, n.d.), <https://www.delawareriverkeeper.org/ongoing-issues/peoples-dossier-ferc-abuses-public-participation-undermined>

154. McIntyre, Kevin J., Cheryl A. LaFleur, Robert F. Powelson, and Richard Glick, "Order on Rehearing," (Order, Washington, D.C, 2018).

155. Federal Energy Regulatory Commission, "Recent Changes in Commission Rehearing Practice – Item – A -3," (Staff Presentation, Washington, D.C, 2020), <https://www.ferc.gov/news-events/news/recent-changes-commission-rehearing-practice-item-3>

six months late. Similar data was found by an investigation by the Subcommittee on Civil Rights and Civil Liberties, which revealed that in 12 years, 114 landowners submitted rehearing requests. 100% of these requests were tolled and 100% were later denied. FERC also let construction go on before the FERC ruled on the request for 64% of the requests.¹⁵⁶

Tolling had a clear benefit to the MVP and harm to the public because tolling allowed the MVP to construct ~90% of the pipeline with faulty permits and tolling violated the due process rights of the public. Had it not been for tolling orders, the MVP may not have neared 90% completion with improper permits. The MVP's record of completion is later used as a justification in several FERC orders, indicating the gravity of this problem as well. As an environmental attorney described, a judge would be more likely to allow a pipeline through if it was already underway and the tolling orders gave the pipeline time to construct while rehearing requests staggered. Another environmental attorney explained that they tried to stay construction during the rehearing response period, but it did not work, which meant the MVP could conceivably finish before the parties even made it to court.¹⁵⁷ Moreover, even if tolling orders did not allow pipelines to complete significant construction, the tolling orders violate due process rights. Commissioner Glick has also alluded to this very problem where the pipelines begin construction before legal action and said the FERC should stay NGA section 7 certificates until rehearing requests are considered.¹⁵⁸ Commissioner Richard Glick also believed that Congress should review the FERC's delays in rehearing requests and data showed that the FERC delayed

156. House Committee on Oversight and Reform, "Subcommittee Releases Preliminary Findings Showing FERC Pipeline Process Skewed Against Landowners," (Press Release, Washington, D.C, April 28, 2020), <https://oversight.house.gov/news/press-releases/subcommittee-releases-preliminary-findings-showing-ferc-pipeline-approval>

157. Environmental attorneys in discussion with the author, February & March 2021.

158. Commissioner Richard Glick, "Commissioner Richard Glick Concurrence in Part and Dissent in Part Regarding Allegheny Defense Project Final Rule," (Opinion, Washington, D.C, June 9, 2020), <https://www.ferc.gov/news-events/news/commissioner-richard-glick-concurrence-part-and-dissent-part-regarding-allegheny>

responses on most of its requests in 2018 and 2019.¹⁵⁹ Several attorneys who participated in the research explained they went to court with tolling orders and hoped they would be able to have their case heard. One attorney called the tolling orders the FERC issued the “single greatest abomination of administrative law” and that going to court with a tolling order and not a rehearing denial was like “walking into a buzzsaw.”¹⁶⁰ Likewise, a participant from the Sierra Club described that tolling orders effectively were “not letting people have their day in court when their land is taken.”¹⁶¹

Ultimately, in *Alleghany Defense Project v. FERC* in late June 2020, the court determined tolling orders would now be considered a denial of the rehearing request after 30 days, which would enable the requesting party to take the action to court. In the decision, Judge Millett wrote the FERC’s tolling was a “Kafkaesque regime” where the FERC could “keep homeowners in seemingly endless administrative limbo while energy companies plow ahead seizing land and constructing the very pipeline that the procedurally handcuffed homeowners seek to stop.”¹⁶² The FERC later ruled that pipelines cannot construct until it considers landowner rehearing requests.¹⁶³ The FERC has also now decided to send notice of denial of rehearing if it denies a rehearing request by the 30-day deadline and tolling will deny a request after 30 days to enable legal action.¹⁶⁴

159. Gheorghiu, Iulia, “FERC’s backlog of rehearing requests and the legal ‘purgatory’ of opposition to the PJM MOPR order,” *Utility Dive*, (2020), <https://www.utilitydive.com/news/fercs-backlog-of-rehearing-requests-and-the-legal-purgatory-of-oppositio/571300/>

160. Environmental attorneys in discussion with the author, February & March 2021.

161. Joan Walker in discussion with the author, February 2021.

162. Commissioner Richard Glick, “Commissioner Richard Glick Concurrence in Part and Dissent in Part Regarding Alleghany Defense Project Final Rule,” (Opinion, Washington, D.C, June 9, 2020), <https://www.ferc.gov/news-events/news/commissioner-richard-glick-concurrence-part-and-dissent-part-regarding-allegheny>

163. Federal Energy Regulatory Commission, “FERC Provides Additional Landowner Protections in Project Rehearing Cases,” (News Release, Washington, D.C, 2020), <https://www.ferc.gov/news-events/news/ferc-provides-additional-landowner-protections-project-rehearing-cases>

164. Federal Energy Regulatory Commission, “Recent Changes in Commission Rehearing Practice – Item – A-3,” (Staff Presentation, Washington, D.C, 2020), <https://www.ferc.gov/news-events/news/recent-changes-commission->

The evidence on rehearing requests is a smoking-gun test which both the hypotheses on favoring the industry's interest (H2) and corrosive capture (H4) pass. The data demonstrates that the FERC consistently tolled rehearing requests to the benefit of the MVP and restricted due process rights, making the FERC's tolling practice a smoking-gun for capture. At the same time, this research recognizes the FERC is a major federal agency with administrative burdens. However, delaying rehearing requests for six months is in excess of administrative burdens, which reaffirms the hypotheses.

The next smoking-gun tests which the hypotheses on favoring the industry's interest (H2), the industry influencing the FERC (H3), cultural capture (H3-b), and corrosive capture (H4) pass are the FERC's authorizations for the MVP to resume construction. The MVP's construction history is fraught with court orders that stayed permits due to statutory problems where the agency does not follow the statute how Congress intended and process problems, where the courts find the reasoning used is inconsistent with precedent, evidence, or statute.¹⁶⁵

The MVP first lost its right-of-way for Jefferson National Forest (JNF) in July 2018 because construction was not lawful under the National Environmental Policy Act, Mineral Leasing Act, and National Forest Management Act, causing the MVP to lose authority to cross JNF.¹⁶⁶ The FERC issued a stop-work order on August 3, 2018 because the MVP might have had to modify the route due to the case. By the end of August 2018, the FERC partially allowed construction to resume. When construction was reauthorized, the FERC felt finishing the project "as quickly as possible" would be best for the environment and that the route was no longer in

[rehearing-practice-item-3](#)

165. Tiller, Emerson H., "Controlling Policy by Controlling Processes: Judicial Influence on Regulatory Decision Making," *Journal of Law, Economics, & Organization*, (1998): 114-135.

166. *Sierra Club, Inc. v. US Forest Service*, 897 F.3d 582 (4th Cir. July 27, 2018).

question because of the BLM's supplemental analysis.¹⁶⁷ The FERC's reasoning here further confirms the FERC's preference for speedy completion of projects, whether that is consistent with the public interest or not (reaffirming H2 on the FERC deviating from the public interest).

At the same time, the MVP had to obtain an endangered species consultation from the U.S. Fish and Wildlife Service (USFWS) under section 7 of the Endangered Species Act which appeared in good standing until the FERC asked the USFWS to look at the consultation again in late August 2019 likely in response to a legal challenge the Sierra Club filed weeks prior.¹⁶⁸ Soon after, the court granted a stay of opinion for the original USFWS 2017 Biological Opinion and Incidental Take Statement under the ESA in October 2019.¹⁶⁹ This halted construction in areas affected by the opinion and required re-consultation between the FERC and the USFWS. In an interview, John Schmidt, a former regulator from the West Virginia Field Office of the USFWS, indicated that this type of stay is uncommon.¹⁷⁰ The FERC then issued a halt work order four days later.¹⁷¹

In September 2020, the ESA re-consultation was completed, and the opinion was sent to the FERC which prompted the environmental groups to launch another lawsuit and the MVP to ask for the authority to resume construction with the permitting updates.^{172,173} The MVP described that allowing construction to continue was better for the environment and

167. Federal Energy Regulatory Commission, "Partial Authorization to Resume Construction," (Order, Washington, D.C, 2018), 2.

168. Mountain Valley Pipeline, LLC., *Weekly Status Report Nos. 8 and 9*, (Pittsburgh: Mountain Valley Pipeline, LLC., 2018).

169. *Wild Virginia v. United States DOI*, United States Court of Appeals for the Fourth Circuit, October 2019

170. John Schmidt in discussion with the author, February 2021.

171. Federal Energy Regulatory Commission, "Cessation of Certain Activities," (Order, Washington, D.C, 2019).

172. U.S. Fish and Wildlife Service, "Biological Opinion and Conference Opinion for the Mountain Valley Pipeline Project," (Opinion, Washington, D.C: Federal Energy Regulatory Commission, September 4, 2020).

173. Hammack, Laurence, "Another lawsuit filed against bogged-down Mountain Valley Pipeline," *The Roanoke Times*, (2020), https://roanoke.com/news/local/another-lawsuit-filed-against-bogged-down-mountain-valley-pipeline/article_9bbb5f30-189b-11eb-bab1-576aa71991af.html

landowners.¹⁷⁴ At the same time, environmental groups had also recently filed a joint comment asking the FERC to prepare a Supplemental Environmental Impact Statement because the circumstances for the project had changed and more information about the environmental effects of the project had been revealed.¹⁷⁵ The Sierra Club filed a comment in response to the MVP's request saying that the FERC could not allow construction to resume while the permits from the BLM were pending, the MVP was not correct in saying construction was the best for the environment, and the FERC had to consider public health concerns with reauthorizing the construction. The Sierra Club referenced a case from the ACP where the court wrote, "FERC's authorization for [Atlantic Coast Pipeline, LLC (ACP)] to begin construction is conditioned on the existence of valid authorizations from both FWS and NPS. Absent such authorizations, ACP, should it continue to proceed with construction, would violate FERC's certificate of public convenience and necessity."¹⁷⁶ These comments were rooted in Environmental Condition 9 of the CPCN, which requires pipelines to have all their permits before beginning construction.

On October 9, 2020, the FERC issued an unprecedented order partially lifting its previous halt work order in response to the MVP's request.¹⁷⁷ The FERC's decision is unprecedented because as Chairman Glick's office confirmed in an interview, the FERC has never grappled with Environmental Condition 9 of the Certificate Order on a pipeline case before.¹⁷⁸ In this situation, the FERC wrote that the MVP satisfied the Environmental Condition 9 of the CPCN when the MVP obtained permits in 2018 before starting construction and when permits are suspended, the FERC evaluates the current situation to see what protects the environment. The

174. Federal Energy Regulatory Commission, "Order Partially Lifting Stop Work Order and Allowing Certain Construction to Proceed," (Order, Washington, D.C, October 9, 2020).

175. *Ibid.*

176. *Ibid.*, 7.

177. *Ibid.*

178. Chairman Glick's office in discussion with the author, April 2021.

FERC also disagreed that authorizing construction to resume would limit the BLM's decision on the pending BLM permit, because the BLM had indicated it intended to authorize the same route. Commissioner Glick dissented on this decision, questioning why the Environmental Condition 9 for the permits would only apply the first time a pipeline is approved and if that were true, why that would make sense. Commissioner Glick described that agencies and the MVP were authorized to stabilize, which would meet landowners' requests. Commissioner Glick closed with, "Today's order, however, fails to wrestle with the uncertainty created by the outstanding permits, not to mention the litigation that is likely to follow, and instead rushes to recommence construction. That is not, in my view, a reasoned application of our responsibility to the public interest."¹⁷⁹ The FERC's decision to allow the MVP to resume without a permit and to interpret Environmental Condition 9 in this manner is an indication of how the FERC favors the industry's interest (H2), the industry exercises some influence over the FERC (H3), the FERC weighs voices from the industry more (H3-b), and the FERC corrodes legislation (H4).

Later in December 2020, the FERC issued a second order partially lifting the stop work orders around JNF. At the time, the FERC authorized construction before the USDA Forest Service and BLM, the permitting agencies for the JNF, reauthorized it.^{180,181} The FERC's decision relied in part on the MVP's supplemental filing on why it felt the exclusion zone should be reduced. As a result, the FERC felt that the project would not contribute the environmental problems the FERC thought about earlier. Several commenters were not in favor of reducing the

179. Federal Energy Regulatory Commission, "Order Partially Lifting Stop Work Order and Allowing Certain Construction to Proceed," (Order, Washington, D.C, October 9, 2020), 4.

180. United States Department of Agriculture Forest Service, "Mountain Valley Pipeline and the Jefferson National Forest," (Webpage, Washington, D.C, n.d.), <https://www.fs.usda.gov/detail/gwj/home/?cid=stelprd3827827>

181. U.S. Department of the Interior Bureau of Land Management, "The Bureau of Land Management Approves a Revised Right-Of-Way Application for the Mountain Valley Pipeline Project," (Press Release, Washington, D.C, January 15, 2021), <https://www.blm.gov/press-release/bureau-land-management-approves-revised-right-way-application-mountain-valley>

exclusion zone, but the FERC had previously decided that finishing the pipeline and doing final restoration would be the best for the environment. Commissioner Glick again dissented, writing that the MVP should not be allowed to conduct “piece-meal construction” that affects a national forest without all the necessary permits and that the decision was inconsistent with the public interest.¹⁸² Two months later, the FERC denied rehearing on the order.^{183,184} The decisions again demonstrated a preference for fast construction and reliance on the MVP’s information, reaffirming the hypotheses on favoring the industry (H2), the industry exercising some influence over the FERC (H3), the FERC experiencing cultural capture (H3-b) and corrosive capture (H4).

Both of the FERC’s decisions to lift the halt-work orders in October 2020 and December 2020 are smoking-gun tests which collectively confirm cultural and corrosive capture. The FERC’s reasoning process elucidates how the FERC relies on the industry’s information and subsequently favors the industry. Leaning into the industry’s information and giving it undue weight is precarious and has the potential for major outcomes, such as letting a pipeline finish construction. Furthermore, the FERC’s surprising interpretation of Environmental Condition 9 exposes how the FERC can prioritize the industry’s interest even when other options such as mitigation are present, and how the FERC can do so at the expense of Congress’ intent.

The last smoking-gun test is the FERC’s decision to extend the MVP’s certificate, which the hypotheses on the public and private interests diverging (H1), the FERC favoring the industry’s interest (H2), the industry influencing the FERC (H3), cultural capture (H3-b), and corrosive capture (H4) pass. In August 2020, the MVP requested that the FERC extend its CPCN

182. Federal Energy Regulatory Commission, “Item C-2: Order Partially Lifting Stop Work Orders and Allowing Certain Construction to Resume,” (Commissioner Statement, Washington, D.C., December 17, 2020), 1.

183. Hammack, Laurence, “Forest Service grants pipeline’s request to pass through Jefferson National Forest,” *The Roanoke Times*, (2021), https://roanoke.com/business/local/forest-service-grants-pipelines-request-to-pass-through-jefferson-national-forest/article_0768b8ce-5418-11eb-ba8c-6f0b6b8dd399.html

184. Federal Energy Regulatory Commission, “Order Addressing Arguments Raised on Rehearing and Denying Stay,” (Order, Washington, D.C., March 24, 2021).

until 2022 to allow it to finish the pipeline. Subsequently, the FERC conducted a 15-day comment period and over 43,000 objections from environmental groups and their members were sent to the FERC.^{185,186,187} Following, the FERC issued the order granting the extension on October 9, 2020.

The FERC's order is demonstrative of cultural and corrosive capture for several reasons. A compelling point is that the FERC appears to again be influenced by the MVP and industry over the public in the most striking example yet (MVP vs. 43,000 comments). The FERC's decision to go against the comments is surprising, because as Jennifer Fordham, a former Senior Vice President of Government Affairs for the Natural Gas Supply Association (NGSA), explained, she would read every comment in her role and the FERC likely does the same.¹⁸⁸ Moreover, the FERC decides to extend the CPCN on the basis that extending construction was with precedent and would be best for the environment given that more than 85% of the pipeline was done and the compressor stations were complete.¹⁸⁹ However, the MVP may not have been 85% done if the FERC had not stalled legal action with tolling orders. Additionally, interviewees in this research disagreed with the 85-90% figure because of the thousands of pending stream crossings.^{190,191,192} Furthermore, the FERC chose to extend the CPCN with awareness of the

185. Federal Energy Regulatory Commission, "Mountain Valley Pipeline, LLC.; Notice of Request for Extension of Time," *Federal Register*, (September 2, 2020), <https://www.federalregister.gov/documents/2020/09/02/2020-19376/mountain-valley-pipeline-llc-notice-of-request-for-extension-of-time>

186. Ridder, Kevin, "Mountain Valley Pipeline Construction Partially Resumes," *Appalachian Voices*, (2020), <https://appvoices.org/2020/10/21/mountain-valley-pipeline-construction-partially-resumes/>

187. Environmental journalist in discussion with the author, February 2021.

188. Jennifer Fordham in discussion with the author, February 2021.

189. Federal Energy Regulatory Commission, "Order Granting Requests for Extension of Time," Docket Nos. CP16-10-006, CP16-13-000, (Order, Washington, D.C, October 9, 2020).

190. Maury Johnson in discussion with the author, February 2021.

191. Environmental attorneys in discussion with the author, February & March 2021.

192. Cox, Natalie, "MVP Total Project Work 90% Complete by Year-End," *Business Wire*, (2019), <https://www.businesswire.com/news/home/20191022005281/en/MVP-Total-Project-Work-90-Complete-by-Year-End>

environmental harms that the MVP had caused such as compliance problems with sediment and erosion.

When the FERC goes against the public's comments, uses the completion as a basis for extension, and ignores new evidence of environmental harm, it becomes likely that the FERC is safeguarding its previous decision to grant the original CPCN. After all, if three years brought significant legal costs and turmoil, it could be considered a waste to stop the pipeline from having enough time to finish. This perception could come both from within the FERC or from the MVP, who has reported the project was initially estimated to cost around \$4 billion and now the costs have neared around \$6 billion.¹⁹³ The interpretation that the FERC appears to be protecting its original decision to grant the CPCN is also supported by the FERC's denying new intervening requests from landowners, which contrasts with how the FERC previously made exceptions such as for ICG Eastern to intervene late on the original CPCN. Thus, the FERC's extension of the CPCN against the public interest exhibits how the public and private interests diverge (H1), the FERC favors the industry's interests (H2), the industry influences the FERC (H3), and the FERC is culturally and corrosively captured (H3-b & H4, respectively).

In sum, the hoop, straw-in-the-wind, and smoking-gun tests throughout the MVP case confirm the FERC's regulatory agency capture. There is evidence that the public and private interests diverge (H1), the FERC consistently favors the MVP over the public interest (H2), the FERC is influenced by the MVP (H3), the FERC weighs voices from the industry more (H3-b), and the FERC corrodes the NGA or NGPA (H4). In contrast, there is no evidence of material capture (H3-a).

193. DiSavino, Scott, "Equitrans confirms early 2021 startup for Mountain Valley natural gas pipeline," *Reuters*, (2020), <https://www.reuters.com/article/us-equitrans-mountain-valley-natgas-pipe/equitrans-confirms-early-2021-startup-for-mountain-valley-natural-gas-pipeline-idUSKCN2501VC>

V. Natural Gas Pipeline Regulatory History

After finding evidence of cultural and corrosive capture on the MVP case, this paper followed Carpenter & Moss' recommendation of finding when and where the policy shift towards the industry occurs.

Natural gas pipeline regulation began with the Federal Power Commission (FPC) in the New Deal Era. The FPC was given the role of natural gas pipeline regulation via The Natural Gas Act (NGA) in 1938, which introduced the concept that to build an interstate pipeline a company had to receive the CPCN.¹⁹⁴ However, the FPC suffered from several issues when it began this immense responsibility. First, it had only recently undergone massive changes with the Federal Power Act and had several administrative inadequacies prior to that in its youthful stage.¹⁹⁵ Furthermore, Congress gave the FPC weak authority and a vague legislative agenda, leading to the FPC's agency decay as Bernstein described.¹⁹⁶ The FPC's administrative and jurisdictional problems coupled with the necessity for natural gas regulation began the FPC's decline towards cultural capture.¹⁹⁷

For example, Congress gave the FPC little direction on how to decide who to issue a CPCN to. CPCNs were used in other utilities and interstate railroads, so Congress may have expected the FPC to define the CPCN.¹⁹⁸ Furthermore, the FPC lacked jurisdiction in applying the CPCN, such as to review the end-use of gas. In 1939, the FPC noted that "it would appear that Congress did not intend this Commission generally to weigh the broad social and economic effects of the use of various fuels" and in the FPC's Twentieth Annual Report, the FPC stated

194. Wheat, Carl I., "Administration by the Federal Power Commission of the Certificate Provisions of the Natural Gas Act," *Wash. L. REV.* (1945): 194-216.

195. Bernstein, "The Life Cycle of Regulatory Commissions," 74-102.

196. *Ibid.*

197. DeVane, Dozier A., "Highlights of Legislative History of the Federal Power Act of 1935 and the Natural Gas Act of 1938," *Wash. L. REV.* (1945): 30-41.

198. Wheat, "Administration by the Federal Power...", 194-216.

that the NGA should be “immediately broadened to give the Commission power to resolve them in the public interest.”¹⁹⁹ The FPC also noted it had to decide whether it had jurisdiction on each case and could not carry out “any serious effort” to conserve natural gas as such.²⁰⁰ Amendments followed, and by 1944, the FPC was buying into the coal industry’s arguments about considering the end-use of gas. The FPC concluded end-use should be considered after the coal industry argued that gas should be used for superior and not for inferior uses, such as for boiler-fuel. The coal industry’s policy would result in less natural gas usage; in fact, nearly 55% of natural gas consumption in the 1960s on average was for boiler fuel.^{201,202} The FPC soon applied the coal industry’s argument when it rejected an application for a certificate because of the “rapid rate of depletion” (of natural gases).^{203,204} Furthermore, the FPC openly stated how the coal industry intervened on these cases.²⁰⁵

Soon after, predatory pricing led to a Supreme Court case that gave the FPC the power to regulate natural gas prices at the wellhead.²⁰⁶ Following the Supreme Court’s decision, the FPC began a series of failed attempts to regulate the wellhead prices and was now burdened by a serious administrative backlog. The FPC predicted it would not finish the cases from 1960 until 2043.²⁰⁷ Congress attempted to pass a deregulation bill under President Eisenhower, but the bill

199. Wheat, “Administration by the Federal Power Commission,” 208.

200. Wheat, “Administration by the Federal Power Commission,” 197.

201. Koplin, H.T., “Conservation and Regulation: The Natural Gas Allocation Policy of the Federal Power Commission,” *The Yale Law Journal*, 1955: 840-862.

202. MacAvoy, Paul Webster, & Pindyck, Robert S., *The Economics of the Natural Gas Shortage (1960-1980)*, (Cambridge: MIT Energy Laboratory, 1974).

203. Wheat, “Administration by the Federal Power Commission,” 194-216.

204. Koplin, “Conservation and Regulation,” 840-862.

205. Federal Power Commission, “United States. Federal Power Commission Opinions and Decisions of the Federal Power Commission: Volume 3,” (Archive, Washington, D.C, 1944).

206. Raley, David, “The Philips vs. Wisconsin Decision and the Decline of Regulatory Effectiveness,” *Business History Conference. Business and Economic History On-line: Papers Presented at the BHC Annual Meeting*, vol. 15, (2017): 1-11.

207. MacAvoy, Paul Webster, & Pindyck, Robert S., *The Economics of the Natural Gas Shortage (1960-1980)*, (Cambridge: MIT Energy Laboratory, 1974).

was hindered by a senator who claimed a Superior Oil Company attorney had offered him \$2,500 for his campaign to vote for deregulation. President Eisenhower then vetoed the bill during the election year due to the image of corruption (1956).²⁰⁸ The FPC then attempted a series of wellhead price controls, some of which backfired and allowed natural gas producing companies to have higher prices than before the regulation. Other pricing regulations such as regional ceilings seemed more successful.²⁰⁹

Soon, the FPC decided to “hold the line” on price increases in the 1960s.²¹⁰ Holding the line led the natural gas supply to dwindle, causing a shortage for nearly the next twenty years. The shortage occurred when there were less findings of new sources of natural gas as compared to the reserve amounts the pipeline companies dedicated to their buyers. Additionally, because the reserves existed, the natural gas shortage was not noticed for some time. Without new reserves from the natural gas producers, pipelines lessened the backing on each delivery of gas and kept taking on new customers to whom they sold gas solely from the reserves. New customers saw price hikes while old customers had lower prices and entire market areas lost service and were told to use oil instead of gas.^{211,212}

By 1974, the FPC was dealing with the shortage and the Arab oil embargo, causing it to switch to national price ceilings which doubled the prices from the 1960s. At the same time, calls were made for either increasing regulation or absolving the FPC’s control on natural gas prices. Meanwhile, pipelines continued to move into intrastate markets which the FPC did not

208. Raley, "The Philips vs. Wisconsin Decision," 1-11.

209. MacAvoy, Paul Webster, & Pindyck, Robert S., *The Economics of the Natural Gas Shortage (1960-1980)*, (Cambridge: MIT Energy Laboratory, 1974).

210. Raley, "The Philips vs. Wisconsin Decision," 9.

211. MacAvoy, Paul W., "The Natural Gas Policy Act of 1978," *Natural Resources Journal*, 1979: 811-828.

212. MacAvoy & Pindyck, *The Economics of the Natural Gas Shortage*.

regulate.^{213,214} The gas shortage also put substantial pressure on Congress, who had to either regulate intrastate prices or raise prices in interstate markets and who in turn, could have pressured the FPC more. By 1973, residential prices were skyrocketing, and consumers were putting the pressure on Congress as well (see figure 8).²¹⁵ The pressure the natural gas crisis put on the FPC and Congress introduces a hypothesis regarding when the FPC became captured – if the FPC was criticized for its previous anti-industry policies and faced enormous pressure to solve the natural gas crisis, it may have adopted a pro-industry stance as a result.

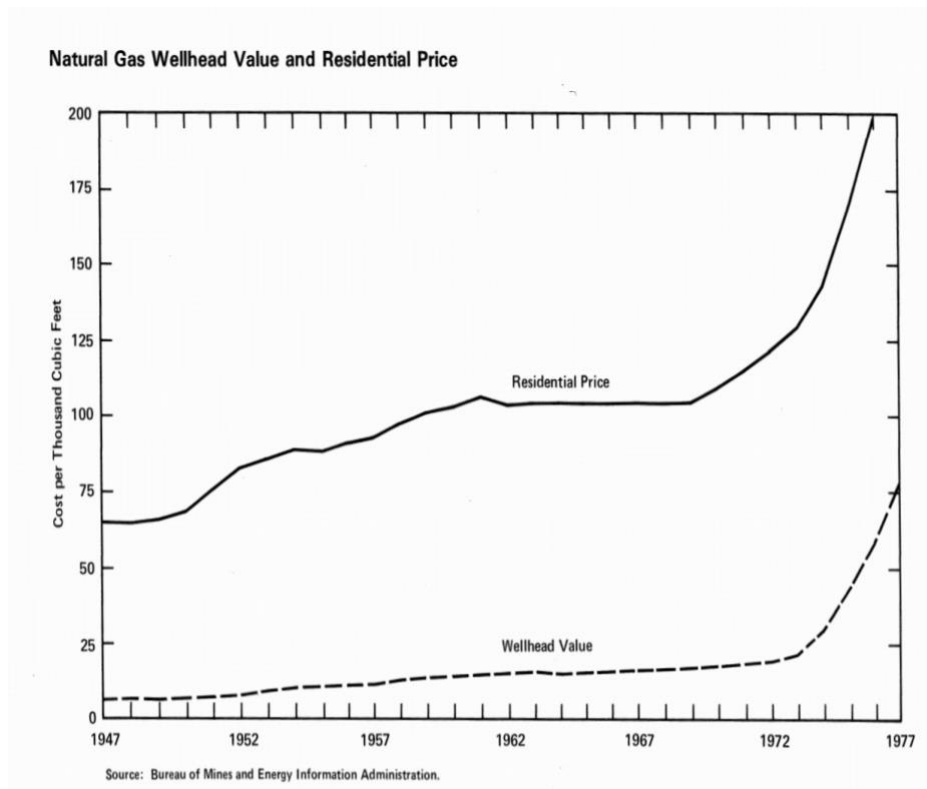


Fig. 8 – Natural gas prices from 1947 to 1977. Figure Source: U.S. Department of Energy (1977).²¹⁶

213. MacAvoy, Paul Webster, & Pindyck, Robert S., *The Economics of the Natural Gas Shortage (1960-1980)*, (Cambridge: MIT Energy Laboratory, 1974).

214. MacAvoy, "The Natural Gas Policy Act of 1978," 811-828.

215. U.S. Department of Energy - Energy Information Administration, *Annual Report to Congress: Statistics and Trends of Energy Supply, Demand, and Prices*, (Annual Report, Washington, D.C, 1977).

216. U.S. Department of Energy - Energy Information Administration, *Annual Report to Congress: Statistics and Trends of Energy Supply, Demand, and Prices*, (Annual Report, Washington, D.C, 1977).

Following, in 1977, the FPC was consolidated into the FERC which had many of the same authorities, but the FERC lost the FPC's regulatory authority over imports and exports of natural gas.²¹⁷ A year later, Congress passed the Natural Gas Policy Act (NGPA) in 1978 which was considered a landmark for its difficult passage. This resulted in changed pricing regulation for new gas at the wellhead and deregulating existing gas prices by 1985. Congress also made a major change in regulating that natural gas supplies would first go to residential consumers and then to industrial consumers.²¹⁸ One of the major components of the NGPA was the classifying of natural gas into thirty categories that helped to classify what pricing regulations each type of gas received to determine its phased pricing deregulation.²¹⁹ The NGPA ended the shortage for many reasons, but one commonly cited reason is that the Organization of Petroleum Exporting Countries (OPEC) prices rose preceding the NGPA, causing intrastate natural gas prices to rise and in turn, for the natural gas producers to discover new sources of natural gas. Though, it is not clear that Congress predicted the shortage was on its way out. Congress believed deregulation was needed to clear the gas shortage by 1985 in part because of the help it received from industry experts. The Department of Energy predicted that without the NGPA, there would be excess demand of 5% in 1958 and that the residential gas price would increase six percent every year from 1978 to 1985. In contrast, the American Gas Association predicted a 4x excess demand in 1977 as compared to the Department of Energy prediction and the Association also predicted that supply would not meet demand with the NGPA.²²⁰

217. Lees, Frank, *Lees' Loss Prevention in the Process Industries: Hazard Identification, Assessment, and Control*. (Amsterdam, Elsevier, 2012).

218. MacAvoy, "The Natural Gas Policy Act of 1978," 811-828.

219. Spaeth, Steven M, "Our Experience Under the Natural Gas Policy Act of 1978, and its Relevance to the Natural Gas Wellhead Decontrol Act of 1989," *University of Arkansas at Little Rock Law Review*, 1989: 265-282.

220. MacAvoy, "The Natural Gas Policy Act of 1978," 811-828.

Congress could have tried to solve the gas shortage with alternatives, such as regulating pipelines in the intrastate markets the same way as interstate pipelines or regulating the fuel oil price (which is directly related to the pricing of natural gas).²²¹ Despite these alternatives, Congress followed the industry's data and chose residential consumers over industrial, likely placing some pressure on the new FERC to ensure a natural gas shortage does not occur again.²²² Because Congress took their cues from the industry and public and the FERC had little role in the decision-making, the NGPA begins to suggest "electorally sanctioned pro-business governance" or when Congress and the people ask the FERC to adopt a pro-industry stance.²²³

After the NGPA, the new and high-cost gas producers were able to charge high rates while old gas was undervalued and left in the ground.²²⁴ Pipelines were also forced to purchase expensive gas because they had signed long-term contracts during the natural gas crisis. These higher prices and a dip in oil prices then led the gas demand to drop during the 1980s, amidst a nationwide recession. As a result, pipelines were stuck with gas they had paid high prices to the producers for but could not charge consumers high prices for (causing market oversupply or the bubble). Pipelines could also not transport other cheaper natural gas because of their contracts from the crisis. The FERC responded by removing the price ceiling on the old gas and adding a uniform price ceiling for all gas from after 1974 and the FERC also allowed for pipelines and producers to renegotiate these contracts.²²⁵

Soon, the FERC faced its first major regulatory challenge. The bubble caused customers of natural gas (who were buying gas and transport from the pipelines) to fight for the right to

221. Ibid.

222. Ibid.

223. Carpenter, "Detecting and Measuring Capture", 66.

224. Spaeth, "Our Experience Under the Natural Gas Policy," 265-282.

225. Ibid.

unbundle gas and buy gas directly from the producers and buy the transport from the pipelines. As a result, pipelines made a new type of package called Special Marketing Programs (SMPs) where the customer could buy their own gas from the manufacturer of the gas and then buy the transport from the pipeline.²²⁶ Soon after, the FERC leaned into the industry's practices and codified SMPs with Order No. 436 and Order No. 636, which strongly suggests cultural capture.

Order No. 436 was originally intended to resolve gas customer discrimination, but the order received much pushback because it followed a first-come first-serve standard which could still preference customers with more resources.^{227,228} Order No. 436 was also a turning point in the FERC's regulation of CPCNs for pipelines. At a time of gas surplus and falling prices, the FERC chose to offer "optional, expedited certificates."^{229,230} These "blanket certificates" let the pipelines transport gas without "prior authorization" from the FERC as long as the pipeline company took on all the risk for the pipeline.²³¹ A Government Accountability Office report stated that a goal of the order was to, "allow pipelines and other eligible applicants to obtain section 7 certification more quickly and easily than normal when offering new services..."²³² In 1987, 26 of the major 45 pipeline companies were participating in the program (~58%) and some of the others who did not participate said that the program would "not be beneficial."²³³ Others were concerned about the new certificate program. Commenters wrote that the Commission was

226. Tiano, Richard J.; Bonnifield, Richard P., "The Impact on Gas Distribution Companies of Federally Approved Special Marketing Programs," *Energy Law Journal* 5, no. 2, 1984: 287-308.

227. Manning, Michael J., "F.E.R.C Order No. 436 - Local Distribution Companies and End Users," *ANN. Inst. oN MIN. L.* (1988): 97-107.

228. Isser, Steve, *Natural Gas Pipeline Certification and Ratemaking*, (Newark: Eastern Environmental Law Center, 2016), 1-28.

229. Manning, "F.E.R.C Order No. 436," 97-107.

230. Energy Information Administration, "FERC Order 436," (Order, Washington D.C, 1985), https://www.eia.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/ferc436.html

231. Ibid.

232. Milans, Flora H., *Pipeline Transportation Under FERC Order 436*, (Report, Washington D.C: Government Accountability Office, 1987), 20.

233. Milans, *Pipeline Transportation Under FERC Order 436*, 26.

presuming that the NGA requirements would be met because the pipeline was taking on the financial risk of the pipeline and so, the pipeline companies should either have to go through the full NGA hearing or provide proof the pipeline was in the public interest.²³⁴ The order was challenged, but the courts upheld that the FERC had the authority to give the expedited certificates.²³⁵

Pipelines were not originally obligated to comply with the order to unbundle, but in 1992, FERC Order No. 636 made the unbundling of the sale of gas and the sale of the transportation service mandatory and implemented other pricing changes.^{236,237} Previous work analyzing the comments submitted at the time indicates the FERC chose the pipelines and customers to side with over distributors, suggesting capture.²³⁸ Distributors were not happy with either order or SMPs, as their role for gas sales became nearly obsolete at least with large industrial consumers and it could lead to interrupted service for customers. However, distributors could not argue that the new SMPs were not in the public interest, because there were no standards for this and the SMPs saved industrial consumers money.²³⁹

By 1989, all regions of the country were connected by a natural gas pipeline and natural gas wellhead price controls virtually ended.^{240,241} Following this long period of blanket certification from Order No. 436 for approving pipelines after the natural gas bubble, the FERC started to change the certificate process again in 1991 by adding a burden to recover projects

234. Manning, "F.E.R.C Order No. 436," 97-107.

235. Energy Information Administration, "FERC Order 436," (Order, Washington D.C, 1985), https://www.eia.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/ferc436.html

236. Federal Energy Regulatory Commission, "FERC Order No. 636 – Restructuring of Pipeline Services," (Order, Washington, D.C, 2020), <https://www.ferc.gov/order-no-636-restructuring-pipeline-services>

237. Isser, *Natural Gas Pipeline Certification and Ratemaking*, 1-28.

238. Tiano, Richard J.; Bonnifield, Richard P., "The Impact on Gas Distribution Companies of Federally Approved Special Marketing Programs," *Energy Law Journal* 5, no. 2 (1984): 287-308.

239. Ibid.

240. Isser, *Natural Gas Pipeline Certification and Ratemaking*, 1-28.

241. Spaeth, "Our Experience Under the Natural Gas Policy," 265-282.

costs on the new pipeline and not the existing pipeline customers for all pipelines.²⁴² In 1999, the FERC produced its final natural gas pipeline policy statement in an echo chamber of industry voices.

In the public comment period, the FERC asked stakeholders to comment on three options for policies – “for the Commission to authorize all applications that at a minimum meet the regulatory requirements, then let the market pick winners and losers. Another would be for the Commission to select a single project to serve a given market and exclude all other competitors. Another possible option would be for the Commission to approve an environmentally acceptable right-of-way and let potential builders compete for a certificate.”²⁴³ The FERC did not post how many comments they received for the 1999 policy in the final statement of policy, but a search of the FERC eLibrary revealed 232 comments were filed under both docket numbers in the category “Comments/Protest” from 01/01/1998 to 01/01/2001. The American Gas Association submitted a comment summarizing the >100 comments the FERC had received by that point and offering recommendations for the FERC to implement. For example, the American Gas Association summarized a framework that fosters competitive markets, allowing customers to choose negotiated services and pipelines implement tariffs to protect customers if customers subsidize the negotiated services.²⁴⁴ Likewise, the Interstate Natural Gas Association of America filed a comment, also submitting policy recommendations for pricing changes.²⁴⁵ These comments from two of the biggest conglomerations of stakeholders did not specifically mention the CPCN process. This was a surprising revelation, because the FERC policy posted in 1999

242. Isser, *Natural Gas Pipeline Certification and Ratemaking*, 1-28.

243. Federal Energy Regulatory Commission, “Certification of New Interstate Natural Gas Pipeline Facilities,” (Policy, Washington, DC, 1999), 11.

244. American Gas Association to Federal Energy Regulatory Commission, May 27, 1999, Federal Energy Regulatory Commission.

245. Interstate Natural Gas Association to Federal Energy Regulatory Commission, April 22, 1999, Federal Energy Regulatory Commission.

explained the goal of the policy was to “foster competitive markets, protect captive customers, and avoid unnecessary environmental and community impacts while serving increasing demands for natural gas.”²⁴⁶ The absence of the CPCN in the comments could indicate the expectation for loose application of the concept of public convenience and necessity.

Ultimately, the FERC decided to approve those who can meet the NGA criteria so the market can decide which projects should be implemented. Under the new regulatory regime, the process to grant the certificate involves a predicate test of proving a market need. From there, the FERC moves onto assessing the public benefit and impact before granting the certificate.²⁴⁷ In deciding this policy, the FERC also weighed concerns like overbuilding and shortages, but ultimately went for a market-based approach. Some argue that the FERC policy of letting the market pick the winners and losers works well, allowing for self-selected applicants to apply and receive the FERC’s high rate of approval. For example, the Pacific Connector was not originally approved by the FERC because it provided little proof it was needed without any contracts, precedent agreements, or an open season.²⁴⁸ Though, some projects do not fit this theory. For example, the Atlantic Coast Pipeline was a highly risky project traversing the Appalachian Trail and ultimately became a sunk cost.²⁴⁹

It is probable that the FERC was receiving comments in an industry echo chamber in 1999 who wanted a free natural gas market after the failed regulation of the 1950s. Though no environmentalists’ comments were found on the 1999 policy from the comment period, some

246. Federal Energy Regulatory Commission, “Certification of New Interstate Natural Gas Pipeline Facilities,” (Policy, Washington, DC, 1999), 13.

247. Federal Energy Regulatory Commission, “Certification of New Interstate Natural Gas Pipeline Facilities,” (Policy, Washington, DC, 1999).

248. Isser, *Natural Gas Pipeline Certification and Ratemaking*, 1-28.

249. Penn, Ivan, “Atlantic Coast Pipeline Canceled as Delays and Costs Mount,” *New York Times*, (2020). <https://www.nytimes.com/2020/07/05/business/atlantic-coast-pipeline-cancel-dominion-energy-berkshire-hathaway.html>

later comments revealed concern existed for the predicate market test. The Defenders of Wildlife, National Audubon Society, and National Wildlife Refuge Association sent a joint letter writing that the “In our view, the Commission should not make an evaluation based only on economic calculation and dismiss permanent environmental change.”²⁵⁰ Moreover, when the 1999 policy was published, the FERC had already set a precedent for a relaxed regulatory state from Order No. 436 and Order No. 636.

Evaluating regulatory history of the FPC and FERC reveals a troubled record of natural gas pipeline certification. The FPC began with a period of confusion and lack of jurisdiction, then inadvertently contributed to a natural gas crisis. After the NGPA, the FERC then begins to demonstrate symptoms of cultural capture and corrosive capture when it codified industry actions and removed the necessary certificate proceedings. Ultimately, the FERC settled on the 1999 policy in what could be coincidental cultural capture at a time when no one opposed natural gas and no one outside of the industry commented on the policy before it was set. Though these seem like accidents, it is unclear why the FERC has remained glued to the 1999 pro-industry policy for twenty years. In sum, the analysis suggests that the FPC and FERC gradually became subject to cultural capture and insulated the industry, particularly during and after the natural gas crisis.

250. Defenders of Wildlife, National Audubon Society, and National Wildlife Refuge to Federal Energy Regulatory Commission, 1999, Federal Energy Regulatory Commission.

VI. Discussion

Confirming capture drives a regulatory outcome over other causes is challenging. Though this paper suggests that the FERC is culturally and corrosively captured, it also finds several confounding variables and potential other sources of capture because the FERC did not approve the MVP in a vacuum.

To illustrate, agencies are prime targets for capture by the industries they regulate. The agencies the FERC works with, like the USACE and BLM, were criticized for their permitting errors and inadequate analyses by the courts, which could suggest they have already been captured. Like these agencies, the state agencies that the FERC works with such as the West Virginia Department of Environmental Protection and Virginia Department of Environmental Quality can become captured by pro-industry ideology from the industry. These state agencies are also uniquely vulnerable to “electorally sanctioned pro-business governance,” because the revenues and jobs from big projects can cause elected state and local officials to persuade regulatory decision makers.²⁵¹

Furthermore, the FERC’s agenda can stem from Congress or the Executive. The FERC is intended to be an independent agency, but the FERC derives its power and funding from Congress and an agenda from the Executive. For example, the Trump administration was reported to pressure agencies with its pro-energy stance on the Atlantic Coast Pipeline.²⁵² John Schmidt, a former regulator with the USFWS, also described that the Trump administration did not operate like previous administrations.²⁵³ Likewise, Congress, the Executive, and the bureaucracy are also influenced by public opinion. If the public opinion in any constituency

251. Carpenter, “Detecting and Measuring Capture”, 66.

252. Soraghan, Mike, “How Trump’s energy dominance backfired on an \$8B pipeline,” *E&E News Reporter*, (2020), <https://www.eenews.net/stories/1063518775>

253. John Schmidt in discussion with the author, February 2021.

supports pipelines, the FERC can conduct “electorally sanctioned pro-business governance” where it favors the industry because the constituency desires that.²⁵⁴

Furthermore, Carpenter & Moss’ gold-standard for diagnosing capture emphasizes how a solid capture diagnosis must “Show action and intent by the industry (special interest) in pursuit of this policy shift sufficiently effective to have plausibly caused an appreciable part of the shift.”²⁵⁵ Though this study points to areas where the MVP appears to have influenced the FERC, the unwritten conversations between the MVP and the FERC are not revealed. However, a study of capture rarely finds a “eureka” piece of evidence such as a link between the regulator and the industry that can prove capture. Further analysis via FOIA requests may indicate more evidence of capture in the future to better meet this standard set by Carpenter & Moss.

Additionally, this study’s findings are confounded by the FERC’s own procedural errors and institutional justice concerns. Several parts of this study find errors in the FERC’s process such as tolling orders, which suggest capture due to how these errors favor the industry. However, it is also possible that the FERC conducts a poor public participation process on its own. For example, an investigation by the Office of the Inspector General on the FERC revealed the FERC did not post Notices of Schedule for Environmental Review for 9 years, including a period where the MVP was considered.²⁵⁶ During interviews, several participants raised similar concerns. A journalist brought up that several people they met did not have internet access and missed big updates that otherwise were not on the front of the news.²⁵⁷ Walker from the Sierra

254. Carpenter, “Detecting and Measuring Capture”, 66.

255. Carpenter & Moss, “Introduction,” 15.

256. Office of Inspector General, U.S. Department of Energy, *The Federal Energy Regulatory Commission’s Natural Gas Certification Process*, (Report, Washington, D.C, 2018).

257. Journalist in discussion with the author, January 2021.

Club also explained that in her experience at the Sierra Club, “Of all agencies, FERC is the absolute worst in terms of public participation.”²⁵⁸

Lastly, this study’s findings may not be representative of the FERC’s actions on other pipeline cases. The MVP and ACP are unique cases due to the level of pushback and how the opposition succeeded.²⁵⁹ The level of permitting errors is unprecedented to this research’s knowledge and as Chairman Glick’s office confirmed, no one opposed pipelines like this before.²⁶⁰ Although the MVP may not entirely represent the FERC’s experiences with pipelines, it is an indication of how pipeline permitting may go with the new pipelines intended in Appalachia.

Though there are other explanations for the FERC’s pattern of decision-making and confounding variables are present in the study, this paper nevertheless posits the FERC is culturally and corrosively captured. The FERC’s nearly universal record of decision-making against the public interest is difficult to explain via other means, and there are numerous instances where the FERC should have been making decisions insulated from congressional or Executive influence but still chose to favor the MVP. Therefore, the evidence at hand points to weak cultural and corrosive capture and further studies will be needed to verify these claims.

258. Joan Walker in discussion with the author, February 2021.

259. Tezak, Christine, "A Policy Analyst's View on Litigation Risk Facing Natural Gas Pipelines," *Energy LJ* 40 (2019): 209-241.

260. Chairman Glick’s office in discussion with the author, April 2021.

VII. Conclusions

In *Allegheny Defense Project v. FERC*, Judge Griffith wrote,

“One cannot review the procedural history of this case, and others like it, without concluding that something is amiss. Landowners watch as their property is handed over to pipeline companies and irreparably transformed, all without judicial consideration of the crucial question: Should the pipeline exist?”²⁶¹

Reviewing the MVP’s regulatory history, a similar sentiment pervades the case –

“something is amiss.”²⁶² Since the MVP was approved by the FERC, it has encountered infinite litigation and controversy. At the same time, a nearly universal chorus of participants charges the FERC with regulatory capture and argues the MVP should not have been granted a certificate to begin with. Taking their claims into consideration, this research sought to substantiate or debunk the claim of capture.

In process-tracing the MVP’s path to-date, this research found that the FERC demonstrated cultural and corrosive capture. The FERC first approved the MVP with a CPCN when it had no conclusive evidence the MVP was necessary and it had significant evidence the MVP will harm the public. Furthermore, the FERC ceded to the MVP several times during the environmental analysis to provide the CPCN, suggesting cultural and corrosive capture. The FERC then corroded the intent of Congress by issuing tolling orders for six months and interpreting Environmental Condition 9 to mean permits are only necessary at the start of construction and not throughout construction, providing evidence of corrosive capture. The cultural and corrosive capture are deemed weak by this research because though the FERC is captured, it does useful environmental mitigation and a free-for-all on natural gas pipelines can lead to overbuilding and resource sacrifice zones. Although other confounding factors exist for

261. *Allegheny Defense Project v. FERC*, 964 F.3d 1 (D.C. Cir. 2020).

262. *Ibid.*

the hypothesis of capture, the FERC demonstrates an undeniable record of favoring the MVP and energy industry on the MVP case and over the past twenty years.²⁶³

To understand where this capture started, this paper investigated where the FPC or FERC began leaning into the industry. The history exhibited that the FPC began with vague and weak powers, which contributed to the natural gas crisis. The nascent FERC then began regulating in crisis mode, trying to reverse course from the FPC's pricing problems and leaning too far into the industry's practices as evidenced by the FERC codifying the industry's practices such as unbundling gas and transport. This paper surmises that low levels of cultural capture began with the FPC in 1938 but grew most obviously and dangerously after the natural gas crisis and the NGPA in 1978 when the FERC began a practice of following the industry's lead at the expense of environmental laws and landowners.

The bulk of this research on the MVP and FERC also suggests that the FERC has remained glued to its deleterious and outdated 1999 policy for twenty years with little rationale. This old-fashioned policy has justified many of the FERC's missteps on the MVP, such as using the specious affiliate contracts to demonstrate economic need and weighing economic need as a predicate test before public harm. It is promising that the FERC is now considering changing the 1999 policy. In both 2018 and 2021, the FERC opened inquiries into changing the policy with mention of considering climate change and environmental justice.²⁶⁴ Chairman Glick also now plans to open an Office of Public Participation as the Federal Power Act intended, which can

263. Tierney, Susan, *Natural Gas Pipeline Certification Policy Considerations for a Changing Industry*, (New York: Analysis Group), 1-36.

https://www.analysisgroup.com/uploadedfiles/content/insights/publishing/ag_ferc_natural_gas_pipeline_certification.pdf

264. Federal Energy Regulatory Commission, "FERC Revisits Review of Policy Statement on Interstate Natural Gas Pipeline Proposals," (Press Release, Washington, D.C, 2021), <https://www.ferc.gov/news-events/news/ferc-revisits-review-policy-statement-interstate-natural-gas-pipeline-proposals>

potentially alleviate some cultural capture.²⁶⁵ As Commissioner Glick notes, “Time and time again, landowners do their very best to navigate the complexity of FERC proceedings. And, time and time again, the Commission relies on technicalities to prevent them from even having the opportunity to vindicate their interests.”²⁶⁶ In theory, dampening public comment allows the FERC to fall deeper into cultural capture because the industry voices are heard more and the Office of Public Participation may begin to remedy that problem. Likewise, Congress has also recently indicated changes to policies which could prevent the FERC from steamrolling another large natural gas pipeline like the MVP. Congress is now considering the Energy Act of 2020 and with the new Congress, President Biden may also champion a green energy agenda.

Still, these changes leave room for capture to drive regulatory outcomes. Congress’ previous attempts to solve capture put the public into the agency’s process by adding public comment and the power to go to court. However, public comment has been inefficient and confusing for landowners, and court decisions have produced a ‘start-stop’ pattern of construction which tremendously increased project costs. Modern attempts to stop capture should distance the regulator from the industry it regulates, give the regulator a more specific mandate, improve public participation, and have more regulatory oversight.²⁶⁷ These are ambitious goals, but changes like expanding the comment period, making public meetings more accessible, adding more agency representatives to meetings, revising the NGPA of 1978, and putting an intermediary between the FERC and companies could help to improve the capture the FERC currently faces.

265. Federal Energy Regulatory Commission, “Workshop Regarding the Creation of the Office of Public Participation”, (Press Release, Washington, D.C, 2021), <https://www.ferc.gov/news-events/events/workshop-regarding-creation-office-public-participation-04162021>

266. Federal Energy Regulatory Commission, “Order Granting Requests for Extension of Time,” (Order, Washington, D.C, October 9, 2020), 2.

267. Zinn, “Policing Environmental Regulatory Enforcement,” 81-176.

As Samuel Huntington wrote in 1952, “Successful adaptation to changing environmental circumstances is the secret of health and longevity for administrative as well as biological organisms. Every government agency must reflect to some degree the ‘felt needs’ of its time.”²⁶⁸ Future research into confirming this diagnosis of capture and defining the mechanism of capture within the FERC is needed. However, the FERC is at an undeniable crossroads of the private and public interest, and capture should no longer drive the choices it makes.

268. Huntington, "The Marasmus of the ICC," 407.

Appendix A - Interviewee List

1. A journalist in Virginia
2. An environmental journalist
3. An environmental attorney*
4. An environmental attorney*
5. An environmental attorney*
6. Joan Walker: Senior Campaign Representative, Beyond Dirty Fuels Campaign, Sierra Club
7. David Sligh: Conservation Director, Wild Virginia
8. Jennifer Fordham: Former Senior Vice President of Government Affairs for the Natural Gas Supply Association (NGSA)
9. Colin Rees: Senior Campaigner at Oil Change International
10. John Schmidt: Former regulator with the USFWS
11. David Perry: Executive Director, Blue Ridge Land Conservancy & member of the Roanoke Pipeline Advisory Committee
12. Maury Johnson: Affected landowner, Executive Committee Member of Protect Our Water, Heritage, Rights, and Executive Committee Member at Preserve Monroe
13. Ken Ward: Journalist with ProPublica
14. Chairman Glick's Office (Federal Energy Regulatory Commission)

*Repetition is intentional, multiple interviewees asked to be referred to by this title

Appendix B - Pipeline Route²⁶⁹

1. The MVP begins at an interconnection with an Equitrans' pipeline in Wetzel County, West Virginia.
2. From there, the pipeline heads southeast to Wallace in Harrison County, West Virginia and then Salem in Harrison County, West Virginia.
3. The pipeline then moves south between the towns of Webster Springs and Tigoa in Webster County and Nicholas County, West Virginia respectively.
4. From there, the pipeline turns southwest and past Pence in Summers County, West Virginia and Greenville in Monroe County, West Virginia.
5. Next, for 1.6 miles, the pipeline covers Jefferson National Forest. The 1.6 miles includes crossing the Appalachian National Scenic Trail. This 1.6 mile area across Jefferson National Forest is just northwest of Goldbond in Giles County, Virginia.
6. From there, the pipeline meets an Appalachian Power Company (AEP) transmission line west of Kimbleton in Giles County, Virginia.
7. After that, the pipeline moves northeast of Newport in Giles County, Virginia.
8. Next, the pipeline heads southeast and covers Jefferson National Forest again.
9. Following, the pipeline moves south and colocates with the AEP transmission line again and then crosses Interstate 81.
10. Subsequently, the pipeline continues south and passes the Spring Hollow Reservoir.
11. Then, the pipeline moves southeast and passes west of the town Bent Mountain in Roanoke County, Virginia.
12. The pipeline next moves east, where it passes the Blue Ridge Parkway.
13. From there, the pipeline moves east to the towns of Boones Mill and Rocky Mount in Franklin County, Virginia
14. Lastly, the pipeline moves southeast until it terminates at Transco's Zone 5 Compressor Station 165 close to Transco Village in Pittsylvania County, Virginia.

269. Mountain Valley Pipeline, LLC., "Application for Certificate of Public Convenience and Necessity," (Application, Washington, D.C: Federal Energy Regulatory Commission, 2015).

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