

# ***DYNAMIC DELIVERY***

## **America's Evolving Oil and Natural Gas Transportation Infrastructure**

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### **CHAPTER THREE – PERMITTING, SITING, AND COMMUNITY ENGAGEMENT FOR INFRASTRUCTURE DEVELOPMENT**



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## Chapter Three

# PERMITTING, SITING, AND COMMUNITY ENGAGEMENT FOR INFRASTRUCTURE DEVELOPMENT

### I. INTRODUCTION

**A**merica's vast natural resources and energy infrastructure are vital to the nation's security. For more than a century, the energy industry has provided Americans with access to safe, affordable, and reliable energy wherever and whenever it is needed.

The U.S. Congress and the state legislatures have passed numerous laws to ensure that energy is delivered safely and efficiently. Congress has also mandated many other societal priorities, from the assurance of clean air and water, to the protection of species, to the preservation of culture and history. Cooperative federalism—where the federal government enacts laws and sets minimum compliance standards, and states may enact more restrictive standards, as long as consonant with the constitution or not preempted—posits the national and state governments as partners in the exercise of governmental authority.

The resulting system of regulations is both extensive and complex. The challenge is to meet these multiple and often conflicting interests in a way that does not sacrifice public safety, the economy, reliable and affordable energy supplies, environmental protection, and other social priorities.

This chapter describes the nature of the existing system of regulating oil, natural gas, refined petroleum products, liquefied natural gas (LNG), and natural gas liquid (NGL) infrastructure, which is aimed at delivering energy resources while

assuring safety, economy, environmental protection, and other social benefits. It addresses challenges to siting and permitting new construction and maintaining/modernizing existing infrastructure. The chapter includes an overview of recent efforts to improve the permitting process and recommendations for further improvement. In addition, the chapter describes the nature of stakeholder concerns and provides recommendations on how to better manage these dynamics to improve project outcomes.

Railroads and pipelines—infrastructure that is linear and spans many miles, as compared to a terminal or single site—present unique issues. Rails and pipes cross numerous jurisdictions; crossing long distances that mean multiple permitting agencies with differing requirements is common to both rail and pipeline. Changes in terrain, multiple communities, and differing species occur across long distances. The interests and governing laws and agencies create complexity to permit linear infrastructure, such as railroads and pipelines, and can have unique legal challenges.

In recent years, most energy infrastructure projects have been successfully completed—more than 140 liquid pipelines and more than 230 natural gas pipelines since 2012.<sup>1</sup> However, there have been rising levels of opposition to permitting

<sup>1</sup> EIA database; 144 liquid pipelines, 239 natural gas pipelines have been completed (new construction, reversals, conversions and lateral pipelines), <https://www.eia.gov/naturalgas/data.php#pipelines>, <https://www.eia.gov/petroleum/data.php#movements> (Accessed June 5, 2019).

and siting of new and modified infrastructure, primarily, but not exclusively, against pipelines. Public concerns range from safety, to environmental impacts, to the government's and a corporation's ability to exercise eminent domain and appropriate amount of compensation, to loss of economic use of condemned property, to concerns about the disruption caused during construction, to worries about leaks and spills of hydrocarbons from accidents, to concerns about climate change, and to doubts about the need for a new supply of hydrocarbons.

Public interest input is an important component of most infrastructure siting and permitting processes. These public comment opportunities allow project proponents and regulators to better understand and consider impacts to the local environment, affected landowners, and communities where the project is proposed. Ideally, these processes are multidirectional and provide stakeholders—landowners, community members, and local officials—the chance to engage in dialogue with project developers and see their valid concerns and questions about siting, compensation, impacts, and restoration addressed. While some relevant federal agencies require public engagement for energy project development, states vary in their local stakeholder engagement requirements for intrastate pipelines. Some states do not require public engagement prior to or during project development. In the long run, this lack of engagement and information may cause delays and complications for energy project developers.

The shale boom in the United States presents new opportunities and new challenges. The permitting processes for siting and construction of new infrastructure and maintenance or expansion of existing infrastructure are long and complex. Adding to the complexity is the engagement of affected stakeholders. A great deal is at stake in balancing the need for energy infrastructure and energy resources with effective and robust stakeholder engagement from the project's outset.

If the necessary infrastructure is not built or is not maintained, affordable and reliable energy, national security and income, jobs, and the

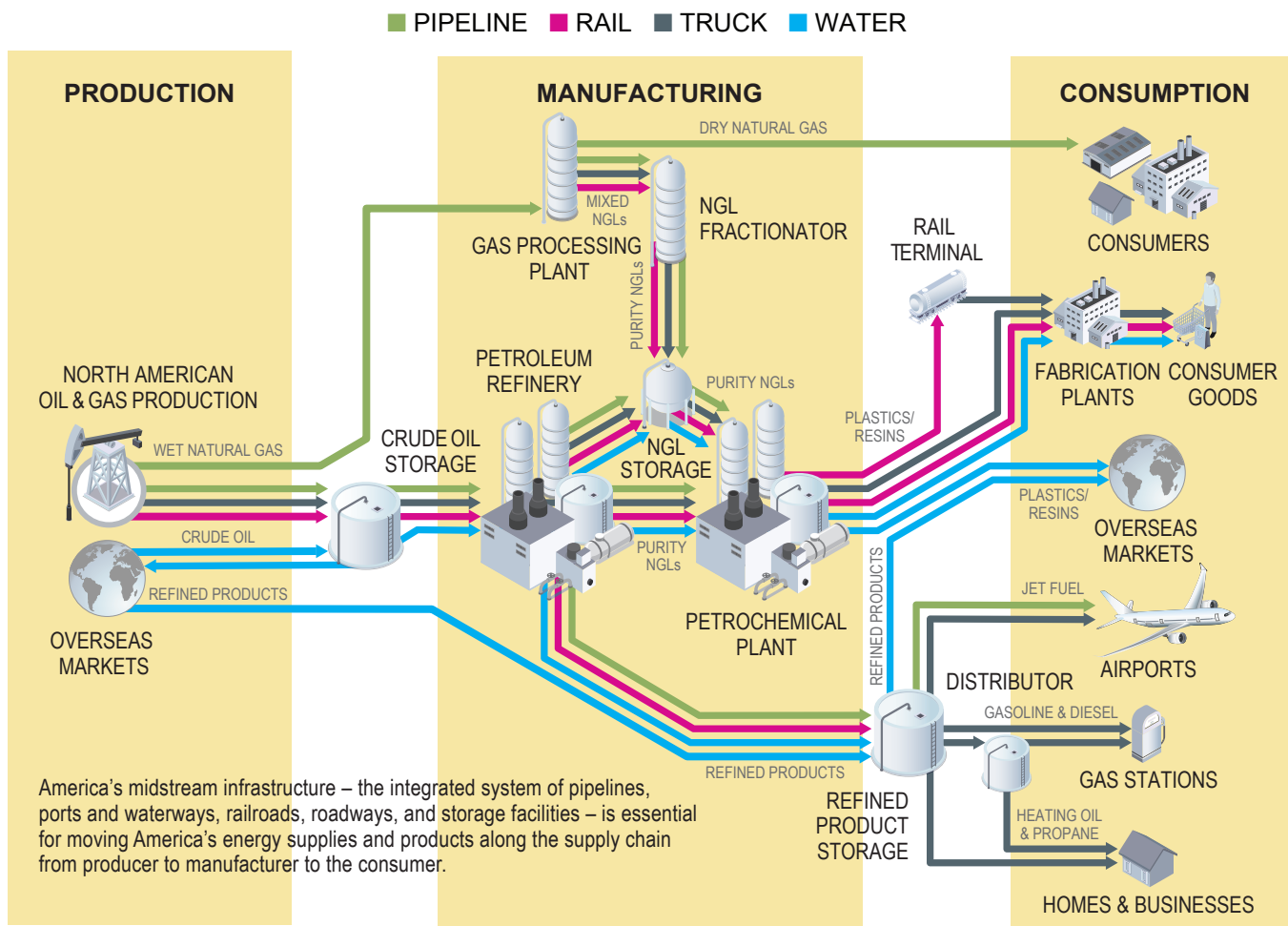
deployment of intermittent sources of power generation, such as wind and solar, as required by state Renewable Portfolio Standards (RPS), will be sacrificed. If new infrastructure is not built and current infrastructure is not maintained, the United States will jeopardize valuable national interests—economic development, job creation, environmental goals, domestic energy security, and reliable and affordable energy. A recent U.S. Chamber of Commerce study<sup>2</sup> found that completing an environmental review in the United States for major infrastructure projects takes 3.7 to 5 years on average. Global economic competitors, including Germany and Australia, complete environmental permitting reviews in fewer than 2 years, while providing environmental protections equaling or exceeding those in the United States.<sup>3</sup>

Energy, energy products, and energy-derived products are delivered to American consumers in many ways. Petroleum is integral to producing goods used in everyday life such as solar panels, intravenous tubes and medicines, fabrics, electric vehicle components, smartphones, agricultural product, and countless other consumer goods. Petroleum products<sup>4</sup> provide the gasoline, diesel, and fuel for cars, trucks, trains, planes, and ships. Natural gas continues to be prominent in U.S. energy industry developments, including power generation, new industrial and residential use, global LNG exports and pipeline exports to Mexico and Eastern Canada. The transition to a lower carbon economy, including how increasing use of renewable power generation to comply with RPS and battery storage will affect natural gas-fired electricity generation, and the resulting effect on utilization of natural gas infrastructure, is an important consideration for natural gas operators and sectors supporting the construction and operation of infrastructure. Oil, natural gas, and NGLs are transported around the country, from the places the energy is first produced to where they are transformed into products.

2 U.S. Chamber of Commerce, "Modernizing America's Infrastructure," [https://www.uschamber.com/sites/default/files/modernizinginfrastructure\\_permits.pdf](https://www.uschamber.com/sites/default/files/modernizinginfrastructure_permits.pdf).

3 Ibid.

4 Oil, refined products, and NGLs products may be referred to in this chapter together as "petroleum products."



Source: American Fuel & Petrochemical Manufacturers, *The Fuel and Petrochemical Supply Chains: Moving the Fuels and Products That Power Progress*, 2018.

**Figure 3-1.** America's Fuel and Petrochemical Supply Chain

These energy products travel by pipeline, rail, barge, ship, and truck. The transportation system, illustrated in Figure 3-1, that delivers this energy is complex, and is continuously evolving to connect demand with supply. While the system of pipelines, waterways, railways, and trucks has successfully delivered energy to consumers, over the next decades additional infrastructure will be needed to provide the energy of the future, even in a lower carbon future.

Recommendations for improvement of permitting and siting processes and means to address public feedback and concerns are included throughout the discussion and are summarized in Section VI, Summary of Findings and Recommendations.

## II. REGULATORY FRAMEWORK FOR ENERGY TRANSPORTATION INFRASTRUCTURE

Federal, state, local, and tribal governments have all enacted laws governing the siting, permitting, operations and maintenance, and decommissioning of energy infrastructure over the past two centuries. The overarching goal of this complex network of policies, regulations, and programs is to protect the health and safety of all people, the environment and species, and the integrity of historically and culturally important places and artifacts.

This section describes the regulatory system in place today for siting, building, and operating



energy transportation infrastructure, as well as how the federal and state agency structures, tribal interests, and stakeholder concerns interact with permitting processes.

While Congress establishes the laws of the United States that are the supreme law of the land, states can act in the absence of a federal law to establish their own policies. States may also enact laws that are more stringent than federal law. States also may be charged with implementing and enforcing federal programs.

The sovereign nation status of American Indians, Alaska Natives, and Native Hawaiians<sup>5</sup> (American Indian and Alaska Native tribes sometimes referred to collectively as “tribes”<sup>6</sup>) is constitutionally recognized, with Congress having the power to regulate commerce with foreign nations and among the several states, and with the tribes. Tribal governments may enact their own regulatory regimes to protect tribal members and lands, although Congress has the ultimate authority to enact laws concerning tribes. The federal government has an obligation to consult with tribes on a government-to-government basis in implementing those laws as they relate to tribal lands and people. The U.S. Constitution includes no authorities for local governments, but each state’s constitution may grant certain powers to counties or municipalities.

## A. Cooperative Federalism

Many bedrock environmental laws that govern siting, permitting, and community engagement and public input to operate oil and natural gas transportation infrastructure, including the National Environmental Policy Act (NEPA), Clean Water Act (CWA), and Clean Air Act (CAA) were signed into law in the early 1970s advocating a philosophy of “new federalism,” whereby power would shift from the federal government to the states. A

summary of the CWA is given in Topic Paper 3-1, “Clean Water Act.” Today, federal, state, and local governments share responsibility for implementing environmental protections under the tenet of cooperative federalism:

“[T]he U.S. Congress establishes the law; the federal government implements the law through national minimal standards...and states can seek authorization or delegation to implement the programs needed to achieve these standards. Generally, states may develop programs to go beyond these standards if a state chooses to do so.”<sup>7</sup>

States have gradually assumed more responsibility through legislation or administration action authorizing delegation by federal statutes. Strict command-and-control implementation of federal laws by federal agencies has been criticized widely for being overly prescriptive and imposing “one-size-fits-all” approaches that fail to address local conditions.<sup>8</sup> In response to complaints from states about top-down regulation and burdensome and duplicative processes, the U.S. Environmental Protection Agency (EPA) implemented the National Environmental Performance Partnership System<sup>9</sup> in 1995. States and EPA negotiated Performance Partnership Agreements that give states more flexibility in administering programs and deploying resources. The Environmental Council of the States estimates that states now execute 96% of delegable authorities available to them in federal law.<sup>10</sup>

Cooperative federalism, including the delegation of powers to states and local governments, may blur the jurisdictional lines of authority over

5 The American Indian Religious Freedom Act of 1978 AIRFA states that it is U.S. government policy to respect the inherent right of American Indians, Alaska Natives, and Native Hawaiians to practice their traditional religions. This has been interpreted by the courts to mean that federal agencies must consult with Indian tribes and Native Hawaiian organizations concerning projects the agencies propose to undertake.

6 *Cohen’s Handbook of Federal Indian Law*, 2012 Edition, Lexis Nexis.

7 Environmental Council of the States. June 2017. Cooperative Federalism 2.0: Achieving and Maintaining a Clean Environment and Protecting Public Health, <https://www.ecos.org/news-and-updates/cooperative-federalism-2-0/> (accessed June 2, 2019).

8 Environmental Law Institute. October 2018. The Macbeth Report: Cooperative Federalism in the Modern Era. <https://www.eli.org/sites/default/files/eli-pubs/macbeth-report.pdf> (accessed June 2, 2019).

9 U.S. Environmental Protection Agency, National Environmental Performance Partnership System (NEPPS), <https://www.epa.gov/ocir/national-environmental-performance-partnership-system-nepps>.

10 Environmental Council of the States. June 2017. Cooperative Federalism 2.0: Achieving and Maintaining a Clean Environment and Protecting Public Health. <https://www.ecos.org/news-and-updates/cooperative-federalism-2-0/>. (accessed June 2, 2019).

oil and natural gas transportation infrastructure and contribute to the complexity of permitting processes. At the same time, it is important to note that the complicated framework of environmental regulations that has evolved since the 1970s has contributed to vastly improved air and water quality across the country. It is worth exploring some of the complications that arise from the execution of regulation across multiple jurisdictions to set the stage for the discussion of reform efforts and opportunities in Section V of this chapter, Reform Efforts.

## B. Federal Laws

Federal laws have evolved for more than a century and are aimed at protecting interstate commerce, energy security, environmental goals, and human health and safety. These laws have created complex, complicated, and overlapping systems for approving energy infrastructure projects. Review, refinement, and revision of these laws are necessary to restore efficiency to the permitting and siting process and achieve valuable national interest through 2040 and beyond.

The Rivers and Harbors Act of 1899 is considered the nation's first environmental law, and with amendments over the last 120 years, sets conditions for how oil and natural gas infrastructure can alter civil works along waterways built or maintained by the U.S. government. Congress passed the Natural Gas Act (NGA) in 1938, to regulate the natural gas industry for the first time; now the Federal Energy Regulatory Commission (FERC) uses authorities in the NGA to oversee permitting, construction, operation, and rates for natural gas pipelines<sup>11</sup> and LNG terminals.

The current environmental regulatory framework for oil and natural gas transportation infrastructure has its roots in the enactment of a series of laws in the 1970s, including NEPA and CAA in 1970, CWA in 1972, and the Endangered Species Act (ESA) in 1973. These federal laws, along with at least 15 others (see Table 3-1), created processes

for conducting reviews of energy infrastructure projects and federal standards for the potential impacts of energy infrastructure development, such as limits on emissions of pollutants to air and water resources. Federal laws may also designate lead agencies for siting, permitting, operations, safety, and other activities, depending not only on the agency's jurisdiction but also on the mode of transport. The implementation of these statutes as applied to different modes of oil and natural gas transport is discussed in greater detail in Section IV, Permitting Processes by Mode and Activity, but the general framework is described in this section.

### 1. NEPA: The Magna Carta of Federal Environmental Laws

The National Environmental Policy Act was signed into law in 1970, creating a government-wide mandate to consider the environmental impacts of major federal actions that significantly affect the quality of the human environment. When triggered, the law directs all agencies of the federal government to use an interdisciplinary approach to evaluate:

“(i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.”<sup>12</sup>

NEPA also established the Council on Environmental Quality (CEQ) within the Executive Office of the White House. CEQ is responsible for guiding NEPA activities across federal agencies and issues regulations and guidance to agencies to comply with NEPA.<sup>13</sup> Each federal agency is

11 While FERC oversees natural gas pipelines from both an economic and environmental and permitting oversight function, federal regulatory oversight over oil and liquids pipelines only covers economic and rate regulation under the Interstate Commerce Act. There is no federal law or agency that oversees siting, construction, or licensing of oil and liquid pipelines, as discussed further below.

12 Sec. 102 [42 USC § 4332].

13 A history of NEPA regulations and guidance issued by CEQ can be found at Energy.gov, Office of NEPA Quality and Compliance, “History of CEQ NEPA Regulations and Guidance,” <https://www.energy.gov/nepa/nepa-guidance-requirements/history-ceq-nepa-regulations-and-guidance>.

Statute	Primary Agency or Agencies Administering Statute
Administrative Procedures Act	All federal agencies
Archeological and Historic Preservation Act	All federal agencies (reporting through the Secretary of the Interior)
Archeological Resources Protection Act	National Park Service (NPS)
Clean Air Act	Environmental Protection Agency (EPA)
Clean Water Act	EPA, U.S. Army Corps of Engineers (USACE)
Coastal Zone Management Act	National Oceanic and Atmospheric Administration (NOAA)
Endangered Species Act	U.S. Fish and Wildlife Service (USFWS), NOAA
EPAAct 2005	Multiple agencies
Fixing America's Surface Transportation Act	Multiple agencies
Interstate Commerce Act	Federal Energy Regulatory Commission (FERC)
Interstate Commerce Commission Termination Act	Surface Transportation Board
Migratory Bird Treaty Act	USFWS, FERC
National Environmental Policy Act	All federal agencies, states, and tribes (overseen by Council on Environmental Quality)
National Historic Preservation Act	Advisory Council on Historic Preservation
Native American Graves and Repatriation Act	NPS, USACE, FERC
Natural Gas Act	Department of Energy, FERC
Outer Continental Shelf Lands Act	Bureau of Ocean Energy Management, Bureau of Safety and Environmental Enforcement
Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2016	U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration
Rivers and Harbors Act of 1899	USACE

*Table 3-1. Federal Statutes Governing the Siting, Permitting, and Operation of Oil and Natural Gas Infrastructure*

directed to developed its own NEPA procedures in conjunction with CEQ, based on the agency's mission, authorizing statutes, and "the extent to which federal agencies use NEPA analyses to satisfy other review requirements," such as those required by other federal laws like the Endangered Species Act or state and local laws.<sup>14</sup> As a result, NEPA procedures vary from agency to agency. CEQ also approves alternative arrangements for compliance with NEPA for emergencies and helps to resolve disputes between federal agencies and with other governmental entities and members of the public.<sup>15</sup>

As detailed next, oil, intrastate natural gas, and NGL pipelines are typically subject to federal NEPA review as well as state-level review for routing/siting provided the proposed action does not occur on federally controlled lands or require the U.S. Army Corps of Engineers (USACE) to issue an individual permit for the project.

NEPA directs the lead federal agency official to consult with any other federal agency with related "jurisdiction by law or special expertise." As discussed below, these cooperating agencies can play a significant role in the lead agency's

<sup>14</sup> See, for example, NEPA.gov, National Environmental Policy Act, "Agency NEPA Implementing Procedures," [https://ceq.doe.gov/laws-regulations/agency\\_implementing\\_procedures.html](https://ceq.doe.gov/laws-regulations/agency_implementing_procedures.html).

<sup>15</sup> The White House, "Council on Environmental Quality," <https://www.whitehouse.gov/ceq/>.



NEPA process. Under Section 309 of the federal CAA, EPA is required to review and publicly comment on all the environmental impacts of major federal actions.<sup>16</sup>

While a lead agency<sup>17</sup> is designated, and cooperating agencies are invited, to join the lead agency regulatory review, NEPA has no enforcement mechanism if an agency declines to be a cooperating agency. If an agency declines, they must notify CEQ and provide justification.<sup>18</sup> This can cause either delay or conflicting agency decisions. For permitting of interstate natural gas pipelines and LNG terminals, FERC is the lead agency. Executive Order 13807, issued in 2017, attempts to ensure this does not cause delay for major infrastructure projects authorized by FERC. The executive order implementing a memorandum of understanding (MOU) requires that each agency who has jurisdiction by law for a major infrastructure project when FERC is the lead agency will, upon the request of FERC, participate as a cooperating agency. The agency can decline the FERC invitation but only if the agency has no jurisdiction by law. Agencies that decline to be cooperating agencies at FERC's invitation agree not to join the FERC proceeding as an intervenor.<sup>19</sup>

For oil, intrastate natural gas and liquids pipelines there is often no comparable lead federal agency coordinating the NEPA review for each

individual project. However, some oil, intrastate natural gas and liquids pipeline projects do trigger NEPA because they impact federally controlled lands or require project-specific decisions that may significantly affect the human environment. Examples of federally controlled lands include lands managed by the U.S. Bureau of Land Management, U.S. Forest Service, and National Park Service. In these cases, the managing federal agency serves as the lead federal reviewing agency and executes NEPA under their implementing regulations. The same is true of marine, trucking, and rail projects; for marine the lead agency is typically the USACE, for trucking and for rail it is the Department of Transportation.

To evaluate the impacts of an agency decision under NEPA, such as approving a pipeline route or dredging an inland waterway, the lead agency must assess if a categorical exclusion<sup>20</sup> applies or, if not, prepare either an environmental assessment (EA) or an environmental impact statement (EIS). An EA is a concise document that briefly provides sufficient evidence and analysis for the agency to determine whether or not to prepare an EIS, by aiding an agency's compliance with NEPA when no environmental impact statement is necessary and facilitating preparation of an EIS when one is necessary.<sup>21</sup>

An EIS is a more detailed evaluation used when the decision will have significant environmental effects. The EA contains a brief discussion of the environmental impacts of the proposed action that may significantly affect the quality of the human environment<sup>22</sup> and it may identify ways in which the agency can revise the action to minimize environmental effects. The EA process concludes with either a finding of no significant impact (FONSI) or a determination to proceed to preparation of an EIS. A FONSI presents the reasons why the agency has concluded that there are no significant environmental impacts projected to occur

16 § 7609. Policy Review (a) The Administrator shall review and comment in writing on the environmental impact of any matter relating to duties and responsibilities granted pursuant to this chapter or other provisions of the authority of the Administrator, contained in any (1) legislation proposed by any Federal department or agency, (2) newly authorized Federal projects for construction and any major Federal agency action (other than a project for construction) to which section 4332(2)(C) of this title applies, and (3) proposed regulations published by any department or agency of the Federal Government. Such written comment shall be made public at the conclusion of any such review. (b) In the event the administrator determines that any such legislation, action, or regulation is unsatisfactory from the standpoint of public health or welfare or environmental quality, he shall publish his determination and the matter shall be referred to the Council on Environmental Quality. July 14, 1955, c. 360, § 309, as added Dec 31, 1970, Pub L 91-604 § 12(a), 42 U.S.C. § 7609 (1970).

17 Lead agency is determined by the magnitude of agency's involvement, the project approval/disapproval authority, expertise concerning the action's environmental effects, and other factors.

18 40 C.F.R. § 1501.6(c).

19 Memorandum of Understanding: Implementing One Federal Decision Under Executive Order 13807, signed April 2018, [https://ceq.doe.gov/docs/ceq-regulations-and-guidance/One\\_Federal\\_Decision\\_MOU\\_\(M-18-13-Part-2\)\\_2018-04-09.pdf](https://ceq.doe.gov/docs/ceq-regulations-and-guidance/One_Federal_Decision_MOU_(M-18-13-Part-2)_2018-04-09.pdf).

20 A categorical exclusion is a class of actions that a federal agency has determined, after review by CEQ, do not individually or cumulatively have a significant effect on the human environment and for which, therefore, neither an environmental assessment nor an environmental impact statement is normally required. NEPA.gov, "Categorical Exclusions," <https://ceq.doe.gov/nepa-practice/categorical-exclusions.html>.

21 CEQ NEPA Regulations, 40 C.F.R. § 1508.9.

22 CEQ NEPA Regulations, 40 C.F.R. § 1508.27.

upon implementation of the action.<sup>25</sup> In an EA process, the agency has discretion as to the level of public involvement; under an EIS, the agency does not have such discretion. Sometimes agencies will choose to mirror the scoping and public comment periods that are found in the EIS process. In other situations, agencies will make the EA and a draft FONSI available to interested members of the public.

NEPA EIS requirements serve two purposes. First, “[i]t ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts.” Second, it “guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.”<sup>24</sup>

Agency-specific regulations and guidance and the extent to which federal agencies use NEPA analyses to satisfy other review requirements create additional procedural differences and permitting complexity. These include environmental requirements under statutes like the Endangered Species Act and National Historic Preservation Acts, the Executive Order on Environmental Justice, and other federal, state, tribal, and local laws and regulations.<sup>25,26,27</sup> Figure 3-2 depicts a simplified decision flow chart that outlines three possible NEPA routes the lead federal agency may take based on the project’s expected impact to the environment.

As depicted in Figure 3-3, whether the lead federal agency selects an EA or EIS, the actual NEPA

process often involves a complex coordination involving multiple federal, state, and local regulatory agencies, American Indians and Alaska Natives, the public, nongovernment organizations, and the project proponent.

Whether an EIS or EA path is chosen, the lead agency undertakes a scoping process with cooperating agencies to determine any environmental laws, regulations, or executive orders, in addition to NEPA, that will apply to the project.

If the proposal affects American Indian or Alaska Native lands, the lead agency would also consult with the tribe(s). Lead agencies are directed to request this cooperation at the earliest possible time in the NEPA process. Allocation of responsibilities is outlined during the scoping process.<sup>28</sup>

The EIS or EA must present the environmental impacts of a proposed project and will consider a reasonable range of alternatives that can accomplish the purpose and need of the proposed action.<sup>29</sup> CEQ considers the alternatives analysis the heart of an EIS (40 CFR Part 1502.14). The analysis will:

- Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives that were eliminated from detailed study, briefly discuss the reasons for these not being included.
- Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- Include reasonable alternatives not within the jurisdiction of the lead agency.
- Include the alternative of no action.
- Identify the agency’s preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative(s) in the final statement unless another law prohibits the expression of such a preference.

23 Government Printing Office Electronic Information Enhancement Act of 1993, 44 U.S.C. §§ 4101-4104.

24 *Dept. of Transportation v. Public Citizen*, 541 U.S. 752, 765-66 (2004).

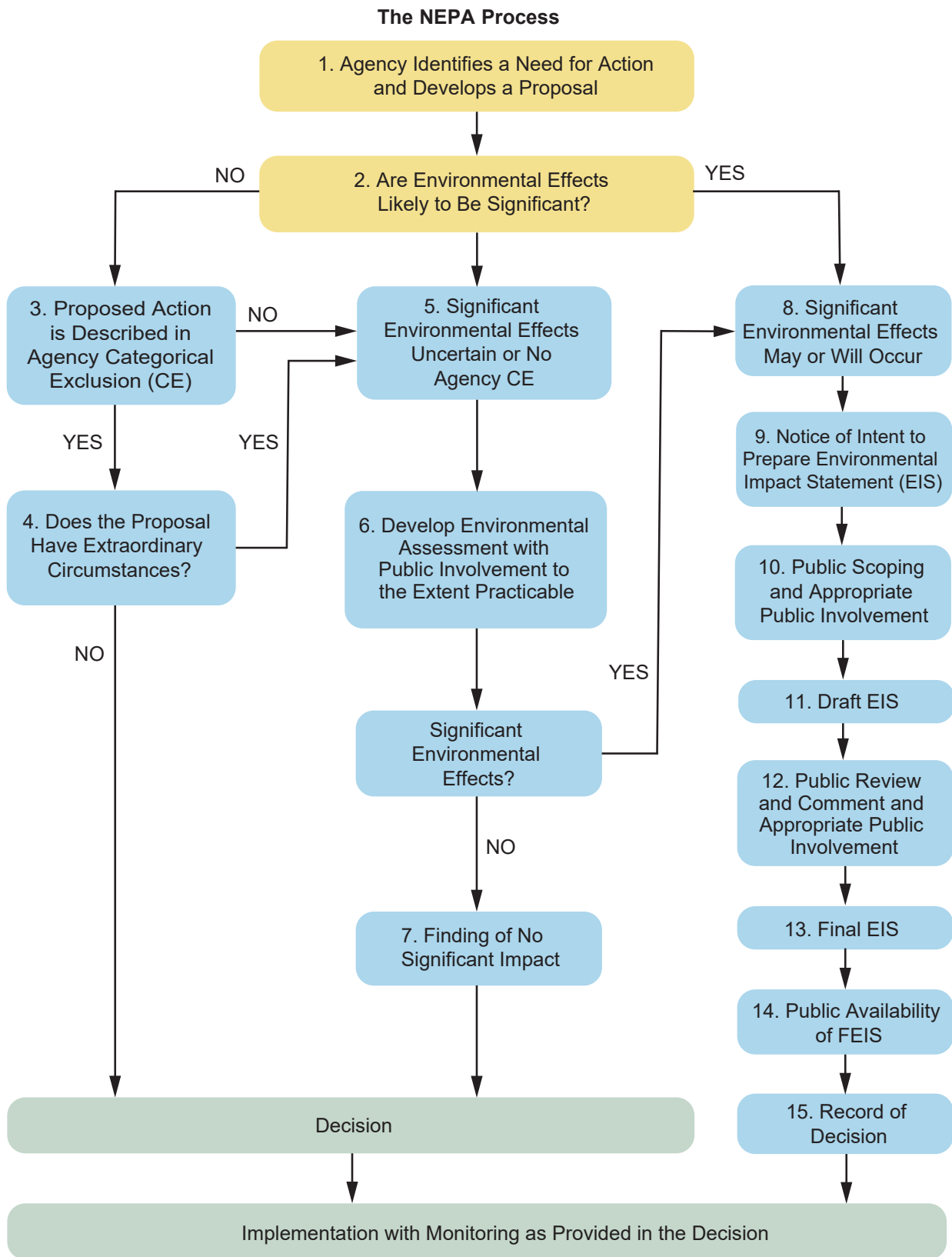
25 The White House, “Council on Environmental Quality Initiative,” <https://www.whitehouse.gov/ceq/initiatives/>, and NEPA.gov, “Agency NEPA Implementing Procedures,” [https://ceq.doe.gov/laws-regulations/agency\\_implementing\\_procedures.html](https://ceq.doe.gov/laws-regulations/agency_implementing_procedures.html).

26 A history of NEPA regulations and guidance issued by CEQ can be found at Energy.gov, Office of NEPA Quality and Compliance, “History of CEQ NEPA Regulations and Guidance,” <https://www.energy.gov/nepa/nepa-guidance-requirements/history-ceq-nepa-regulations-and-guidance>.

27 See, for example, NEPA.gov, “Agency NEPA Implementing Procedures,” [https://ceq.doe.gov/laws-regulations/agency\\_implementing\\_procedures.html](https://ceq.doe.gov/laws-regulations/agency_implementing_procedures.html).

28 See, for example, “CEQ’s 40 Most Asked Questions about NEPA,” [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd535332.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd535332.pdf).

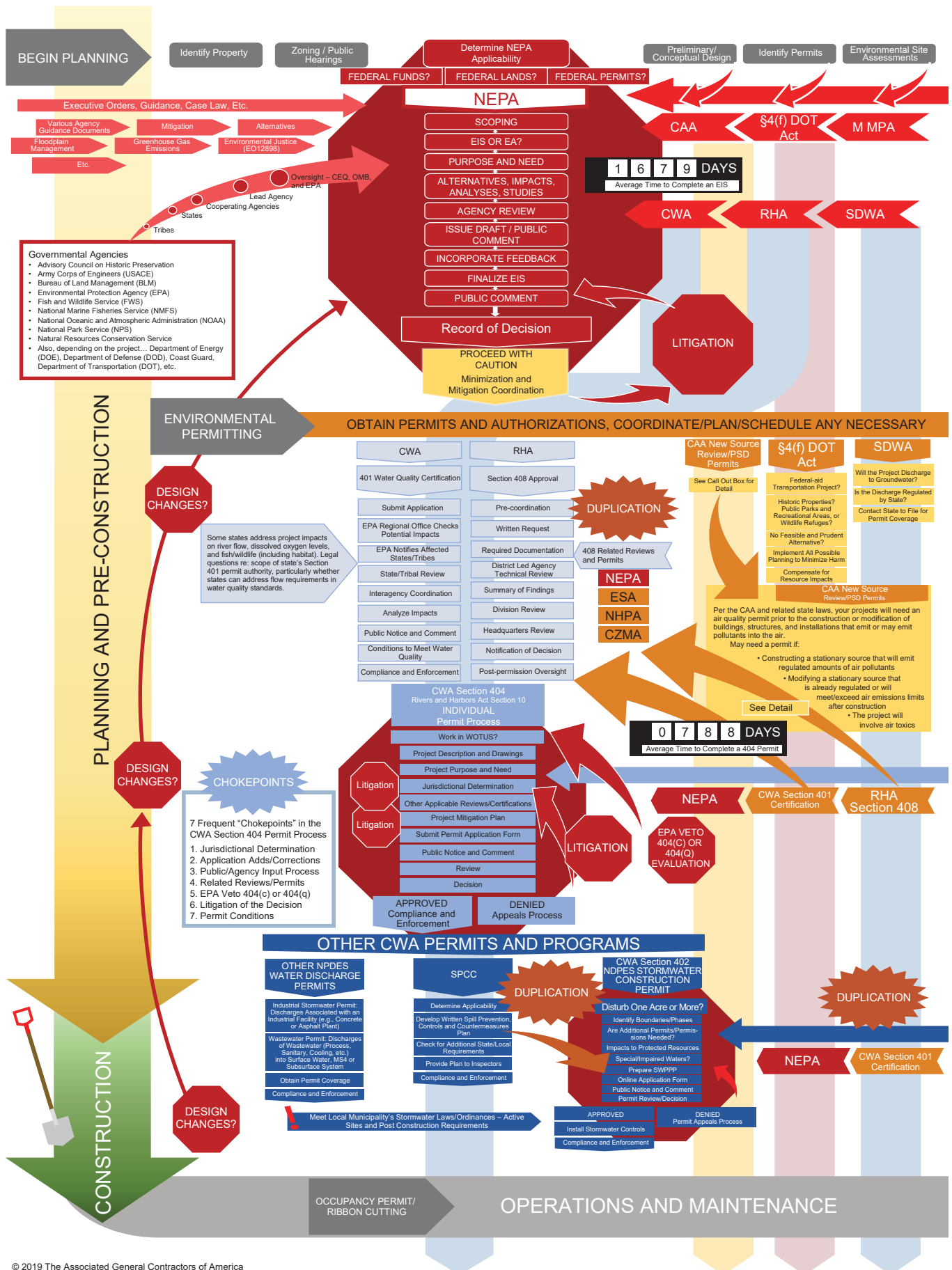
29 For natural gas or LNG terminal projects, FERC regulations that implement NEPA consider 13 Resource Reports, respectively, that include, for example, air, water, associated economic impact, and greenhouse gases.



\* Significant new circumstances or information relevant to environmental concerns or substantial changes in the proposed action that are relevant to environmental concerns may necessitate preparation of a supplemental EIS following either the draft or final EIS or the Record of Decision (CEQ NEPA Regulations, 40 C.F.R. § 1502.9(c)).

Source: Council on Environmental Quality, *A Citizen's Guide to the NEPA: Having Your Voice Heard*, December 2007.

**Figure 3-2.** NEPA Process for Consideration of a Proposed Federal Agency Action



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Figure 3-3. Depiction of a NEPA Permitting Process by the Associated General Contractors of America

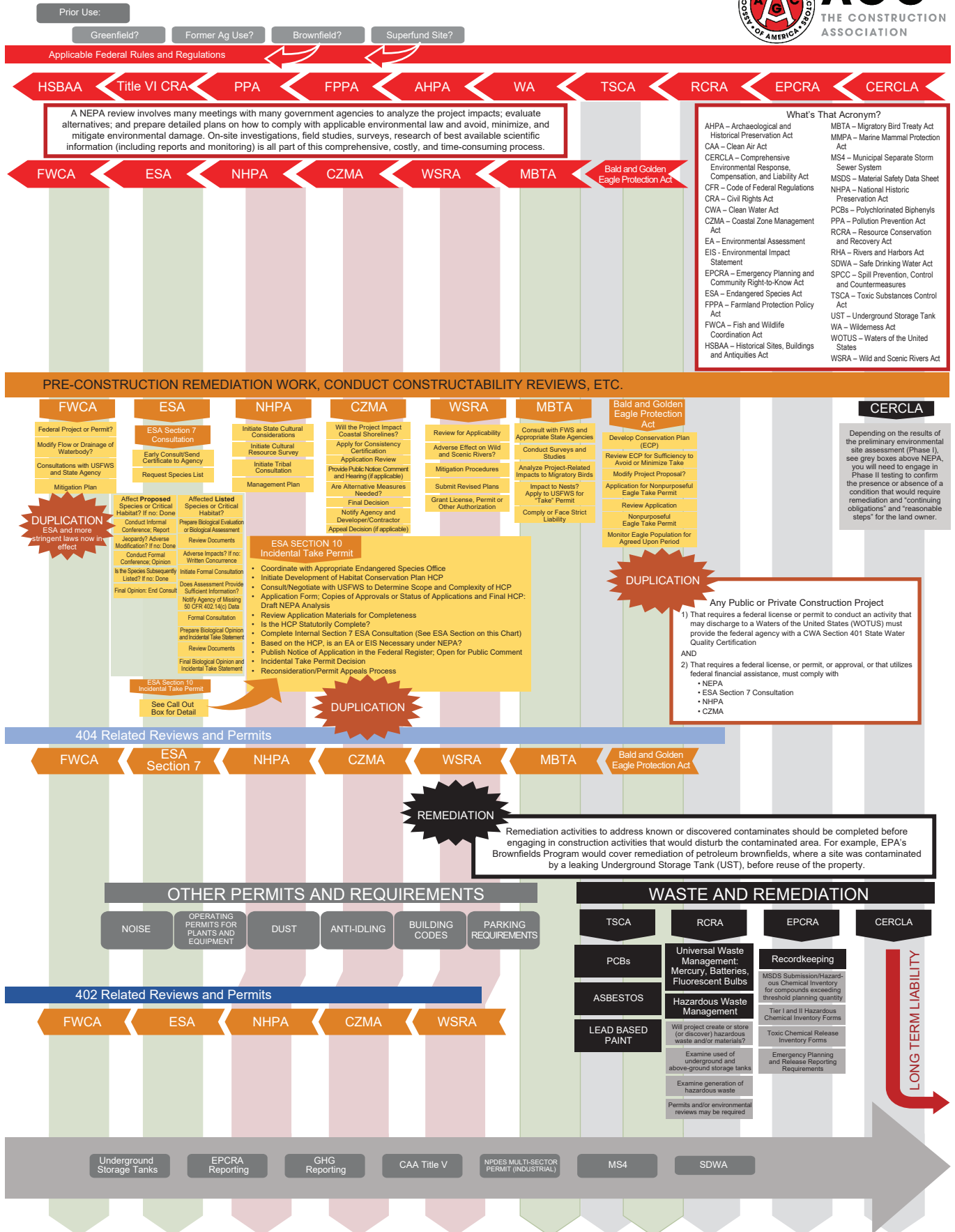


Figure 3-3. (continued)



Include appropriate mitigation measures not already included in the proposed action or alternatives.<sup>30</sup>

Under the NEPA process, Figure 3-3, federal agencies evaluate the direct, indirect, and cumulative<sup>31</sup> impacts caused by the project, including any alternatives considered in their assessment. Direct effects are caused by the action and occur at the same time place (40 CFR 1508.8). Indirect effects are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8).

Section 1508.7 of the CEQ regulations explain that *cumulative impact* is the impact on the environment that results from the incremental impact of the action when added to other past, present, and *reasonably foreseeable future actions* regardless of what agency (federal or nonfederal) or person undertakes such other actions. Reasonably foreseeable effects are those that are “sufficiently likely to occur that a person of ordinary prudence would take [them] into account in reaching a decision.” (City of Shoreacres v. Waterworth, 420 F.3d 440,453 [5<sup>th</sup> Cir. 2005])

With the information gathered on direct, indirect, and cumulative impacts, an agency must then determine whether the project impact is significant. This requires considerations of both context and intensity. This means that the significance of an action must be analyzed in several contexts such as society (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend on the effects in the locale rather than in the world. Both short- and long-term effects are relevant.<sup>32</sup>

A review of greenhouse gases (GHGs) and climate change as environmental impact assessment within the NEPA process is analyzed in the Relationship Between Climate Change, NEPA, and

Litigation subsection of section III.C of this chapter, Stakeholder Feedback.

The EIS is completed in two forms: a draft for public and cooperating agency comments and a final that reflects reconciliation of the public and agency comments and includes recommendations for approval or denial of the project. Under NEPA, a record of decision (ROD) cannot be issued until at least 30 days after the federal agency publishes a notice of availability of the final EIS (40 C.F.R. §1506.10(b)(2)). Rail and pipeline projects, due to the distance of land they cover, often involve multiple agencies, states, and watersheds. This creates challenges to produce a single NEPA document that can satisfy not only each affected agency’s NEPA regulations, and also any agency-specific regulations or statutory requirements.

The other key aspect of the NEPA assessment is a process designed to allow and seek citizens to provide input on the agency analyses. Public comment periods on EIS draft documents are required before a NEPA decision is finalized or ROD is issued. The Stakeholder Feedback section expounds upon public feedback—received through the listening sessions of this study, identified in a search of energy infrastructure project written public comments, and industry experience—to understand public concerns and perceptions about energy infrastructure siting, construction, and maintenance.

Agencies provide advance notice that a NEPA process is beginning by publishing announcements in the Federal Register, newspapers, and other avenues. Public input solicitation may involve meetings in the affected communities and comment periods on draft documents. Public input is considered so fundamental to producing informed agency decisions that CEQ has published a citizen’s guide to explain the statute and how to participate.<sup>33</sup> The community of stakeholders that typically engage in the NEPA process range from individual citizens to environmental nonprofit organizations to tribal and state governments. Stakeholder concerns are analyzed and

30 40 CFR Part 1502.14.

31 40 CFR 1508.25 c.

32 CEQ Regulations. Title 40, Chapter V, Section 1508.27.

33 Council on Environmental Quality, “A Citizen’s Guide to the NEPA: Having Your Voice Heard,” December 2007, [https://ceq.doe.gov/docs/get-involved/Citizens\\_Guide\\_Dec07.pdf](https://ceq.doe.gov/docs/get-involved/Citizens_Guide_Dec07.pdf) (accessed May 28, 2019).

described in greater detail in the Stakeholder Feedback section.

When an agency has finalized its EIS for a proposed action, it issues an ROD. The ROD is a document that states what the decision is; identifies the alternatives considered, including the environmentally preferred alternative; and discusses mitigation plans, including any enforcement and monitoring commitments. In the ROD, the agency discusses all the factors, including any considerations of national policy, that were contemplated when it reached its decision on whether to, and if so how to, proceed with the proposed action. The ROD will also discuss if all practical means to avoid or minimize environmental harm have been adopted, and if not, why they were not.<sup>34</sup> NEPA does not require that an agency decision have no environmental impact, only that impacts are minimized to the extent possible and that all alternatives, including taking no action, were considered.

Although originally contemplated to be concise, NEPA EAs and EISs and their integral appendices, have grown in length and corresponding agency review time. Original NEPA regulations, which are still in effect, provide pages limits to EIS, it should “normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages” plus appendices. A CEQ study of EIS length between 2013 and 2017 “across all Federal agencies, [found] that for draft EISs, the average (i.e., mean) document length in this sample was 586 pages. CEQ also found that, for final EISs, the average document length was 669 pages. On average, the change in document length from draft EIS to final EIS was [...] a 14 percent increase.”<sup>35</sup>

A 2019 CEQ study analyzed the length of all EISs in a recent 5-year period across all federal agencies. The study found final EISs averaged 669 pages, and the final appendices averaged

more than 1,000 additional pages.<sup>36</sup> Only 7% of EISs were fewer than 150 pages and only 25% were fewer than 300 pages.<sup>37</sup> The appendices are an integral part of the EIS.

CEQ identified factors that contribute to the length of EISs:

- Variation of scope and complexity
- Variation among agencies
- Multiagency EISs
- Potential legal challenges
- Appendices.

Within the CEQ study, FERC, USACE, U.S. Fish and Wildlife Service (USFWS), and U.S. Forest Service EISs, which are either designated lead agencies or agencies often involved in many permitting of energy infrastructure projects, had final EISs with appendices that averaged 2,983 pages, 78% longer than the average federal EIS. The study found that in some instances, the length of EISs may be affected by agency considerations relating to potential future legal challenges.

An example of an energy infrastructure project EIS of considerable length, prepared in 2019, is the work to modify existing intracoastal waterways, floodgates, and locks in Brazoria and Matagorda Counties, Texas (Locks and Floodgates Project). The Locks and Floodgate Project feasibility report and EIS contained 27 appendices and was more than 2,600 pages.<sup>38</sup>

The current permitting system is complex and costly, both to companies and to affected landowners. Effective stakeholder engagement from the outset of a project can help allay many local concerns and, thus, may avoid permit delay tactics that sometimes are seen as the only opportunity for local stakeholders to engage in project decisions.

<sup>34</sup> Council on Environmental Quality, *A Citizen's Guide to the NEPA: Having Your Voice Heard*, December 2017, p. 19, [https://ceq.doe.gov/docs/get-involved/Citizens\\_Guide\\_Dec07.pdf](https://ceq.doe.gov/docs/get-involved/Citizens_Guide_Dec07.pdf).

<sup>35</sup> Council on Environmental Quality, *Length of Environmental Impact Statements (2013-2017)*, July 22, 2019, p. 1, [https://ceq.doe.gov/docs/nepa-practice/CEQ\\_EIS\\_Length\\_Report\\_2019-7-22.pdf](https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Length_Report_2019-7-22.pdf).

<sup>36</sup> Council on Environmental Quality, *Length of Environmental Impact Statements (2013-2017)*, July 22, 2019, [https://ceq.doe.gov/docs/nepa-practice/CEQ\\_EIS\\_Length\\_Report\\_2019-7-22.pdf](https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Length_Report_2019-7-22.pdf). This document presents federal government-wide and agency-specific data but does not subdivide EISs by sector or project type.

<sup>37</sup> *Ibid.*

<sup>38</sup> Information regarding EIS documents is available through the EPA's online EIS database, available at: <https://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search>.

It is taking longer for agencies and project proponents to develop final EISs, with 2016 requiring the longest annual average preparation time recorded for the period from 1997 to 2016. The National Association of Environmental Professionals (NAEP) annually assesses, Figure 3-4, NEPA performance and litigation. In calendar year 2016, the last public NAEP report, 30 federal agencies made 145 draft and draft supplemental EISs (i.e., draft EISs) available for public review. In addition, 36 agencies—made 177 final and final supplemental EISs (i.e., final EISs) available for public review with 169 finalized. The final EISs had an average preparation time (from the Federal Register Notice of Intent to the Notice of Availability for the final EIS) of  $1,864 \pm 1,259$  days ( $5.1 \pm 3.4$  years). The 2016 average EIS-preparation time was 698 days longer than the annual average recorded in 2000:  $1,166 \pm 899$  days ( $3.2 \pm 2.5$  years) [n = 198]. A 2014 General Accountability Office report to Congress found that there is little information on the costs and benefits of completing a NEPA analysis or the timeframes

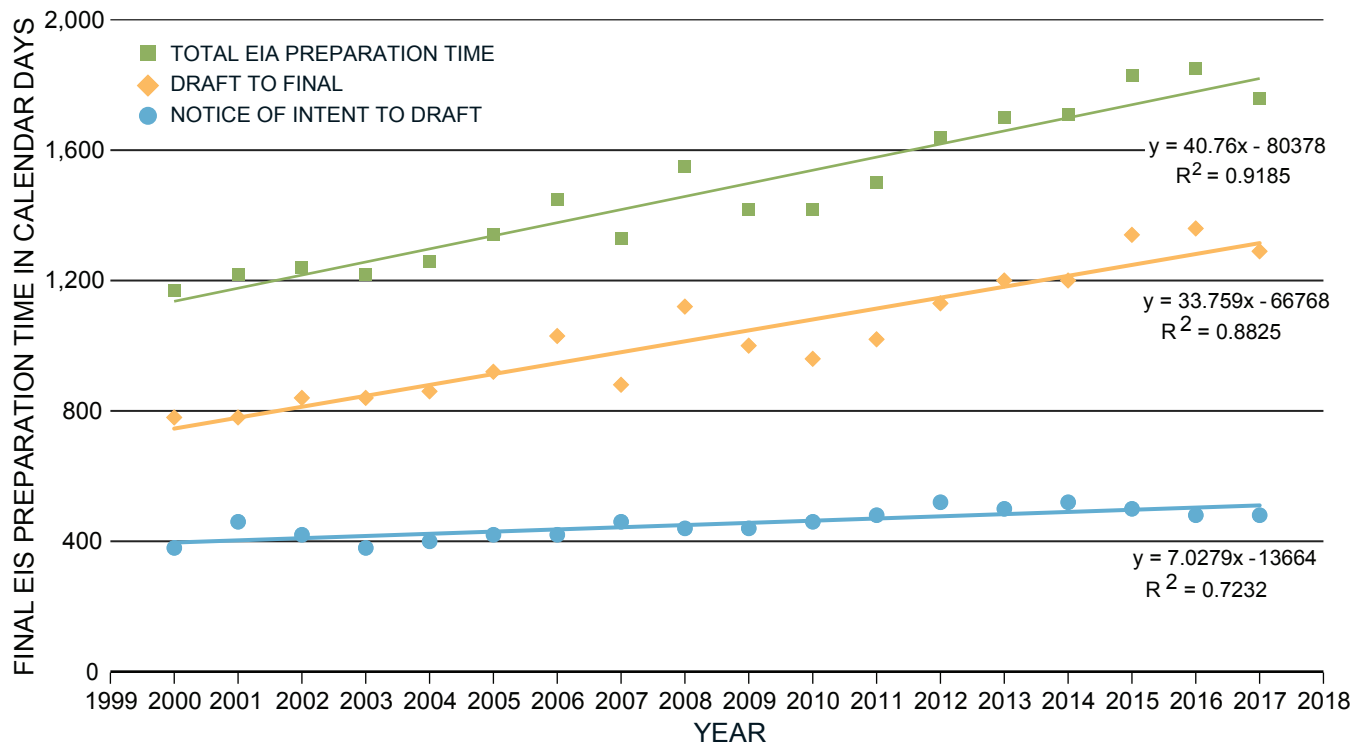
for completing EISs.<sup>39</sup> In response, CEQ reviewed EIS completion times across all federal agencies from 2010 to 2017.<sup>40</sup> Of the 1,161 EISs, half were for large infrastructure projects (not all energy). The median time for completion from Notice of Inquiry to Record of Decision was 3.6 years; the average of 4.5 years was skewed by some projects that exceeded 10 years.

Although the majority of pipelines are successfully completed,<sup>41</sup> parties may, and do, appeal a NEPA decision through administrative procedures

39 General Accountability Office, “National Environmental Policy Act: Little Information Exists on NEPA Analyses,” 2014, GAO-14-370.

40 Council on Environmental Quality, “Environmental Impact Statement Timelines (2010-2017),” December 14, 2018, [https://ceq.doe.gov/docs/nepa-practice/CEQ\\_EIS\\_Timelines\\_Report\\_2018-12-14.pdf](https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Timelines_Report_2018-12-14.pdf).

41 EIA data base; between 2012 and 2019, 144 liquid pipelines and 239 natural gas pipelines have been completed (new construction, reversals, conversions, and lateral pipelines), <https://www.eia.gov/naturalgas/data.php#pipelines>, <https://www.eia.gov/petroleum/data.php#movements>.



Source: National Association of Environmental Professionals, Annual NEPA Report 2016, June 2017, p.15.

**Figure 3-4.** Annual Average Preparation Times for Final and Final Supplemental EISs Made Available by All Agencies from 2000 through 2016 with their Linear Regression Lines and Equations and Coefficients of Determination ( $R^2$ )

or with litigation. A 2019 study of 34 projects with more than 200 challenges to natural gas or liquids (crude oil, NGLs or products) pipelines revealed that, between 2012 and mid-2019, NEPA was the most frequent statutory basis or tactic by opponents, 39% of the challenges adjudicated or pending.<sup>42</sup> The split of natural gas/liquids pipeline challenges is 69% to 31%, respectively. Challengers have raised 19 federal statutes or regulatory programs, many enumerated in Table 3-1.

In 2016, the U.S. Courts of Appeal issued 27 decisions involving implementation of NEPA by federal agencies. The 27 cases involved seven different departments and agencies. Overall, the federal agencies prevailed in 21 of the cases, did not prevail in three cases, and did not prevail, in part, in three cases, with a total prevail rate of 83%. The U.S. Supreme Court issued no NEPA opinions in 2016; opinions from the U.S. District Courts were not reviewed. Of the independent agencies, FERC was involved in three cases and prevailed in each. Since 2006, there have been 238 NEPA decisions by Federal Courts of Appeals, reflecting the practice to include judicial review as a defensive measure to EIS drafting, as the 2019 CEQ report noted.<sup>43</sup> Construction or startup of

infrastructure can be delayed or prohibited while a lawsuit is pending.

The claims of deficiency of an agency's NEPA analysis in the 80 cases the study analyzed found the flawed alternatives analysis was the most frequent basis opponents raised. The top three most frequent claimed errors found were flawed GHG analysis (15%), illegal segmentation and siting or alternative siting challenges (tied at 13.75% each) (see Figure 3-5).<sup>44</sup> The data show an upward trend in NEPA litigation. Although a smaller data set, the number of claims of error regarding GHG assessment also has increased since 2015.

CWA is another often litigated statute, whether Section 401, 404, or application of a nationwide permit. Aggregated, the CWA suits are trending up since 2015. Endangered Species Act claims of error, too, have increased since 2015. Because an infrastructure project often assesses NEPA, CWA, endangered species and Section 106, alone and together, lawsuits based on these statutes result in delay and cost.

While the majority of challenges have not been successful, litigation adds cost, and as shown in the Georgia Strait and Eastern Panhandle case studies, delay to the project development and implementation of the agency ROD. Other increased costs are experienced even if difficult to quantify. For example, because the Department of Justice defends most agencies when infrastructure permits or RODs are litigated, it is difficult to get cost impact to the government.<sup>45</sup> However, project developers pay for their own involvement in and representation in a lawsuit, which adds cost.

42 The Clear View Energy Partners (CVEP) database contains 79 separate legal appeals from six different litigant constituencies initiated between calendar year 2012 (when environmental challenges against midstream infrastructure began to gain momentum) and July 12, 2019, the most recent update to the database.

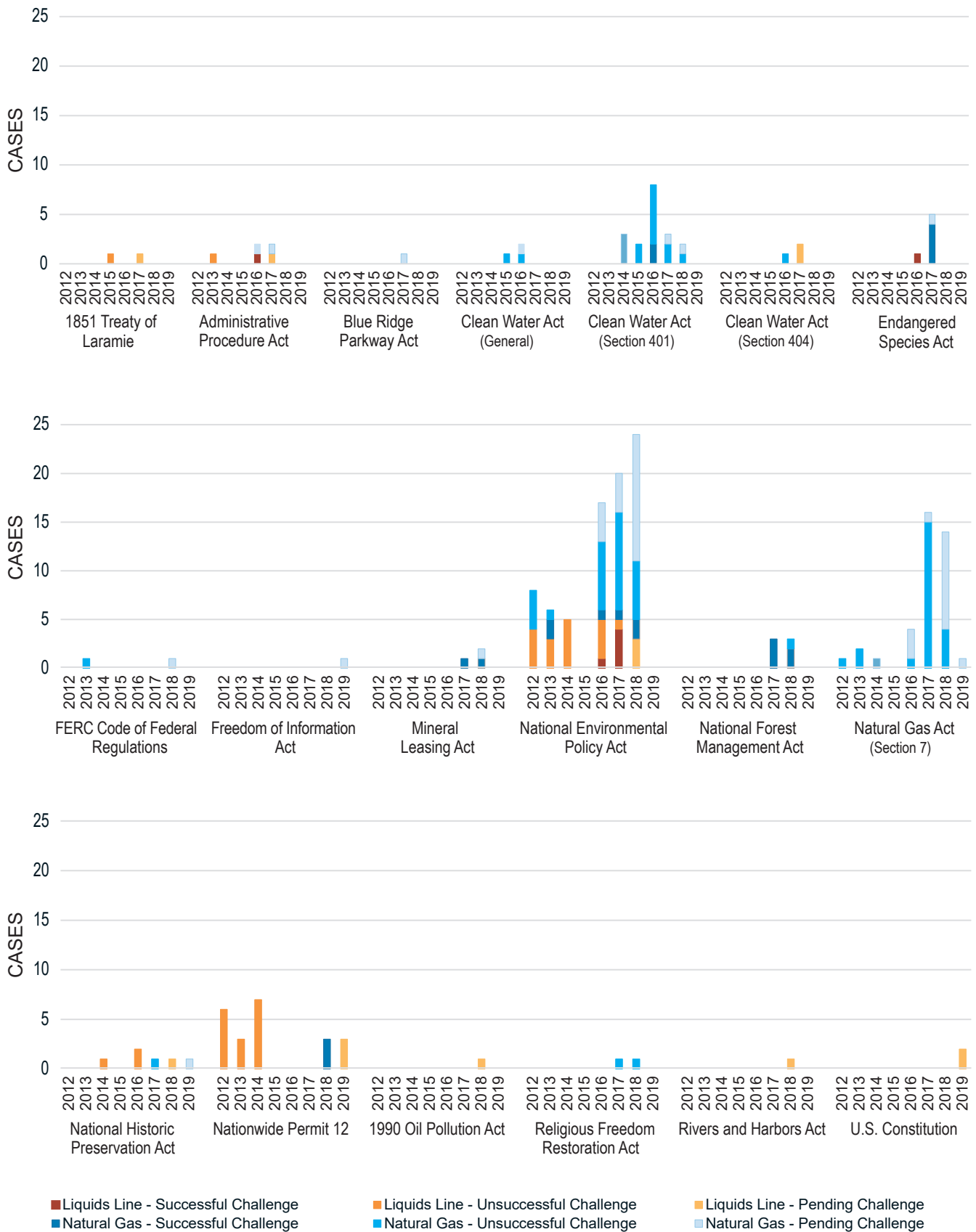
Because CVEP built the database to examine infrastructure challengers' tactics and the efficacy of those tactics, the database excludes project sponsors' appeals of federal agency permit denials (or federally delegated permit denials) and adverse court rulings brought by opponents. For the same reason, the database also excludes project sponsors' eminent domain filings. That said, the database does include appeals court cases in which a stakeholder group is challenging FERC's administration of its eminent domain authority under Section 7 of the Natural Gas Act (NGA §7), or where a stakeholder group is appealing a court ruling granting eminent domain.

The database ties 218 distinct challenges against agency actions to 19 federal statutes or regulatory programs. NEPA underpins 85 of these 218 challenges, making it the most frequent statutory basis in our data set. Fifteen of the 218 challenges never received a ruling on the merits (and therefore have not been adjudicated). Figure 3-5 presents a visualization of the remaining 203 challenges. Of the 85 NEPA challenges, 56 have been adjudicated (with 11 rulings in favor of the appellants); 24 remain pending; and five were not adjudicated. Of the 80 adjudicated or pending NEPA challenges in our data set, 55 targeted gas pipelines and 25 targeted liquids lines.

43 Council on Environmental Quality, "Length of Environmental Impact Statements (2013-2017)," July 22, 2019, [https://ceq.doe.gov/docs/nepa-practice/CEQ\\_EIS\\_Length\\_Report\\_2019-7-22.pdf](https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Length_Report_2019-7-22.pdf).

44 Figure 3-5 presents a visualization of these 80 adjudicated or pending NEPA challenges, sorted by alleged error, case year and outcome. A total of 12 challenges alleged insufficient review for GHG emissions, separated by upstream emissions (5 challenges), and downstream emissions (7 challenges). After GHGs, illegal segmentation of the NEPA review (11 challenges) and flawed alternative route/siting analyses (11 challenges) were the most frequent errors alleged among the 80 adjudicated and pending NEPA challenges.

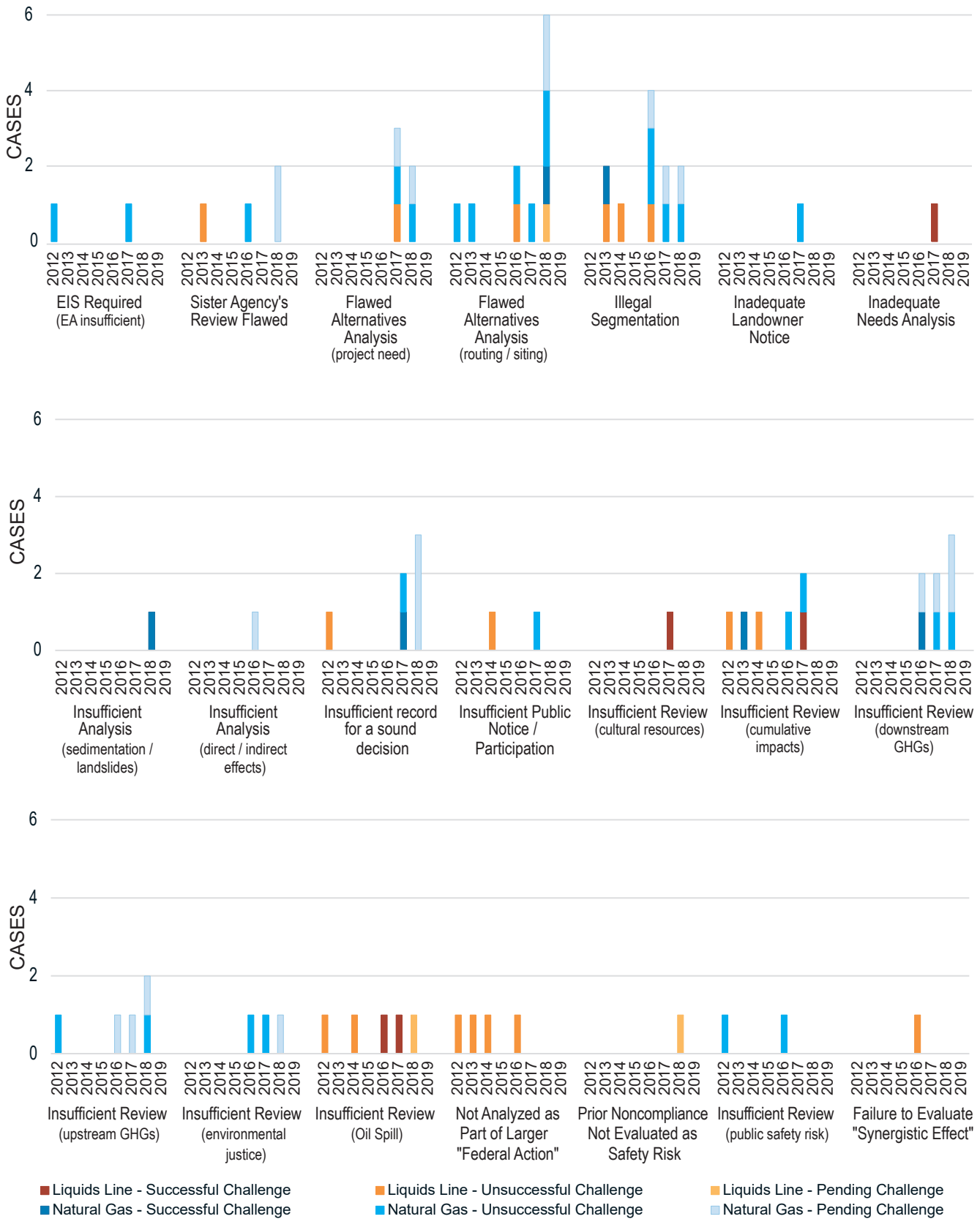
45 See GAO Report to Congressional Requesters, *National Environmental Policy Act, Little Information Exists on NEPA Analyses*, April 2014, p. 33, <https://www.gao.gov/assets/670/662543.pdf>.



Source: ClearView Energy Partners, LLC, based on court data through July 12, 2019.

**Figure 3-5. National Environmental Policy Act Challenges by Alleged Error, Case Year, and Outcome**





Source: ClearView Energy Partners, LLC, based on court data through July 12, 2019.

Figure 3-5. (continued)

A 6-year statute of limitations is applied to all federal agency decisions including NEPA.<sup>46</sup> However, for projects subject to the Fixing America's Surface Transportation Act (FAST-41), the statute of limitations is 2 years.<sup>47</sup> These time limits come after the years it can take to create an agency ROD. Though challengers may have a low rate of success challenging RODs for pipeline projects, under 20% success in NEPA challenges since 2012,<sup>48</sup> litigation creates uncertainty and utilizes governmental resources. A longer period of uncertainty—6 years—for the risk of litigation after permits have been received or construction begun detracts from national resilience and economic benefit to the country and localities where projects will be built. At the longer end of the statute of limitations, 6 years, after months, if not years of agency review and a ROD, prolong uncertainty in infrastructure development.

FAST-41 created a 2-year statute of limitations and other criteria for qualifying projects. These criteria include that a litigant must have submitted a comment during the environmental review conducted under NEPA with sufficient detail.<sup>49</sup> Applying these limitations on claims in FAST-41 for energy infrastructure projects would provide clarity to agencies and project developers. If the FAST-41 time frame is utilized and permitting is streamlined, it is even more imperative that the project developer and regulators effectively and transparently engage landowners, local governments, and community members prior to project development, ideally in the design phase, for multidirectional dialogue to increase understanding and support for the energy project.

There are several avenues federal agencies can use to resolve interagency disputes about permit conditions and a NEPA assessment. “The CEQ referral process permits federal agencies to bring to CEQ interagency disagreements concerning proposed major federal actions that might cause unsatisfactory environmental effects. Under CEQ

regulations, 40 CFR Part 1504, any federal department or agency may refer a proposed major federal action to CEQ [...].”<sup>50</sup> CEQ also promotes the use of Environmental Collaboration and Conflict Resolution (ECCR), which is a process whereby neutral, third-party facilitators work with agencies and stakeholders using collaboration, negotiation, structured dialogue, mediation, and other approaches to prevent, manage, and resolve environmental conflicts. In 2005, the Office of Management and Budget and CEQ jointly issued a Memorandum on Environmental Conflict Resolution directing federal agencies to increase the effective use of environmental conflict resolution and build institutional capacity for collaborative problem solving. For more information on ECCR, see subsection III.E, Best Practices for Stakeholder Engagement, later in this chapter.

In 2017, Executive Order 13807 found that “more efficient and effective Federal infrastructure decisions can transform our economy, so the Federal Government, as a whole, must change the way it processes environmental reviews and authorization decisions.”<sup>51</sup> CEQ issued an Advance Notice of Proposed Rulemaking in 2018 requesting comment on potential revisions to update its regulations to ensure a more effective, timely, and efficient process for decision-making by federal agencies. CEQ is currently considering potential revisions to its regulations informed by those comments.

FAST-41 also attempts to cure several issues relating to more efficient environmental reviews. See the discussion of FAST-41 in Section V of this chapter, Reform Efforts, for more information on these initiatives.

### **Findings:**

- A 6-year statute of limitations has been applied to federal agency decisions including NEPA. However, for projects subject to the FAST-41 Act, the statute of limitations is two years.

46 28 U.S.C. 2401(a).

47 42 U.S.C. 4370m-6.

48 Of the 56 adjudicated NEPA challenges in the CVEP Database, 34 targeted natural gas pipelines (six of which succeeded); and 22 targeted liquids lines (five of which succeeded).

49 42 U.S.C. 4370m-6.

50 “Referral of interagency disagreements to CEQ under the national Environmental Policy Act,” <https://ceq.doe.gov/docs/nepa-practice/referrals-to-ceq-dec-2016.pdf>.

51 NEPA.gov, “Environmental Collaboration and Conflict Resolution,” <https://ceq.doe.gov/nepa-practice/environmental-collaboration-and-conflict-resolution.html>.

- NEPA creates a single environmental framework that is implemented in many ways by different agencies. While CEQ is responsible for guiding NEPA activities across federal agencies and issues regulations and guidance to agencies to comply with NEPA, each federal agency is directed by CEQ to develop its own NEPA procedures in conjunction with CEQ based on the agency’s mission, and authorizing statutes. This process has long been a source of complexity, which can often lead to unnecessary delay. EIS development timelines and document lengths have grown beyond what was originally intended by the NEPA regulations. Litigation on the NEPA assessments has also increased.
- Federal agencies’ use of environmental collaboration and conflict resolution (ECCR) has avoided litigation and saved time and money, creating more certainty in the siting and permitting processes.

***The NPC recommends that:***

- CEQ should issue in a timely manner regulations or guidance that improves collaboration across cooperating agencies, improves the use of ECCR and reinforces original NEPA regulations calling for concise NEPA assessments.
- Congress should extend the 2-year statute of limitations enacted in FAST-41 for claims against covered project NEPA assessments to all energy infrastructure projects and include other FAST-41 claim conditions such as the requirement that claimants have participated in the NEPA review process and submitted sufficiently detailed commentary so the lead agency has been notified of the issue that they seek to be reviewed by the court.
- Project developers and federal agencies should continue to use ECCR as a means to avoid litigation and shorten infrastructure permitting timelines.

- CEQ should incorporate into its NEPA regulations elements from the Memorandum of Understanding implementing One Federal Decision (OFD MOU) to improve early and timely interagency coordination to elevate delays and dispute resolution by providing a mechanism for resolving disagreements among agencies that requires initial elevation through the chain of command of each relevant federal agency and encourages resolution of disputes in a consistent manner.

**2. Federal Agency Lead Differs by Mode, Transported Product, and Regulated Activity**

The lead agency for making decisions about oil and natural gas transportation infrastructure, from siting permits for LNG terminals to rail car safety standards, is determined by the jurisdictional authorities of the agency. Those authorities are dictated by statute and differ not only by mode or regulated activity but also on the nature of the product being transported.

Authority for issuing permits for the siting of oil and natural gas pipelines is an illustrative example of the disparate regulatory regimes for similar energy infrastructure. FERC oversees all aspects of siting and construction of interstate natural gas transmission pipelines. The NGA empowers FERC with plenary authority to conduct the review of a proposed interstate natural gas pipeline, coordinate environmental and land use permitting with other federal and state agencies, and determine when a proposed pipeline meets the “public convenience and necessity.” As part of approving a pipeline application, FERC can specify the conditions under which the pipeline can be constructed, including the route used. FERC acts as the lead federal agency for purposes of regulatory review and while the other agencies may rely on FERC’s NEPA analysis, they may also conduct their own reviews. In contrast, federal oversight of an interstate oil or refined product pipeline is focused on areas where there is a federal nexus, not over the entire route, and project developers receive approvals from each state along the linear route of the pipeline.

Table 3-2 lists the various modes of transport along with the lead agencies.

### 3. Multiple Agencies Participate in Review Processes

The family of federal agencies involved in the permitting process is robust and complex because of the network of federal statutes and corresponding body of regulations. In many instances, a combination of federal agencies is involved in the permit review process. For example, a pipeline project in western states could involve the U.S. Bureau of Land Management (BLM) and the USACE, in coordination with the EPA, with each agency considering some aspect of a project. If infrastructure will cross the U.S. border, the State Department, as the lead U.S. foreign affairs agency, advises the President on a presidential cross-border permit.

#### a. *Single Statute Gives Oversight to Multiple Agencies*

A single federal statute may authorize similar and potentially conflicting responsibilities to

different agencies and even to states. For example, Section 404 of the CWA requires developers to obtain a permit for activities that would discharge dredged or fill material into waters of the United States. EPA sets the guidelines and regulations for the permits, while USACE issues individual and general permits, although some states have also assumed this authority.<sup>52</sup> EPA establishes criteria by which the USACE will issue permits and has the authority to veto USACE permitting decisions, although this authority has only been exercised 13 times since 1972, although the potential for using this veto is often a factor in permit discussions. The Fish and Wildlife Coordination Act requires USFWS and National Marine Fisheries Service (NMFS) to evaluate impacts of potential Section 404 permits on fish and wildlife. The role of USACE is discussed in the text box titled “The Role of the U.S. Army Corps of Engineers,” later in this chapter.

<sup>52</sup> EPA.gov, Section 404 of the Clean Water Act, “Permit Program under CWA Section 404,” <https://www.epa.gov/cwa-404/permit-program-under-cwa-section-404>.

Mode of Transport	Statute Granting Siting Approval Authority	Lead Agency
Cross-US-border oil and natural gas pipelines, non-LNG export terminals	Constitution	State Department FERC
Interstate and intrastate liquid pipelines	None	Approvals on a state-by-state basis, except where pipeline impacts federal lands or federally protected resources
Interstate natural gas pipelines	Natural Gas Act	FERC
Intrastate natural gas pipelines	None	Approvals on a state-by-state basis, except where pipeline impacts federal lands or federally protected resources
LNG Terminals	Natural Gas Act	FERC
Rail	Interstate Commerce Commission Termination Act	Surface Transportation Board
Trucks	N/A	Department of Transportation
Underground Storage		Individual states for intrastate oil or gas; FERC for interstate gas

**Table 3-2.** Agency Lead for Siting Decisions by Mode of Transport



Even within a single agency, implementation may vary for a variety of reasons. For example, the 38 USACE district offices process approximately 68,000 CWA Section 404 permits a year; this decentralized decision-making creates a high degree of subjectivity and little opportunity for administrative appeal up the chain of command. USACE can issue general permits under the Nationwide Permit program for sets of activities that have minimal impacts provided certain conditions are met. Pipelines fall under one of these Nationwide Permits (NWP 12). The NWPs go through a formal rule making process. At the conclusion of which, all USACE Districts use a uniform set of NWPs. The variability and implementation challenges to NWPs arise when states modify or supplement an NWP, due to natural factors, site-specific variable such as ESA and Section 106, project specifics, and many other factors. There is no perfect one size fits all NWP with a single, predictable set of standards because permit conditions vary from state to state.

Congress envisioned preserving a significant state role in protecting water quality when it enacted the Clean Water Act as the states exercised this authority before the Act was passed. Section 401 of the CWA requires applicants for a federal license or permit to conduct activities that could result in a discharge into navigable waters to obtain certification from the state demonstrating that the proposed discharge would comply with the state's federally approved water quality standards. This is commonly referred to as a Section 401 certification. USACE cannot issue a permit under Section 404 of CWA, nor can FERC issue a Notice to Proceed, until the state has issued a 401 certification or waived its authority to do so even if the applicant has successfully satisfied all other regulatory requirements necessary for such authorizations. The Section 401 certification is a powerful regulatory authority that the state can impair a Certificate of Public Convenience and Necessity (CPCN) or modify the project in a way that is inconsistent with the CPCN. These jurisdictional conflicts are often adjudicated through litigation, adding uncertainty and cost to the timeline of project development. Consequently, state decisions can act as de facto veto and terminate a pipeline project and impair interstate commerce.

To provide clarity and to shorten the length of Section 401 certificates, in August 2019 the USACE issued guidance on the length of time to consider Section 401 Water Quality Certificates (WQCs). Though not statutory or regulatory, the guidance provides that the CWA 60-day timeframe should generally be considered the default reasonable time period for 401 WQCs associated with Corps' permitting actions. The CWA provides for a Section 401 certificate up to 1 year and a practice had developed to default to 1 year if 60 days could not be met. With its new guidance, the USACE clarified that additional time for a WQC review should be the minimum amount of time necessary for the certifying agency to act on a 401 WQC request. Moreover, if the certifying agency's request for additional time to act is not received before the 60-day period (or other reasonable time period established for the action) ends, the requirement to obtain a 401 WQC is waived and the USACE permit reviewing district engineer should proceed with the permit evaluation.<sup>53</sup>

The EPA has published for notice and public comment regulations to clarify that the scope of a state or tribal Section 401 review or action must be limited to considerations of water quality and that "appropriate requirements" for Section 401 certification review include those provisions of state or tribal law that are EPA-approved CWA regulatory programs that control discharges, including provisions that are more stringent than federal law. The timeline for state or tribal action should be reasonable, not to exceed 1 year; the time will begin upon receipt of the certification request and, if the certifying authority has not acted on a request for certification within the reasonable time period, the certification requirement beyond the timeline will be waived by the federal licensing and permitting agencies.<sup>54</sup>

USACE and EPA have roles to ensure that states act within the scope of their delegated

<sup>53</sup> U.S. Corps of Engineers, Regulatory Guidance Letter, 19-02, August 7, 2019, [https://www.governor.wa.gov/sites/default/files/20190807\\_Corps\\_RGL\\_19-02.pdf](https://www.governor.wa.gov/sites/default/files/20190807_Corps_RGL_19-02.pdf).

<sup>54</sup> Federal Register, "Updating Regulations on Water Quality Certification: A Proposed Rule by the Environmental Protection Agency on 8/22/2019," <https://www.federalregister.gov/documents/2019/08/22/2019-17555/updating-regulations-on-water-quality-certification>.



authority under the CWA. For example, in December 2018, USACE issued a policy directive to its districts and divisions to improve infrastructure permitting and to reduce the time to get federal CWA 401 and 404 approvals. The guidance encourages USACE to “take a more active role in monitoring states to ensure they decide within a “reasonable period” whether to grant, deny, or deem waived CWA Section 401 Water Quality Certifications (WQC), prerequisite to the Corps’ issuance of a 404 permit.”<sup>55</sup> This USACE guidance is similar to the EPA guidance regarding CWA 401 water quality certifications described above. These regulatory improvements and the agencies’ governance help to discern federal and state CWA roles in developing energy infrastructure. However, ultimately clarification of the balance of state and federal powers under the CWA rests with Congress.

The siting approval process is further complicated by the role the states play in Section 401 (and the Coastal Zone Management Act [CZMA]), even more so when the state has an independent permitting program, with standards that are different from both FERC and the USACE. Since the states are not required to participate in NEPA or adopt the federal document, it is not uncommon for the state process to reimagine the project even after FERC has issued an order authorizing a project. When one considers these overlapping authorities, it is quite common for an interstate pipeline company to hold a CPCN, USACE permit, 401 certification, CZMA consistency determination, and state-level permit for the exact same crossing, and some approvals may have different requirements that conflict with others. Adding to the challenge is that each process involves a public participation component so that three or four public scoping sessions are held with the same commenters for the same crossings. There is an opportunity to consider legislation that would consolidate the public interest reviews into a single record.

The CWA stipulates that a state must act on a Section 401 certification request “within a reasonable period of time (which shall not exceed 1 year) after receipt of such request.” The Fourth Circuit

Court of Appeals determined that the waiver period begins when the agency receives a “valid request,” as determined by the USACE. While the Corps provides explicit Section 401 certification waiver deadlines in some public notices, most USACE public notices do not include explicit waiver deadlines. The proposed EPA regulation, discussed earlier, would waive certification requirements for state decisions that exceed the CWA timeline.

As a result, the concept of completeness (receipt of a valid request) has typically been left up to the discretion of the state without any limitations on what constitutes a reasonable time period. This has recently been called into question in a case involving the National Fuel Gas Supply Corporation that found that FERC has authority to determine a waiver for interstate natural gas pipelines and that the clock starts on the date the agency receives the request whether they believe it is an administratively complete request or not. The issue remains in flux.<sup>56</sup>

The overlapping processes of NEPA and state environmental protection acts (SEPA), and various state and local stream and wetland permit requirements, can add significant uncertainties to project timelines and cost estimates. States often view Section 401 certifications as part of a comprehensive state-level permitting process intertwined with other approvals required by state law. States have considered downstream impacts to waterbodies, sea-level rise, upland buffers, requirements for field surveys, and other factors in Section 401 certification decisions. An applicant’s ability to obtain the Section 401 permit in a reasonable time period is often dependent on satisfying the requirements of state permits.

The National Fuel Gas Supply Corporation example highlights some of the tensions of cooperative federalism, with its inherently overlapping spheres of authorities and possible areas of conflict between federal, state, local, and tribal

55 Army Corps of Engineers’ Memo Update, <https://www.saul.com/sites/default/files/Alert%20-%20ENR%20and%20Energy%20-%20ACOE%20Update%202.21.2019.pdf>.

56 See National Fuel Gas Supply Corporation order on rehearing and motion for waiver determination under Section 401 of the CWA, FERC docket number CP15-115-002, August 6, 2018 as well as EPA guidance on CWA Water Quality Certification, issued June 7, 2019: “Clean Air Act Section 401 Guidance for Federal Agencies, States and Authorized Tribes,” [https://www.epa.gov/sites/production/files/2019-06/documents/cwa\\_section\\_401\\_guidance.pdf](https://www.epa.gov/sites/production/files/2019-06/documents/cwa_section_401_guidance.pdf).

governments. Rules, definitions, and timelines can vary, with different burdens of proof required by different jurisdictions, or can create duplicative processes resulting in multiple permits for the same action (potentially with different requirements). Public comment processes may occur at different stages, and if the federal and state processes are not concurrent, project timelines may lengthen and increase in uncertainty.

A case study highlighting a public/private solution to levee repairs along the Mississippi River is provided in the text box titled “Case Study: Public/Private Levee District Restoration—Metro East Southwest Illinois.”

### **Findings:**

- CWA 401 decisions are being made on elements unrelated to water quality.
- The U.S. Army Corps of Engineers and EPA play indispensable roles in the infrastructure permitting process, including coordination among governments, agencies, and companies.
- Because states can condition their Section 401 water quality certificates or impose conditions on regional or other general permits to be issued by the Army Corps under Section 404, conditions vary from state to state, or within a watershed, and as a result there is no nationwide predictable set of standards.

**The NPC recommends** that the U.S. Army Corps of Engineers and EPA, when engaging the states on the implementation of CWA Sections 401/404, should exercise their authority to ensure that the statute is properly construed and enforced.

**The NPC recommends** that EPA should:

- Finalize and update regulations, published for public comment August 22, 2019, to clarify the scope of federal/state water quality standards.

- Convene a Federal Advisory Committee with representatives of industry, state governments, affected local communities, and NGOs to develop consensus recommendations for how to improve states’ Section 401 certification processes.

**The NPC recommends** that the U.S. Army Corps of Engineers should:

- Implement rulemaking to provide procedural consistency among NWP programs, potentially requiring preapplication to identify lead districts, points of contact, and variations in requirements across watershed and political boundaries.
- Continue working and implementing One Federal Decision process initiatives to improve the efficiencies of the USACE regulatory processes, including a lead district for projects crossing multiple districts and for a single point of contact for One Federal Decision, and any project crossing district boundaries.
- Clarify when the preconstruction notifications requirements for use of NWP 12 are required (e.g., when there are public water supply intakes downstream of the activity, or when the activity may affect listed species or officially designated critical habitat).
- Implement consistent approaches to permit interpretation among its field offices to minimize variation of NWPs.

### **b. Multiple Statutes Convey Overlapping Oversight**

Multiple agencies may have seemingly overlapping or conflicting roles, which are based on different authorizing statutes, in regulating oil and natural gas infrastructure. For example, when evaluating a project application, FERC assesses more than a dozen key issues that are regulated by federal agencies. These are called resource reports. FERC includes resource reports in its

## CASE STUDY: PUBLIC/PRIVATE LEVEE DISTRICT RESTORATION — METRO EAST SOUTHWEST ILLINOIS

In August 2007, the U.S. Army Corps of Engineers (USACE) estimated it would cost \$500 million and take 37 years to repair the Mississippi River levees near St. Louis. That year, the Federal Emergency Management Agency (FEMA) changed the St. Louis Metro East/Southwestern Illinois flood insurance designation as part of the National Flood Map modernization process as a result of FEMA's conclusion that the levees protecting a large area in Southwestern Illinois from flooding no longer met the agency's requirements. This designation would classify much of St. Louis' Metro East as subject to flooding as if the levee system did not exist at all, based on a finding by the USACE that the agency had reduced confidence that the 74-mile levee system could protect against a 100-year flood.

As a result of FEMA's reclassification, the American Bottom, a 174 square miles region in Southwestern Illinois that is home to 156,000 people, 4,000 businesses, and 56,000 jobs in 25 communities in Madison, St. Clair, and Monroe counties, would have been declared a Special Flood Hazard Area (SFHA), with dire consequences to the region's economy. Most homeowners and business owners would have been required to buy flood insurance at substantially increased rates, and for the many homeowners who could not afford insurance, the result could have been foreclosure. Additionally, any new structure built within a SFHA would be subject to new building

standards, including elevation requirements and construction limits, adding cost and deterring future development in the region.

Local leaders recognized the urgency of the situation and developed a public/private solution. With little or no assistance from federal agencies, local leaders secured funding to improve the Metro East levees to federal standards through a 1/4% sales tax. Leaders established the Flood Protection District (FPD) Council to oversee repair of the levees and worked closely with the FPD Council to ensure improvements were made in the shortest time possible. To mitigate the significant economic impact of the FEMA reclassification, county leaders simultaneously worked with the St. Louis Metro East Levee Issues Alliance, a coalition of business and civic organizations, community leaders and concerned citizens, to gain time needed to complete the levee improvements. Local leaders also pursued legislative relief and took legal action against FEMA to challenge the credibility and accuracy of flood insurance rate maps that FEMA issued in 2012.

As a result of the action by the local leaders, the levee improvements were completed in 2018—in 10 years—at a cost of \$110 million paid for by the local tax. Excess funds generated by the sunset tax are being used to further strengthen the resilience of the levee system to a 500-year flood level.

Record of Decision. The list of resource report topics is in the text box titled “The Role of the Federal Energy Regulatory Commission,” later in this chapter.

FERC does not have a formal role under the CWA to regulate impacts to waters of the United States; that is the purview of the USACE. However, FERC, through the exercise of its NEPA responsibility, often acts as an informal regulator. As part of FERC's NEPA review process, applicants are required to submit a Resource Report on Water

Use and Quality. In this report, the applicant must identify every waterbody and wetland that will be impacted by the project and disclose the proposed route, construction method, construction and operating right-of-way widths, and proposed impact mitigation measures. Further, FERC imposes standard limitations on right-of-way width, setbacks from waterbodies and wetlands, seasonal timing restrictions, and crossing timelines that are not found in the CWA and, in many cases, are far more restrictive than the CWA. These

decisions become a part of the proposed action and subject to enforcement for noncompliance.

One of the complexities introduced by FERC's role as NEPA lead is that FERC balances resource impacts and takes a holistic approach to authorizing a specific preferred route, workspace allowances, timing restrictions, and construction methodology for each waterbody and wetland crossing. Therefore, FERC may conclude that on balance, a proposed action with more waterbody and wetland impact is preferred due to the totality of environmental considerations. However, the USACE is bound by the Section 404 (b)(1) guidelines, which takes a narrower view of alternatives focused on aquatic impacts. As a result, the FERC-recommended preferred alternative may conflict with the USACE guidelines, which can be difficult to resolve in a timely manner once the lead agency final EIA or EA has been issued.

The CAA requires EPA to set emission standards for air pollutants and issue operating permits for major sources of air pollution. The Pipeline and Hazardous Materials Safety Administration (PHMSA) sets safety standards for pipelines, LNG and underground natural gas storage facilities.<sup>57</sup> In some cases, these safety standards require integrity testing of in-service pipelines with methods such as hydrostatic testing. This requirement causes additional air emissions through blowdowns to allow the testing. These blowdowns can conflict with CAA goals by requiring additional air emissions. The role of PHMSA is highlighted in the text box titled "The Role of Pipeline and Hazardous Materials Safety Administration," later in this chapter.

Construction and operation of these pipeline facilities, as well as any leaks or spills, can affect air quality. The PHMSA pipeline safety protocols regulate all pipelines' operating pressures, set standards for automatic shutoff valves, leak detection systems, and other equipment with the potential to affect air quality, as well as regulate the purging and sealing of abandoned pipelines. In 2016, the

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<sup>57</sup> PHMSA's authorizing statutes for this authority include the Natural Gas Pipeline Safety Act of 1968, the Pipeline and Hazardous Liquids Pipeline Act of 1979, and most recently, the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Pipeline Safety Act of 2016.

BLM used its authority under the Mineral Leasing Act of 1920 to prevent waste of federal mineral resources to promulgate a rule to reduce natural gas emissions from oil and natural gas facilities on federal or tribal lands; much of the original rule, including the waste-minimization and gas-capture provisions, has since been rescinded.

Examples of state regulations that can create duplicative review of federal regulations include:

- Pennsylvania Chapter 105 (Dam Safety and Waterway Management) regulates, among other things, "...proper planning, design, construction, maintenance and monitoring of water obstructions and encroachments, in order to prevent unreasonable interference with water flow and to protect navigation."
- New York Article 15 Environmental Conservation Law implementing regulations 6NYCRR Part 608 resulted in the creation of the Protection of Waters Regulatory Program administered by the New York State Department of Environmental Conservation (NYSDEC). Projects that traverse lakes, rivers, streams, or ponds covered by this program must obtain an Article 15 approval from the NYSDEC. Because it is specific to waterbody crossings, it is additive beyond CWA Section 404.
- Washington Hydraulic Project Approval is required under Chapter 77.55 RCW Construction Projects in State Waters for construction projects that will use, divert, obstruct, or change the natural flow or bed of any of the salt or freshwaters of the state. This permit largely overlaps CWA Section 404 and RHA Section 10.

States can also opt into the coordinated FAST-41 process, ensuring their specialized, expert knowledge about their local communities and natural resources is accurately represented and incorporated early in the permitting process. FPISC has authority to enter into this MOU under FAST-41. FAST-41 and EO 13807 assign FPISC the tasks of ensuring that Federal agencies expeditiously complete all necessary environmental reviews and authorizations for infrastructure projects on an efficient and timely basis consistent with their obligations under applicable laws and mediating



certain disputes between agencies. Louisiana was the first state to exercise this option, formalized in a Memorandum of Understanding (MOU) in January 2018.<sup>58</sup> The MOU delineated responsibilities, set milestones, and outlined an ambitious permitting timetable for 14 federal and state agencies, in effect, improving federal and state collaboration on a priority project. The MOU helped Louisiana move forward two years earlier than expected with a large-scale sediment diversion project planned to help restore and protect the state's vulnerable coast. As more projects elect to use the streamlined FAST-41 process, state buy-in through formal MOUs would provide for the greatest process efficiencies and minimize delays.

**Finding:** Overlapping and duplicative regulatory requirements, inconsistencies across multiple federal and state agencies, and unnecessarily lengthy administrative procedures have created a complex and unpredictable permitting process.

- States approach permit coordination in varying ways for energy infrastructure projects.
- In federal-led permitting projects, states vary in initiating their permitting reviews. Sequential rather than concurrent reviews can create delays.

#### ***The NPC recommends that:***

- The federal government should leverage the Federal Permitting Improvement Steering Council (FPISC) to encourage concurrent review by the states during the federal permitting process. FPISC has authority to enter into MOUs with states to accomplish concurrent review under FAST-41.
- For federal permits or decisions delegated to the states (CZMA, CWA, CAA), states should be incentivized to comply with FAST-41 and One Federal Decision and make decisions in conjunction with federal NEPA process timeline.

<sup>58</sup> Memorandum of Understanding between the United States of America and the State of Louisiana, <http://gov.louisiana.gov/assets/docs/Issues/Coastal/CPRA-Trump-MOU-Midbarataria-1.26.18.pdf>.

- EPA should:

- Finalize and update regulations to clarify the scope of federal/state water quality standards.
- Convene a Federal Advisory Committee with representatives of industry, state governments, affected local communities, and NGOs to develop consensus recommendations for how to improve states' 401 certification processes.

#### ***c. Greater Focus on and Adherence to Interagency Coordination***

Interstate natural gas pipeline projects are often subject to broad review under NEPA by multiple federal agencies. Ensuring coordinated and streamlined NEPA review among multiple federal agencies is essential to the timely development of infrastructure required to meet the public need for natural gas.<sup>59</sup>

The existing NEPA regulations and guidance attempt to provide a framework for a coordinated review across agencies for projects involving multiple federal agencies.<sup>60</sup> Despite this regulation and guidance, lack of interagency coordination can significantly prolong the NEPA review process and often places agencies in adversarial positions.

Further to FAST-41 and recognizing that significant improvements can be made through greater interagency coordination, the administration recently developed the OFD MOU under Executive Order 13807.<sup>61</sup> Interagency coordination is an important issue that is referenced here and in Section V of this chapter, Reform Efforts. For purposes of this section, the improvements

<sup>59</sup> Congressional Research Service, CRS Report to Congress, "The National Environmental Policy Act: Streamlining NEPA," updated January 9, 2007, <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL33267.pdf>, <https://www.energy.gov/nepa/articles/ceq-issues-guidance-improving-nepa-process-efficiency>.

<sup>60</sup> 40 C.F.R. § 1501.5.

<sup>61</sup> Memorandum for Heads of Federal Departments and Agencies from Mick Mulvaney, Director, Office of Management and Budget and Mary Neumayr, Chief of Staff, Council on Environmental Quality, March 20, 2018, at Attachment A.



in the following finding and recommendation can be undertaken.

**Finding:** Coordinated and streamlined NEPA review among multiple federal agencies is essential to the timely development of infrastructure required to meet the public need for natural gas.

**The NPC recommends** that CEQ should incorporate into its NEPA regulations elements from the OFD MOU to improve early and timely interagency coordination:

- Roles and Responsibilities of Lead and Cooperating Agencies: The One Federal Decision MOU provides expanded guidance on the roles of each of the agencies, which is helpful in ensuring the efficient coordination among parties.<sup>62</sup>
- Permitting Timetable and Concurrence Points: Preparing a single multiagency permitting timetable with specific concurrence points ensures early and continued interagency coordination at key points during the process.<sup>63</sup>

#### 4. Agencies Have Multiple Interests

A federal agency may have multiple interests in the permitting process. In addition to regulatory responsibilities and other unique responsibilities, a number of agencies manage federal lands across a wide swath of states and therefore have a real estate interest (Figure 3-6). Pipelines that cross federal lands typically have rights-of-way, special use permits, or other real estate grants in place with the land-holding agency. These authorizations and instruments typically require the removal of all facilities and restoration of affected land upon abandonment. In addition, land use permits for temporary use may be required for abandonment activities on federal lands, including those areas needed to perform abandonment

and removal activities that are outside the right-of-way or real estate grant for pipeline operations.

The USACE, for example, has both a regulatory role in issuing permits pursuant to the Clean Water Act and a real estate interest when pipelines cross any of the 7.6 million acres of land the agency owns or the 4.1 million acres it manages.<sup>64</sup> The USACE provides quality and responsive management of the nation's water resources, including construction of civil works projects across the country. When a party other than the USACE needs to alter a civil works project—roads, bridges, dams—as part of improvements to the project, or relocation of part of a project or installing utilities or nonproject features, the USACE is responsible for Section 408 permits.<sup>65</sup> The standard for USACE assessment of a Section 408 permit is whether the proposed alteration to the civil work will not be injurious to the public interest and will not impair the usefulness of the civil works project. Figure 3-7 demonstrates the complex nature of pipeline permitting. FERC permits the siting and construction of the entire length of an interstate natural gas pipeline, which also must receive permits from USACE for any activities that discharge dredged material into streams and wetlands and a USACE easement where the pipeline crosses USACE land or structures like reservoirs. While FERC is the lead agency in the example in Figure 3-7, the USACE has a role in issuing permits (regulatory role) and easements (real estate interest) for any oil or refined products or intrastate gas pipeline or rail line that will impact waters of the United States or any federal project such as bridges, dams, or levees. Thus, the interagency complexity issues apply to permitting those types of infrastructure as well.

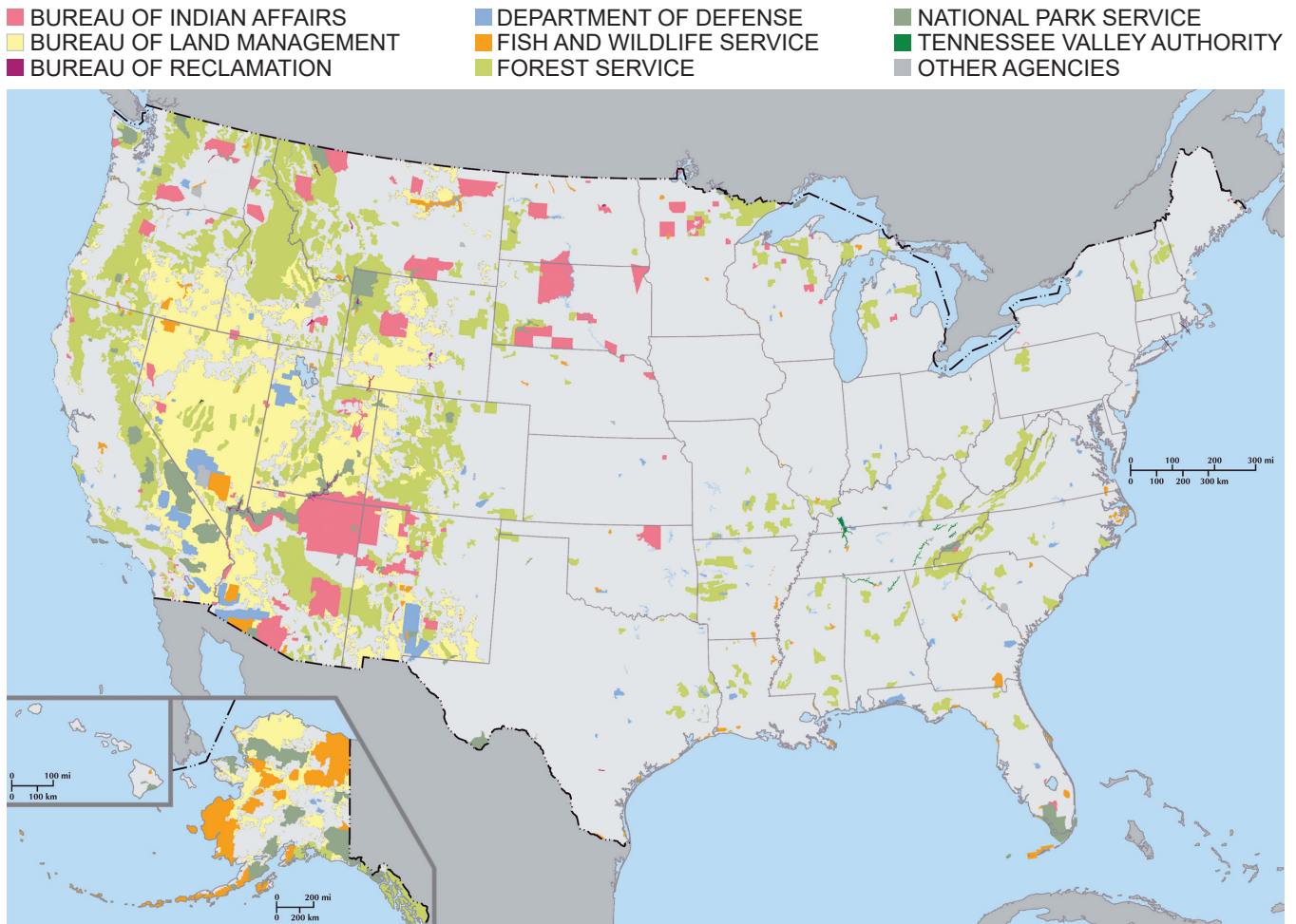
Another agency with multiple interests in the permitting of a single project is the EPA, which may prepare NEPA documents, review and comment on CWA Section 404 permit applications, and enforce air quality standards for emissions from oil and natural gas infrastructure under CAA. The

62 Ibid. at A-6 – A-8.

63 Ibid. at A-5; A-9 – A-11.

64 Congressional Research Service, Oil and Gas Pipelines: Role of the U.S. Army Corps of Engineers, June 2017, [https://www.everycrsreport.com/files/20170628\\_R44880\\_1105a52fd838d2e8d342c75e49199c8bcdeb6607.pdf](https://www.everycrsreport.com/files/20170628_R44880_1105a52fd838d2e8d342c75e49199c8bcdeb6607.pdf).

65 33 USC 408.



Source: U.S. Geological Survey National Atlas. 2003, <https://www.mapsland.com/maps/north-america/usa/large-detailed-federal-lands-and-indian-reservations-map-of-the-usa-2003.jpg>.

**Figure 3-6.** Federal and Tribal Lands in the United States

CAA also gives EPA the unique responsibility to review all agency draft EISs and make public its evaluation, which typically focuses on measures to avoid or mitigate environmental impacts.<sup>66</sup> EPA also reviews the final EIS and can refer the project review to CEQ if it deems that the agency response unsatisfactory. The EIS evaluation by EPA is an example of multiple agencies reviewing the same document.

In certain cases, regulatory approvals from cooperating agencies conflict with approvals from the lead agency. In the case of the Atlantic Coast Pipeline, the U.S. Forest Service (USFS) issued a

special use permit (SUP) and ROD, as well as a right-of-way, in conjunction with FERC’s approval of the pipeline’s route. On the same day that FERC issued its final EIS, the USFS also issued its draft ROD proposing to adopt the final EIS, grant the SUP, and exempt the pipeline from several Forest Plan standards. However, the USFS’s ROD adopted and incorporated FERC’s alternative routes analysis in the EIS, but the USFS’s ROD applied a different standard by the National Forest Management Act and its own Forest Management plans. Consequently, two regulatory burdens that could have been effectively aligned diverged, providing for a successful legal challenge. The USFS was required to do an independent review of FERC’s EIS, but instead, it reversed course from its objections to the route it communicated earlier in the process to align itself with FERC’s conclusions.

<sup>66</sup> EPA.gov, “EPA Review Process under Section 309 of the Clean Air Act,” <https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act>.

The role of the U.S. Army Corps of Engineers, the role of FERC, and the role of PHSMA are discussed in three nearby text boxes.

**Finding:** Regulatory approvals of cooperating agencies can conflict with approvals of the lead agency.

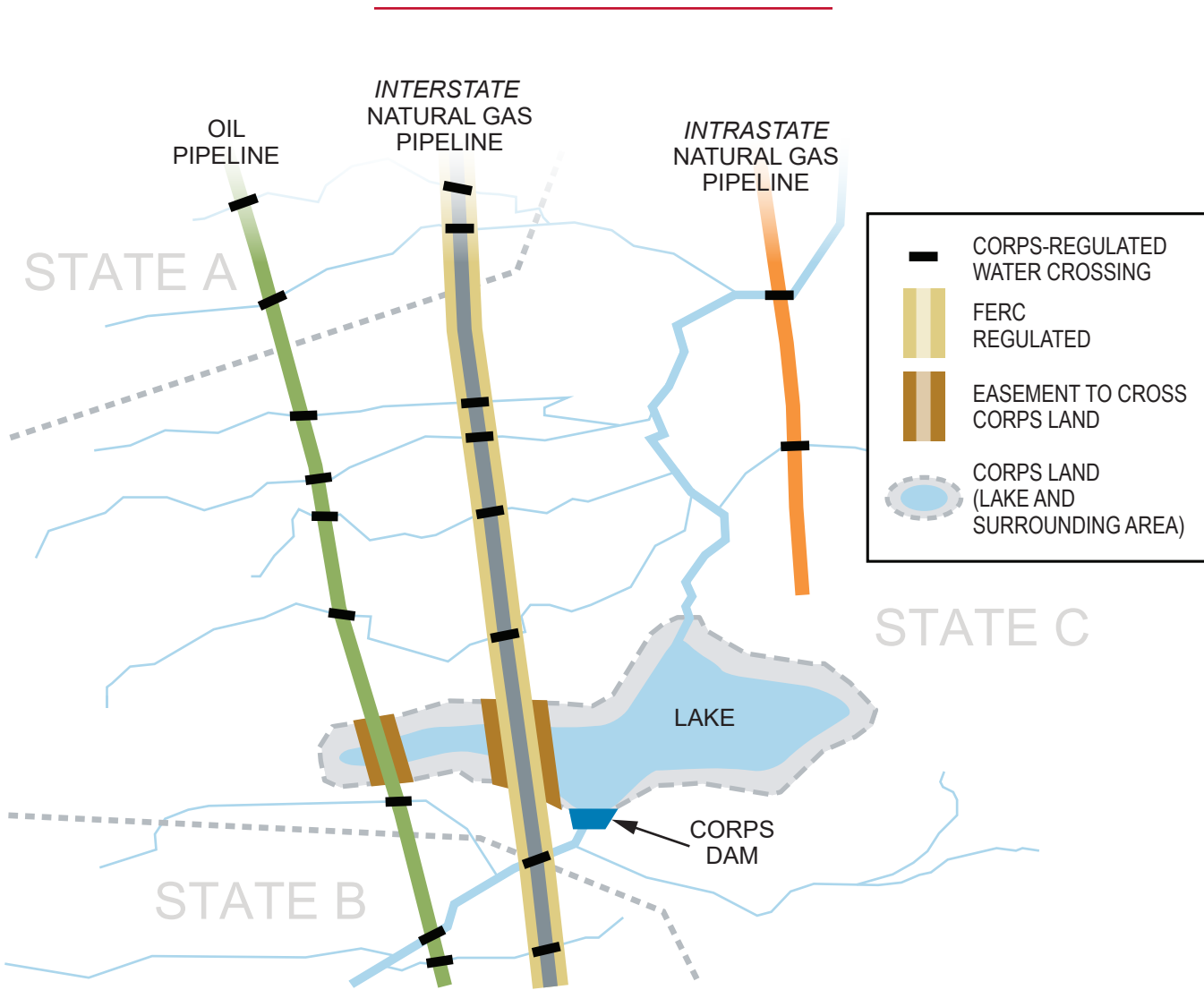
**The NPC recommends** that to harmonize multiple permitting processes at the federal and state level, Congress should provide sufficient staffing for and authorize the lead federal agency implementing NEPA regulations to ensure that NEPA analyses fully encompass

and support permit decisions of other federal and state agencies.

### C. States' Role in Regulating Oil and Natural Gas Transportation Infrastructure

Increasingly polarized and politicized permitting and environmental decisions in some states and regions of the country have led to denial, delay, or duplicative review of energy infrastructure permits.

The state role in regulating oil and natural gas infrastructure is defined by specific provisions in



Source: Congressional Research Service, "Oil and Natural Gas Pipelines: Role of the U.S. Army Corps of Engineers," June 28, 2017.

**Figure 3-7. Federal Agency Roles for Oil and Natural Gas Pipelines**

## THE ROLE OF THE U.S. ARMY CORPS OF ENGINEERS

(see: [www.usace.army.mil](http://www.usace.army.mil) and <https://cdm16021.contentdm.oclc.org/digital/collection/p16021coll6/id/2118/rec/18>)

**T**he U.S. Army Corps of Engineers (USACE) plays an indispensable role in the permitting process, including coordinating governments, agencies, and companies. Congress established the Continental Army with a provision for a chief engineer on June 16, 1775. The Army established the USACE as a separate, permanent branch on March 16, 1802, and gave the engineers responsibility for founding and operating the U.S. Military Academy at West Point. The USACE built coastal fortifications, surveyed roads and canals, eliminated navigational hazards, explored and mapped the western frontier, and constructed buildings and monuments in the nation's capital. Today, USACE has more than 20,000 employees, combined, at its headquarters in Washington, D.C., and in 38 district offices.

The USACE is the designer, builder, and maintainer of marine infrastructure, including harbors and inland waterways through which oil, refined product and liquified natural gas move. The agency's varied responsibilities

include operation of more than 600 dams, and 12,000 miles of inland navigation channels, maintenance of 926 harbors on coasts, the Great Lakes, inland waterways, and reservoir lakes and research and technology development.

The USACE has the authority to issue permits for the discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act. The USACE also has jurisdiction over structures or work in navigable waters of the United States under Section 10 of the Rivers and Harbors Act of 1899. If any activity could affect a federal project, such as a levee, dam, or navigation channel, permission for the USACE is required in accordance with Section 14 of the Rivers and Harbors Act. In fiscal year 2018, USACE issued 56,000 permits and finalized more than 76,000 permit-related activities. However, the agency's civil works programs dwarf its regulatory activities; in 2010, navigation and flood risk management accounted for 66% of USACE's budget, while spending on regulatory programs was just over 3%.

federal statute that create requirements for consultation or that delegate federal authorities to the states. States' authority for some regulatory action also comes about by virtue of the absence of a national law, and states can enact their own policies and programs. State legal challenges and statewide ballots can also create development and operational uncertainties for developers and operators of energy infrastructure.

### 1. State Role in the Absence of Federal Law

There is no federal law that sets forth a permitting or approval process for interstate oil or liquids pipelines. FERC is responsible for regulating rates, charges, and rules for transporting oil by pipeline under the Interstate Commerce Act (ICA), but the ICA does not mandate regulation of permitting, siting or construction of these pipelines; that

authority rests with the states. Individual states retain broad authority to permit and regulate oil pipelines for eminent domain, pollution control, natural resources, and environmental protections along any proposed route. An interstate oil pipeline must therefore obtain permits on a state-by-state basis, with processes and even government agency structures differing by state.

The state of Alaska has identified a single agency, the Office of Project Management and Permitting (OPMP) within the Department of Natural Resources, to coordinate all environmental permit reviews. This includes coordination of all state authorizations necessary for project development, which typically covers authorities pertaining to land management, wildlife management, water quality, air quality, spill prevention, public safety, and more. OPMP's model offers a centralized



## THE ROLE OF THE FEDERAL ENERGY REGULATORY COMMISSION

(see: <https://www.ferc.gov/about/ferc-does.asp>)

**T**he Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines as well as licensing hydro-power projects. The Energy Policy Act of 2005 gave FERC additional responsibilities as outlined and updated in their Strategic Plan. As part of that responsibility, FERC:

- Regulates the transmission and wholesale sales of electricity in interstate commerce
- Reviews certain mergers and acquisitions and corporate transactions by electricity companies
- Regulates the transmission and sale of natural gas for resale in interstate commerce
- Regulates the transportation of oil by pipeline in interstate commerce
- Approves the siting and abandonment of interstate natural gas pipelines and storage facilities
- Reviews the siting application for electric transmission projects under limited circumstances
- Ensures the safe operation and reliability of proposed and operating LNG terminals
- Licenses and inspects private, municipal, and state hydroelectric projects
- Protects the reliability of the high voltage interstate transmission system through mandatory reliability standards
- Monitors and investigates energy markets
- Enforces FERC regulatory requirements through imposition of civil penalties and other means
- Oversees environmental matters related to natural gas and hydroelectricity projects and other matters
- Administers accounting and financial reporting regulations and conduct of regulated companies.

State public utility commissions deal with issues that are outside FERC's jurisdiction. FERC requires natural gas pipeline and LNG terminal project developers to submit an extensive environmental report as part of an application. Topics in the environmental report are (from <https://www.ferc.gov/industries/gas/enviro/guidelines/guidance-manual-volume-1.pdf>):

- Project description, including construction, operation and maintenance procedures, abandonment, and affected landowners
- Water use and quality
- Fish, wildlife, and vegetation
- Cultural resources
- Socioeconomics
- Geological resources
- Soils
- Land use, recreation, and aesthetics
- Air and noise quality
- Alternatives, including no action, systems, and routes
- Reliability and safety
- PCB contamination
- Additional information for LNG terminals.



## THE ROLE OF THE PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

**T**he mission of the Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) is to protect people and the environment by advancing the safe transportation of energy and other hazardous materials that are essential to our daily lives. This includes oversight of more than 2.7 million miles of energy pipeline systems. To do this, the agency establishes national policy, sets and enforces safety standards, educates, and conducts research to help prevent incidents. PHMSA also establishes standards and facilitates training for first responders to reduce consequences if an incident does occur. PHMSA has five regional offices, multiple district offices located across the country, and is headquartered in Washington, D.C. PHMSA's Training Center is centrally located in Oklahoma City.

The vision of the pipeline safety program is straightforward: find innovative solutions to promote safety; focus oversight efforts on improving safety; update or develop new regulations, policies, and guidance to ensure that requirements are effective and efficient in improving safety and are as flexible as possible to accommodate innovation; and encourage research into new and promising technologies. Each of these goals ensures that pipeline infrastructure can continue to provide safe and reliable energy to communities, homes, and businesses.

Periodically, Congress reauthorizes the Pipeline Safety Act, which can include additional

safety directives. PHMSA's Office of Pipeline Safety is primarily funded through user fees and a small percentage from the Oil Spill Liability Trust Fund. PHMSA uses these funds to provide for 308 full-time employees, over half serving as field inspectors and engineers.

PHMSA's rulemaking is an iterative process designed to encourage maximum participation by all stakeholders, thus ensuring comprehensive rules that protect the public and stand up to cost/benefit scrutiny. PHMSA, may hold public meetings and workshops prior to rulemakings, using the information gathered to craft the most effective rules possible. PHMSA regulations and safety oversight benefit from input from the hazardous liquid and natural gas advisory committees. These two committees provide balanced representation from the public, regulators, and industry.

PHMSA's regulations are minimum standards and it is common for companies to perform beyond the regulatory baseline in pursuit of greater safety. PHMSA supports industry adoption of Safety Management System (SMS) principles, such as those expressed in the American Petroleum Institute's Recommended Practice 1173 (API RP 1173). PHMSA believes that a robust safety culture and application of SMS principles will achieve great progress toward the goal of zero incidents.

system where multiple state departments adjudicate permit reviews and oversee compliance and enforcement actions in a coordinated manner. This coordination provides the opportunity to realize efficiencies, increase regulatory transparency, and offers the public a more straightforward regulatory process to evaluate. Finally, OPMP also serves as the single point of contact to the federal government, particularly the federal permitting agencies and those responsible for conducting the NEPA reviews. While there is no one federal agency responsible for overseeing permitting of

an interstate oil pipeline, various federal agencies will become involved if a planned pipeline would cross an international border, cross federal lands, result in discharges to surface waters covered by the Clean Water Act, or impact protected wildlife or cultural, natural, or historical resources. When an oil pipeline crosses federal lands, the individual state's role is diminished and federal review and permitting is overseen by the relevant federal agency. The USACE is the predominant federal agency involved in interstate oil pipeline permitting through its oversight of waters of the United

States, wetlands, levees, and other federal structures and projects.

## 2. State Roles Through Consultation or Delegation of Authority

State-level agencies are generally responsible for managing and protecting a state's natural and cultural resources. State resource agencies, such as state environmental or water quality agencies, as is the case with their federal counterparts, participate in and review assessments of environmental impacts in accordance with their responsibilities under federal or state laws. In some cases, federal statutes have granted authority to state resource agencies for carrying out federal laws (Table 3-3).

State resource agencies have been granted authority by Congress under several federal statutes, including the CAA, wherein state and local governments may take the lead in carrying out the CAA, developing solutions requiring special understanding of local industries, geography, housing, and travel patterns. Local agencies may monitor air quality, inspect facilities, and enforce CAA regulations. States must develop, with public hearings and comment by public/private stakeholders, State Implementation Plans (SIPs) outlining their regulations, programs, and policies resulting in CAA compliance.

Additionally, state historic preservation offices advise and consult with federal and other state agencies to identify historic properties and assess and resolve adverse effects to those properties under the National Historic Preservation Act (NHPA).

Another consideration for infrastructure projects is state-listed endangered species or other species of concern listed by other agencies such as the BLM. The regulations for state-listed species are highly variable and may focus on the prevention of only collection or trade, while other states treat endangered species similarly to federal protections under ESA. Further, some states also merge federal and state-listed species into their state permitting programs such that there is duplicate oversight between USFWS and/or NMFS and the respective state. For projects on BLM lands, the list of species of concern can extend beyond

those listed under the ESA or by a state agency. With a single list of protected species and clear agency scope of authority, operators would be better able to balance species avoidance or mitigation with timely project construction.

## 3. State Environmental Policy Acts

In addition to federal regulatory review of infrastructure projects and the state exercise of federally delegated authority, state statutes and regulations apply to the permitting of infrastructure projects. Twenty states have promulgated analogous SEPAs to NEPA. Furthermore, most other states have forms of environmental regulation and oversight that are substantive but are not analogous to NEPA. These SEPA programs share a similar objective to NEPA but vary widely in their requirements and implementation.

CEQ has issued guidance memoranda for each state with a SEPA to familiarize federal NEPA officials with state policies and procedures and to help them find opportunities to realize efficiencies through collaboration with state and local governments by aligning and, where appropriate, combining the environmental review requirements.<sup>67</sup> The current regulatory scheme has established a close relationship between NEPA and most state SEPA processes as a precursor to a ROD and the final federal permitting decisions regarding infrastructure.

In some cases, the state will allow the federal NEPA review to substitute for completion of their program. This process is similar to when federal agencies adopt a lead federal agency's NEPA analysis. Certain states allow federal and state reviews to run concurrently. In others, the federal and state reviews must run consecutively, and the state agencies cannot start their review or issue any permits until the project's federal review is completed. In yet other circumstances a state permit, such as CWA 401, must be issued before the final federal permit can be issued. Where a state permit must be issued before the final federal permit can be issued but a state will not begin its permit

<sup>67</sup> NEPA.gov, "States and Local Jurisdictions with NEPA-like Environmental Planning Requirements," <https://ceq.doe.gov/laws-regulations/states.html>.

Statute	Lead Federal Agencies	Authority Delegated to States
<b>Archeological Resources Protection Act (ARPA)</b>	National Park Service	Section 7 of the APRA provides the same authority to officials in all lands under the supervision of the federal government that has been set aside primarily for the use of American Indians to use civil penalties to enforce ARPA as are given to federal officials.
<b>Clean Air Act (CAA)</b>	Environmental Protection Agency (EPA)	State/local governments may take the lead in carrying out CAA, developing solutions requiring special understanding of local industries, geography, housing, and travel patterns, etc. State/local/tribal governments monitor air quality, inspect facilities, and enforce CAA regulations. States must develop, with public hearings and comment by public/private stakeholders, State Implementation Plans outlining their regulations, programs, and policies resulting in CAA compliance. EPA's Tribal Authority Rule allows tribes to develop air quality management programs and write, implement, and enforce rules to reduce air pollution on sovereign territory. State/local agencies are responsible for all CAA requirements, whereas tribes may develop/implement only those parts of CAA appropriate for their lands.
<b>Clean Water Act (CWA)</b>	EPA, U.S. Army Corps of Engineers	Section 401, regulating pollutant discharges into the waters of the United States, requires State certification of compliance with applicable water quality standards. Federal agencies may not issue permits for activities that may result in discharges into waters of the United States unless the state certifies the activity will comply with state water quality standards or waives certification. Such discharges could occur if construction, maintenance, or abandonment activities involve earth disturbance that might impact waterbodies, or when authorization under CWA Section 404 or Rivers and Harbors Act Section 10 is required.
<b>CWA Section 402</b>	EPA	Section 402 National Pollutant Discharge Elimination System (NPDES) permit are typically required for discharges into wetlands or waterbodies, including state territorial waters and, for the outer continental shelf, discharges from oil and natural gas facilities and supporting pipeline facilities. Construction, maintenance, or abandonment of pipeline facilities may result in such discharges. Depending on location, discharges from oil and natural gas production facilities including supporting pipelines may qualify for a general permit. Most states have authority to implement the NPDES permit program, though the EPA has authority to issue NPDES permits for the outer continental shelf and in some other geographic areas (e.g., states that do not have delegated programs, American Indian or Alaska Native lands).
<b>Coastal Zone Management Act (CZMA)</b>		States with approved CZMA programs review federal authorizations in the coastal zone to ensure they are consistent with the state's program. This determination would be required if the federal authorization of construction, maintenance, or abandonment activities is listed in the state's coastal management plan (or, if it is unlisted, the state identifies it as an authorization requiring a consistency review within 30 days of receiving notice of the application to the federal agency) and may have reasonably foreseeable effects to land or water use within the coastal zone, such as might occur during pipeline removal or related earth disturbance activities.
<b>Endangered Species Act (ESA)</b>	U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Bureau of Land Management, U.S. Forest Service	ESA provides states with financial assistance and incentives to develop programs to comply with the law. Administrative changes to the ESA were recently finalized that may improve clarity and permitting efficiency.

Statute	Lead Federal Agencies	Authority Delegated to States
<b>National Historic Preservation Act (NHPA)</b>	Advisory Council on Historic Preservation	NHPA mandates that states take an active role in preservation and designate State Historic Preservation Officers (SHPOs), who serve as adjuncts to federal authorities and inventory historically significant sites. SHPOs determine whether a project follows Section 106 guidelines and serve as clearinghouses for information and guidance on complying with NHPA and other historic preservation goals.
<b>Pipeline Safety Act (49 U.S.C. 60104(c), 60106(a-b))</b>	Pipeline Hazardous Materials Safety Administration	The Department of Transportation may enter agreement with states to allow states to enforce federal minimum pipeline safety standards in place on intrastate and interstate pipelines; states may enact more stringent regulations than federal safety standards, as long as those standards are compatible with the minimum federal standards, but may not enact regulations that are less restrictive than the minimum federal safety standards.

**Table 3-3. Statutes that Delegate Authorities to States**

review until after the federal review is complete, a project developer is stuck. Herein lies a regulatory dilemma the industry faces. The proposed solution is coordinated and concurrent federal and state reviews.

The challenge to coordinate the federal and state-level review is not new. In 2014, the CEQ and the state of California, Governor’s Office and Planning and Research published a manual to integrate NEPA and the California SEPA analog, the California Environmental Quality Act (CEQA). *NEPA and CEQA: Integrating Federal and State Environmental Reviews*<sup>68</sup> found,

NEPA and CEQA are similar, both in intent and in the review process (the analyses, public engagement, and document preparation) that they dictate. Importantly, both statutes encourage a joint federal and state review where a project requires both federal and state approvals. Indeed, in such cases, a joint review process can avoid redundancy, improve efficiency and interagency cooperation, and be easier for applicants and citizens to navigate. Despite the similarities between NEPA and CEQA, there

are several differences that require careful coordination between the federal and state agencies responsible for complying with NEPA and CEQA. Conflict arising from these differences can create unnecessary delay, confusion, and legal vulnerability.

In its *State Environmental Policy Handbook*,<sup>69</sup> the Washington State Department of Ecology states,

SEPA’s purpose and goals are almost identical but federal agencies may have procedures for environmental review (aside from the list of categorical exclusions) that are not fully aligned with SEPA requirements. The main areas of divergence could include the scope of the review, types of impacts and range of alternatives. SEPA provides an expressed substantive provision that authorizes agencies to deny or condition a proposal based upon the impacts addressed in the environmental documents. (RCW 43.21C.060). This affords agencies and the public with an important purpose and need for SEPA review regardless of the extent of NEPA review established by the lead federal agency.

<sup>68</sup> Executive Office of the President of the United States and State of California Governor’s Office of Planning and Research, *NEPA and CEQA: Integrating Federal and State Environmental Reviews*, February 2014, [http://opr.ca.gov/docs/NEPA\\_CEQA\\_Handbook\\_Feb2014.pdf](http://opr.ca.gov/docs/NEPA_CEQA_Handbook_Feb2014.pdf).

<sup>69</sup> Washington State Department of Ecology, Publication 98-114, *State Environmental Policy Act Handbook*, September 1998, updated 2003, <https://fortress.wa.gov/ecy/publications/documents/98114.pdf>.



Some SEPA reviews reflect their states' heightened standards that result in state standards that are more protective than NEPA review. However, most of the state-level NEPA analogs operate at the same level of authority as NEPA with respect to approving or denying interstate natural gas pipeline projects. Yet, state SEPA reviews can reach different conclusions from the NEPA review which would allow such states to deny (veto) or substantially delay and redesign federally approved projects. In jurisdictions with a SEPA, the finding and recommendation identified in this section also support the recommendation in subsection II.B.4., Agencies Have Multiple Interests.

**Finding:** Some states allow the federal NEPA review to substitute for completion of their program, similar to when federal agencies adopt a lead federal agency's NEPA analysis. In other states, the federal and state reviews must run side by side and the state agencies cannot issue any permits until their state review is completed. As a result, these state programs can add time to a project timeline.

**The NPC recommends** that states should focus SEPA or other environmental reviews on analyses necessary to satisfy state law or delegated federal decisions not required by federal law.

An additional concern is the wide variation in state-level environmental statutes and regulations. Generally, states have adopted environmental policy acts that do not perfectly align with each other or with federal laws and regulation, and it is incumbent on operators to comply with such acts in the construction of their pipeline. This is particularly significant in the case of oil pipelines, where construction is dependent on state-level reviews, as opposed to natural gas pipelines, which do not require state-level permits for construction.

The Environmental Council of the States (ECOS) is a national nonprofit, nonpartisan association of state and territorial environmental agency leaders focused on improving the capability of state environmental agencies to protect human health and the environment.

The Interstate Oil and Gas Compact Commission (IOGCC) is a multistate government agency that champions the conservation and efficient recovery of domestic oil and natural gas resources while protecting health, safety and the environment. Established in 1935, its membership includes the governors of oil and natural gas producing states, as well as appointed representatives.

Two case studies, the Georgia Strait Crossing Project and the Eastern Panhandle Expansion Project, are discussed in two nearby text boxes.

**Finding:** Interstate Oil and Gas Compact Commission (IOGCC) and Environmental Council of the States (ECOS) can convene task groups to address multistate general issues.

**The NPC recommends that:**

- States should consider utilizing ECOS's relationships with state officials and knowledge of the federal process, to facilitate a common agreement between federal and state jurisdictions when there are potential conflicts between a NEPA review and a SEPA review to avoid delay, confusion, and legal vulnerability.
- Industry, a national organization made up of state regulatory agencies such as the IOGCC or ECOS, representatives of local governments and communities, and interested NGOs should collaborate to develop a model master structure for state permitting and coordination of approvals for infrastructure, to provide for efficient collaboration with operators and better coordination with federal agencies.
- States should adopt a single point of contact within a state for permit coordination.

## D. County and Municipal Roles

The role of local governments in regulating oil and natural gas transportation infrastructure differs from state to state depending on how much the state constitution or law delegates authority (home rule) and how active the local government



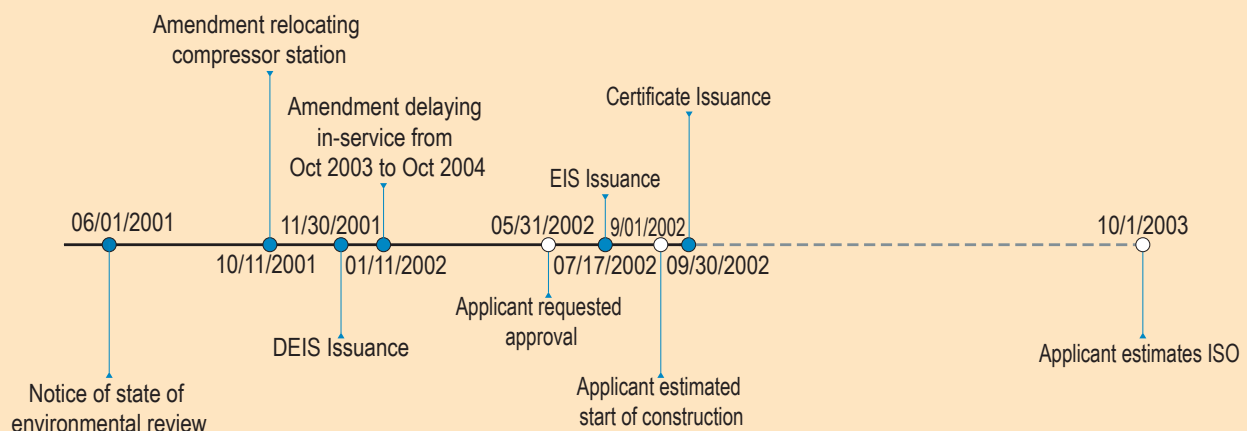
## CASE STUDY: GEORGIA STRAIT CROSSING PROJECT

**A**n example of misalignment between federal and state government project reviews is the Georgia Strait Crossing Project proposed in Washington State. The Georgia Strait Crossing (GSX) Project proposed to transport natural gas from an interconnect at Sumas, Washington to power generation facilities on Vancouver Island, British Columbia, Canada. Contracts were in place with BC Hydro, which proposed to build power plants on Vancouver Island to meet future energy projections. At project initiation, FERC requested Washington State serve as a cooperating agency and conduct a joint review process. FERC's goal was to cooperatively complete a joint review that would satisfy both the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA).

Washington State elected to participate in the project as an intervenor rather than as a cooperating agency. In this role, Washington State reviewed and provided comments to FERC including written comments on the adequacy of the draft environmental impact statement (EIS) and FERC addressed those comments in the final EIS. Once FERC issued the final EIS the state determined the final EIS did not satisfy their requirements under SEPA and that a supplemental EIS would be required before permit decisions could be considered. In Washington State, permit decisions cannot be reached until SEPA has concluded and the public has an opportunity to appeal the SEPA approval. This prohibition

on permit decisions extend to those authorities granted to the state through congressional authorization (Section 401 Water Quality Certification) and federal delegation (Coastal Zone Consistency, Clean Air Act). When one considers the detailed level of analysis, length of time, and investment required to complete the NEPA process and issue a FEIS, this 11th hour decision by the state is catastrophic to the project schedule and economics. Additionally, GSX received a certificate of public convenience and necessity (CPCN) as well as a presidential permit for the international border crossing and any contrary decision by the state through its supplemental process would be in direct conflict with the CPCN and presidential permit.

An important consideration in this example is that the basis of the supplemental EIS was not predicated on a point by point assessment of the state's comments and inadequacies in FERC's FEIS. Instead, the state initiated a third-party contractor selection process and tasked the new contractor with conducting a gap analysis with the goal of establishing the scope of an entirely new and duplicative project review. This new review extended well beyond issues or comments raised by the state during the NEPA process. GSX is an example of a state's ability to use its version of NEPA, and authorities under congressional authorization and federal delegation, to delay or veto federally approved infrastructure projects.



### *Georgia Strait*

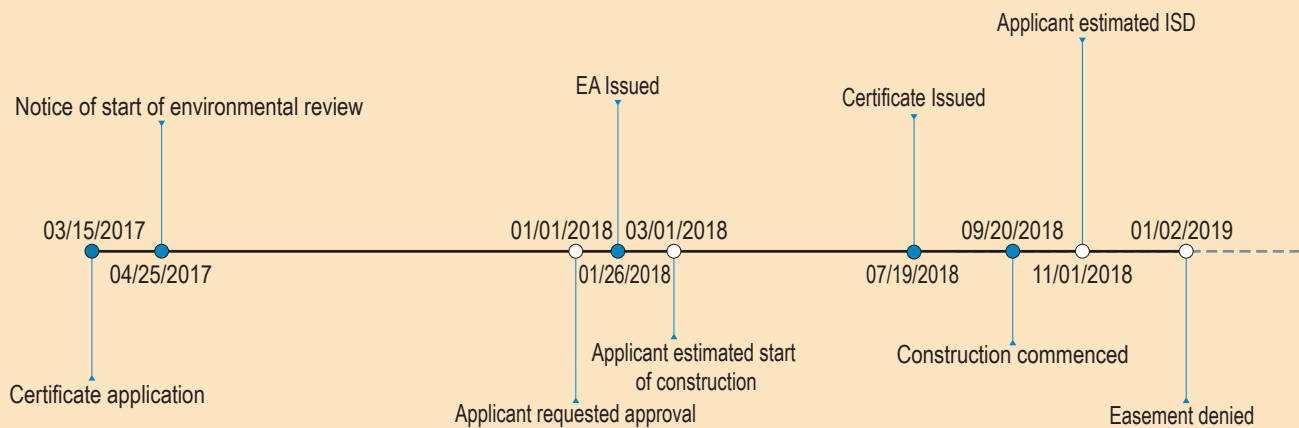
## CASE STUDY: EASTERN PANHANDLE EXPANSION PROJECT

The 3.5-mile Eastern Panhandle Expansion Project was proposed by Columbia Gas Transmission to facilitate the transportation of natural gas from Pennsylvania's Marcellus shale production basin to a growing region of West Virginia to provide fuel for new business development and other uses. The proposed pipeline route traverses through a narrow section of Western Maryland, including passage under a branch of the Potomac River, before reaching its termination point in West Virginia.

The project was approved by the FERC after an exhaustive environmental review and a weighing of project benefits versus impacts under the agency's certificate review policy. In addition to

FERC approval, the project requires the issuance of a right-of-way easement to pass underneath a roughly 20-foot section of land managed by the state of Maryland. Maryland's Board of Public Works denied the easement request due to concerns relating to water quality, despite plans to place the pipeline more than 100-feet below the bed of the Potomac River.

While subsequent litigation and appeals are still ongoing, the Eastern Panhandle Expansion project demonstrates the challenge of permitting interstate energy infrastructure projects that seek to move the energy resources of one state to a region of growing demand in another when both federal and state approvals are needed.



*Eastern Panhandle Expansion Project*

is in enacting relevant policies. Counties and cities may pass local zoning or other ordinances that protect local citizens' safety and the environment. Since the local government provides the first level of response to emergencies, preparedness and response issues are important to local officials, and many infrastructure operators partner with emergency response teams to alleviate such concerns. Local ordinances that may overlap with federal and state law often relate to waters and wetlands crossing. For example, even the smallest municipalities may have zoning, conservation, or wetlands commissions, building officials, or a health officer that have been granted authority to

issue local permits for activities that affect land and water resources.

The rapid increase in oil and natural gas production over the last decade has prompted some local communities to adopt a variety of regulations ranging from outright bans of activities like drilling the well and hydraulic fracturing to requiring special use permits and establishing setback limits. In response, some state legislatures have moved to preempt local regulatory authority, while others have granted local governments even more power to regulate the oil and natural gas industry.

One federal statute that local governments frequently implement in partnership with states is the Clean Air Act, in particular, developing plans to address severe air pollution that violates EPA's National Ambient Air Quality Standards (NAAQS). If an area within a county exceeds EPA's threshold for criteria pollutants (carbon monoxide, lead, nitrogen oxides, particulate matter, ozone, and sulfur dioxide), the EPA may designate it as a "nonattainment area." States then must submit a SIP to the EPA that details strategies and timelines for improving air quality to meet NAAQS standards. Since many of the control measures that can reduce emissions are managed at the local level, local government involvement is critical to the success of SIPs. In Dallas, for example, the city is responsible for air quality monitoring, compliance assessment, and enforcement for the air regulations of the state of Texas.<sup>70</sup> The city conducts technical reviews of any new air pollution source within its boundaries before the state issues an air quality permit.

Specifically, with respect to routine maintenance, repair, and replacement (RMRR), the EPA has not historically considered equipment component replacements that are common across an industry but may only occur once or a few times in the operational life of an emission unit, as routine replacements under the RMRR regulation. Furthermore, a more robust and appropriate definition of RMRR to include replacements that are commonly done with in an industry would avoid burdensome federal air permitting for these scenarios.

To provide a clearer path with respect to federal air permitting, EPA's long-standing process for evaluating project emissions initially looked at project emissions increases only, disregarding decreases in emissions related to the project. Emission decreases from a project were only considered if a facility elected to undertake a cumbersome process to evaluate all emission increases and decreases over a 5-year period to determine the net emissions change at the facility during this period. In March 2018, EPA issued guidance that clarified that project emissions decreases should be considered with project emissions increases

in the initial step of evaluating air permitting requirements for a project.

Another opportunity to alleviate burden in the timing of receiving federal air permits is to limit the types of construction activity that is prohibited prior to issuance of an air permit to only those activities that are on an emission unit. Current practice by state and federal permitting agencies restricts construction of all equipment that is permanent in nature (e.g., buildings, foundations) which unnecessarily extends the timeline for building projects.

The compression of natural gas is discussed in a nearby text box.

While the state air permitting process for new natural gas-fired compressor drivers can typically take from 12 to 18 months, the federal air permitting process can typically take from 24 to 36 months. Due to the complexity of federal air

## COMPRESSION OF NATURAL GAS

**N**atural gas is compressed to move the product through pipelines from supply areas to market. Compressors are driven by either natural gas-fired drivers (i.e., engines and turbines) or by electric drivers (i.e., motors). For a specific project, the selection of compressor driver is based on a variety of factors, such as the availability of reliable electric power, equipment efficiencies, required operating flexibility, environmental impacts, and capital/operations and maintenance costs. Some benefits of natural gas driven compression include the ready availability of fuel onsite, nonreliance on the electrical grid, and lower initial capital costs. Where reliable power is available, benefits of electric motor driven compression may include higher efficiencies, wider operating ranges, and lower maintenance costs, as well as reduced noise impacts and less air emissions generated from the facility. Selection of the compressor driver appropriate for a specific project/location is typically based on evaluation of these types of factors.

<sup>70</sup> Green Dallas website, Air Quality, What is the city doing?, Air Pollution Control Program, <http://greendallas.net/air-quality/city-air-quality/air-pollution-control-program/>.

permitting of natural gas fired sources, especially in ozone nonattainment areas, industry often selects electric motor driven compression as the most expedient solution to getting critical projects into service. However, this increases the interdependency of the natural gas sector to the electric sector, whereby natural gas driven compression would provide a higher level of independence.

Streamlining the air permitting process, while maintaining the goals and outcomes for clean air, could potentially help address some of these timing issues. Possible actions could include improved coordination between state and federal agencies during the air permit application review process, improved certainty regarding emission control requirements, and improved tools for use in the project evaluation process (i.e., air dispersion model improvements). For projects subject to FERC regulation, improved coordination of the air permitting process and the FERC regulatory review process could also improve project certainty and timelines.

A more flexible, streamlined air permitting process would allow companies to more fully evaluate both natural gas driven and electric motor driven compression options. Companies could then select the type of equipment best suited for each specific project and location after considering factors such as cost, life-cycle emissions, and reliability.

Risk assessments must be conducted to account for the region's supply chain vulnerabilities to natural disasters, specifically, exposure introduced by relying solely on the electric grid to power natural gas compression. In the event a natural disaster impacts electricity transmission, natural gas supplies fueling electricity generation may also be impacted, thus potentially curtailing electric power generation. Therefore, the pros and cons of each type of compression system, natural gas-fired or electric-driven, must be considered in totality. A streamlined air permitting and regulatory process placing both compression options on an equal footing would allow stakeholders to make better decisions to meet regional resiliency and reliability needs in a timely manner.<sup>71</sup>

71 National Petroleum Council, *Enhancing Emergency Preparedness for Natural Gas Disasters*, 2014, "Regulatory Streamlining Needed for Natural Gas Compression Permitting," p. 76.

Some local government and states have been delaying or denying permits for projects intended to improve infrastructure that will provide their citizens with improved access to fossil fuel products. For example, restrictions on energy infrastructure by localities include:

#### *Rail Infrastructure*

- Washington State Railcar Vapor Pressure Statute

#### *Terminal or Marine Infrastructure*

- Whatcom County (Washington) Unrefined Fossil Fuels Moratorium
- King County (Washington) Moratorium on Fossil Fuel Terminals
- City of Richmond (California) Proposed Coal Terminal Ordinance
- City of Oakland (California) Rejection of Coal Terminal
- City of Portland (Oregon) Ordinance Prohibiting Fossil Fuel Terminal Growth
- Rodeo (California) Marine Terminal Throughput Limit.

"All politics is local," as former Speaker of the House Tip O'Neill is oft quoted. There are groups and individuals who oppose oil or natural gas development<sup>72</sup> at the local and state level for a variety of reasons. Sierra Club garnered 25,000 members and supporters to submit comments on FERC pipeline guidance.<sup>73</sup> Keep it in the ground is a contributing factor to increased local opposition to infrastructure projects. Another

72 See Western Energy Alliance, "Keep it in the Ground," <https://www.westernenergyalliance.org/why-western-oil-natural-gas/keep-it-in-the-ground>; NRDC, "Stop the Keystone XL Pipeline," <https://www.nrdc.org/keystone-xl-pipeline>; Greenpeace, "Keep it in the Ground (Pipelines & Drilling)," <https://www.greenpeace.org/usa/global-warming/keep-it-in-the-ground/>; and Sierra Club, Michigan Chapter, "Beyond Natural Gas and Oil: Leave Dirty Fuels in the Ground," <https://www.sierraclub.org/michigan/beyond-natural-gas-oil>.

73 Sierra Club, "Public Submits more than 25,000 Comments Demanding to Fix FERC," <https://www.sierraclub.org/press-releases/2018/07/public-submits-more-25000-comments-demanding-fix-ferc>.



example pertains to Keystone XL, which was announced in January 2008 and applied for a presidential permit to cross the U.S. border in September 2008. In October 2008, opponents to Keystone XL publicized its strategy, “It is essential to delay or block approval of pipelines that can deliver the oil to customer refineries in the U.S. and Asia.”<sup>74</sup> Eleven years and three applications for a presidential permit later, Keystone XL project is still not under construction.

However, in the vast majority of permit conflicts between local stakeholders and energy developers the concerns are indeed local in nature and do not involve the global issue of climate change. The predominant concern of local stakeholders includes local environmental impacts on and risks to water quality, inadequate input on project design and decisions, condemnation of land without adequate compensation, and safety.<sup>75</sup> For example, in the conflict over the Trans-Pecos Pipeline, while the climate advocates made headlines, one would be hard-pressed to find a local resident in the region concerned about climate change.<sup>76</sup> Instead, stakeholders felt the project put Texas ranching heritage, hunting and recreational opportunities, tourism, and land conservation at risk. Behind the news headlines, these concerns were at the heart of the conflict.

Examples of where the balance of federal and state powers is pressed by Western states and local governments are the U.S. Constitution’s Commerce and Supremacy Clauses and the 10th Amendment. The Commerce Clause forbids a state or local government from impermissibly discriminating against interstate or foreign commerce. It also forbids states from regulating commerce occurring outside their respective borders. The balance of the constitutional provisions is the

74 Marx, Michael J., “Tar Sands Campaign Strategy 2.1,” October 2008, <https://fairquestions.typepad.com/files/the-tar-sands-campaign-strategy-paper.pdf>.

75 Topic Paper 3-6: “The Aspen Institute Dialogue on Energy Governance: Stakeholder Engagement Best Practices and Recommendations,” Marilu Hastings, George and Cynthia Mitchell Foundation, September 5, 2019.

76 DESMOG, “Critics Say ‘Trickery’ Used to Seize Land, Build Trans-Pecos Pipeline to Mexico without Full Environmental Review,” January 16, 2017, <https://www.desmogblog.com/2017/01/16/critics-trickery-seize-land-build-trans-pecos-pipeline-mexico-without-environmental-review>.

reservation of rights to the states under the 10th Amendment, over areas such as local environmental, health, and community impacts.

Yet, when states and some of the municipalities have blocked certain infrastructure projects, the result stifles interstate and foreign commerce of fossil fuels or their feedstocks.

The Supremacy Clause preempts state and local laws that conflict with, or are otherwise fully occupied by, federal law. One example of the Supremacy Clause in action is the 1995 Interstate Commerce Commission Termination Act, under which the Surface Transportation Board was given exclusive authority to regulate the operation of railroads and a mandate to reduce regulatory barriers. Despite congressional intent to place regulatory power over the railroads in a federal body to ensure a uniform and nationwide system for rail transportation, states and local governments have blocked rail infrastructure projects in their geographic regions by lawsuits that claim loopholes exist in the preemptive intentions of Congress.

## **E. Examples of Energy Infrastructure Projects Delayed, Denied, or Cancelled**

The following list, which is from public information<sup>77</sup> and is not exhaustive, identifies energy infrastructure projects that have been delayed or denied or cancelled by project proponents, with geographies and, where available from public sources, the reason for the delay, denial, or cancellation being noted. Even if all projects had been timely permitted, it is not certain that all the infrastructure would have been built:

- Anacortes rail project (Washington state, cancelled by project proponent after litigation and change in economics)
- Benicia rail project (California, condition use permit denied by city council)

77 Inside Climate News, “It’s Not Just Dakota Access. Many Other Fossil Fuel Projects Delayed or Canceled, Too,” December 5, 2016, <https://insideclimatenews.org/news/06052016/fossil-fuel-projects-cancellations-keystone-xl-pipeline-oil-coal-natural-gas-climate-change-activists>.



- Constitution Pipeline (Pennsylvania to New York, state denied water quality permit)
  - Dakota Access Pipeline (North Dakota, South Dakota, Iowa, Illinois, permit delay)
  - Gateway Pacific Terminal (Washington, permit denied)
  - Jordan Cove LNG (Oregon, permit denied)
  - Kalama Manufacturing and Marine Export Facility (Washington, permit delays)
  - Keystone XL Pipeline (Montana, South Dakota, Nebraska, permit denial and delays)
  - Line 3 Pipeline (Minnesota, permit delay)
  - Line 5 Pipeline (Wisconsin, Michigan, Ontario, litigation by State of Michigan)
  - Mariner East 2 (Ohio-Pennsylvania-West Virginia, permit delay)
  - Millennium Bulk Terminal-Longview (Washington, permit denied)
  - Mountain Valley Pipeline (West Virginia-Virginia, permit delay and litigation)
  - Penn East Pipeline (Pennsylvania-New Jersey, permit delay)
  - Port Ambrose LNG project (New York-New Jersey, New York Governor denied permit)
  - Port Westward Terminal (Oregon, permit delay)
  - Puget Sound Terminal expansion (Washington, permit delay, local moratorium on new fossil fuel infrastructure)
  - Rodeo Propane Recovery Project (California, permit delay)
  - Rodeo Marine Terminal Throughput Limit (California, permit delay)
  - Santa Barbara Pipeline (California, permit to repair pipeline delayed)
  - Santa Maria rail project (California, permit denied)
  - Sweden Valley Pipeline (Ohio, Pennsylvania, project proponent cancelled project due to regulatory agency delay)
  - Tacoma Methanol Project (Washington, permit delay)
  - Valley Lateral Pipeline (New York, state water quality permit denied)
  - Waterside Energy Oil Terminal (Washington, permit denied)
  - Waterside Energy Propane Export Terminal (Washington, permit denied)
- The following are projects that were also delayed or cancelled. The factors that contributed, however, are not readily available:
- Atlantic Coast Pipeline (West Virginia-Virginia-North Carolina, project delayed)
  - Atlantic Sunrise Pipeline (Pennsylvania – Maryland, project delayed)
  - Bluegrass Pipeline (Kentucky, project proponent cancelled)
  - Contanda Gray Harbor Terminal (Washington, crude oil project cancelled)
  - Grays Harbor project (Washington, project cancelled)
  - Grays Harbor Rail Terminal (Washington, project cancelled)
  - Northeast Energy Direct (Pennsylvania-New York-Massachusetts, project cancelled due to insufficient number of customers)
  - Northern Access Pipeline (Pennsylvania-New York, state denied water quality permit)
  - Northwest Innovation Works methanol plant (Washington, project cancelled)
  - Oregon LNG company (Oregon, project cancelled)

- Palmetto Pipeline (South Carolina-Georgia-Florida, project cancelled)
- Targa Oil Terminal (Maryland, project cancelled)
- WesPac Energy Terminal (Washington, project cancelled)

Topic Paper 3-2, “Lessons Learned: Case Studies of Select Infrastructure Projects,” details lessons learned from a few projects that experienced permitting challenges across various modes of infrastructure, pipeline, terminals, and railroads.

Delays come with costs, and multiple factors influence delay. Wood Mackenzie tracks natural gas pipeline permitting, the extent of and cause of any significant delays. The 2019 report analyzed natural gas pipelines since 2014, finding one-half of natural gas pipeline capacity has been delayed, affecting at least \$36 billion in capital expenditure.<sup>78</sup>

Wood Mackenzie identified several reasons for and steps in the permitting process where project delays arise: commercial financial interests, federal permits, state/local permits, right-of-way procurement, and construction, with delays concentrated in state/local jurisdictions. It found statistically significant correlation of a project’s delay with an East Coast location, longer pipeline length, and fewer end user shippers on a proposed pipeline. Wood Mackenzie’s analysis concludes that pipelines with end-user support fare better than producer-pushed projects, possibly because such projects tend to be smaller and more focused on customer demand.

Efforts are underway to reduce the risk of project delay. For example, EPA is examining steps it can take to ensure that states stay within the bounds of their authority. Additionally, regional transmission (power) system operators, including PJM and ISO-NE, are taking some steps to improve power generators’ ability to recover costs associated with contractual pipeline commitments; those steps provide market signals for power generators to

take actions that improve their willingness to support pipeline expansions. Further encouraging market-based approaches can provide the right incentives for end-user shippers to make longer-term commitments. Topic Paper 3-3, “Gas/Electric Coordination and Natural Gas Pipeline Deployment,” discusses end-user support pertaining to natural gas-fired power plants.

**Finding:** State and local policies, state denials of infrastructure projects, and state restriction of movement of particular forms of energy fragment the infrastructure network. Fragmentation has significant consequences on interstate commerce by restricting the ability of one state to obtain or transport energy from one state to another. Solutions are inherently political, difficult, and complex.

**The NPC recommends** that to mitigate negative impact on interstate commerce, all levels of government should have constructive dialogue, through forums like the former Advisory Commission on Intergovernmental Relations, about the overall economic benefits from the nation’s energy resources while effectively engaging stakeholders and minimizing local impacts and risks.

Additionally, the NPC recommends that the Federal Energy Regulatory Commission, in consultation with the U.S. Department of Energy, North American Energy Standards Board, market participants and stakeholders, should continue to study and advance policy updates that alleviate current impediments to contracting and infrastructure expansion between natural gas-fired power plants and pipeline operators.

## F. American Indians and Alaska Natives

Tribal Nations have sovereign rights and are uniquely important in the permitting, construction, and operation of energy infrastructure. Improving tribal economic development and job creation can be facilitated through the energy infrastructure permitting and siting process. Strengthened relationships, consultation,

<sup>78</sup> Wood Mackenzie, “How to Delay a US Pipeline,” April 10, 2019, <https://www.woodmac.com/reports/gas-markets-how-to-delay-a-us-gas-pipeline-295971>.

engagement, and cooperation among the U.S. government, tribal governments, their people, and industry are essential.

There are 573 federally recognized tribes and Alaska Native villages in the United States.<sup>79</sup> The United States has a trust obligation to the tribes requiring the federal government to administer many functions related to land management on behalf of tribes and grants sovereign nation status to tribes. The federal government must therefore engage in consultation with American Indians and Alaska Natives on a nation-to-nation basis during the planning and review of oil and natural gas transportation projects, including the NEPA process. Consultation is “an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory processes that have tribal implications.”<sup>80</sup>

Federal agencies consult with tribes based on the role of the agency in the permitting process as well as “an infrastructure project’s potential effects on tribes’ lands, treaty rights, or other resources or interests.”<sup>81</sup> Consultation practices differ across agencies, creating difficulties in coordinating across agencies involved in infrastructure decisions, but also contributing to confusion on the part of tribes on the process. Tribal concerns with infrastructure development, and the consultation process are discussed further in section IV, Permitting Process by Mode and Activity, on stakeholder engagement.

Project developers seeking to site oil and natural gas infrastructure on tribal lands interact not only with the tribe but with the federal agencies charged with executing the trust obligation. Within the Department of Interior, four separate agencies, including the Bureau of Indian Affairs (BIA) and BLM, may have some authority in issuing a permit for energy development.

BIA, as the responsible surface management agency for Indian lands, often takes the lead in

reviewing the NEPA analysis, though the analysis is reviewed by multiple agencies, and the public is provided opportunities to provide comment on the analysis. In addition, American Indian or Alaska energy development is subject to National Historic Preservation Act requirements and, under some circumstances, requires an ESA consultation with USFWS.

According to the BLM, in fiscal year 2015, the most recent year for which data are available, wells on federal and Indian lands were responsible for providing 11% of the natural gas and 7% of the oil used in the United States. BLM also oversees oil and natural gas operations on 56-million acres of Indian lands.<sup>82</sup>

Tribes also report difficulty in navigating the federal regulatory framework. For example, in 2014, the acting chairman for the Southern Ute Indian Tribe reported that BIA’s review of some of its energy-related projects took as long as 8 years. Specifically, as of April 30, 2014, the tribe had been waiting for at least 5 years for BIA to review 81 pipeline rights-of-ways (ROWs) agreements—11 of the 81 ROW applications had been under review for 8 years. According to the official, had these ROW applications been approved in a timely manner, the tribe would have received revenue through various sources, including tribal permitting fees, oil and natural gas severance taxes, and royalties. The official noted that, during the period of delay, prices for natural gas rose to an historic high but had since declined. Therefore, the official reported that much of the estimated \$95 million in lost revenue will never be recovered by the tribe.<sup>83</sup>

Project developers must also obtain landowner permission along the route of linear energy infrastructure. On American Indian or Alaska Native lands, tenure history is another complicating factor in siting energy infrastructure. The U.S. government may hold the legal title to trust lands for

79 U.S. Department of the Interior, Indian Affairs, “About Us,” <https://www.bia.gov/about-us>.

80 U.S. Government Accountability Office, “Tribal Consultation: Additional Federal Actions Needed for Infrastructure Projects,” March 2019, GAO-19-22.

81 Ibid.

82 Government Accountability Office, “Oil and Gas Wells Bureau of Land Management Needs to Improve Its Data and Oversight of Its Potential Liabilities,” Report to Congressional Requesters, May 2018, GAO-18-250.

83 Government Accountability Office, “Indian Energy Development: Poor Management by BIA Has Hindered Energy Development on Indian Lands,” June 2015, GAO-15-502.

the benefit of the entire tribe, or it may hold the title to individual trust lands. Fee-simple lands within reservations are owned by individuals who hold the title directly; these are often in-holdings owned by non-Indians. When individual trust lands are inherited by multiple heirs, ownership becomes fractured, and any decisions about infrastructure siting must be approved by all heirs, of which there may be hundreds or even thousands.<sup>84</sup>

Tribal communities note a tendency for pipeline companies to intentionally avoid routes that traverse Indian reservations. Developers may perceive the bureaucratic hurdles associated with obtaining permits and easements on Indian lands to be more costly and take longer than routing a pipeline around tribal lands.

Topic Paper 3-4, “Expanding Government’s Role in Educating Tribal Governments on Pipeline Projects,” discusses opportunities for the DOE to enhance, educational programming related to oil and gas infrastructure development with Native American and Alaska Native tribes which would allow the energy infrastructure industry to work more effectively with tribal governments.

Topic Paper 3-5, “The Impacts that NAGPRA has on Energy Development,” provides background on the Native American Graves Protection and Repatriation Act (NAGPRA) and recommendations for improvement in government and Native American and Alaska Native tribal relations.

### III. PUBLIC ENGAGEMENT FOR INFRASTRUCTURE PROJECTS

While construction, mitigation, or maintenance is occurring, infrastructure projects have the potential to cause disruption in communities through which they are sited and negative economic and environmental impacts for landowners impacted by pipelines crossing their property. For instance, in Gillespie County, Texas, a vineyard and winery owner was in the process of

planting the last section of his vineyard when he was notified that a pipeline would be put through this part of his property. He has lost the economic value of the vineyard as well as the capital he had already invested in the planting.<sup>85,86</sup> In another case, a home developer had been awarded municipal permits to develop a new neighborhood on a tract of land he owns. Again, he was notified by mail that the pipeline would be placed through this platted neighborhood. He was unable to complete the development and has lost the economic value of his property.<sup>87,88</sup>

When agricultural land is taken out of production during construction and mitigation, farmer’s livelihoods are impacted. During listening sessions with agricultural interests from Ohio, Pennsylvania, and South Dakota<sup>89</sup> and surveys conducted in western states, the economic impact of pipeline construction was expressed. Topsoil may be removed and/or compacted by heavy machinery, taking years to get back to its original productive state. Damage to subsurface tiles and, erosion and slippage were economic concerns.

An industry best practice, and requirement of a FERC-regulated pipeline,<sup>90</sup> is to segregate topsoil during construction and replace during backfill. Project sponsors monitor right-of-way post construction to rectify any issues.

Nonetheless, little data exist on quantifying the economic impact of improved landowner discussions or engagement for development of energy

<sup>84</sup> Regan, Shawn, “Unlocking the Wealth of Indian Nations: Overcoming Obstacles to Tribal Energy Development,” PERC Policy Perspective No. 1, February 2014, ISSN 1094-655, <https://www.perc.org/wp-content/uploads/old/pdfs/IndianPolicySeries%20HIGH.pdf>.

<sup>85</sup> Interview, David Braun, August 13, 2019.

<sup>86</sup> Fredericksburg Standard, “Tempers Flare at Pipeline Meetings,” February 27, 2019, <https://www.fredericksburgstandard.com/news/tempers-flare-pipeline-meetings>.

<sup>87</sup> Interview, David Braun, August 13, 2019.

<sup>88</sup> Community Impact Newspaper, “Hays County, Kyle, landowner lawsuit against railroad commission questions pipeline oversight,” May 20, 2019, [https://communityimpact.com/austin/san-marcos-buda-kyle/editors-pick/2019/05/20/hays-county-kyle-landowner-lawsuit-against-railroad-commission-questions-pipeline-oversight/?fbclid=IwAR23SiSdL8WXjKjRuQR3cYvhrffx8o7Jyfhkv\\_1lXOqwuh3n\\_f0jugZVZi0](https://communityimpact.com/austin/san-marcos-buda-kyle/editors-pick/2019/05/20/hays-county-kyle-landowner-lawsuit-against-railroad-commission-questions-pipeline-oversight/?fbclid=IwAR23SiSdL8WXjKjRuQR3cYvhrffx8o7Jyfhkv_1lXOqwuh3n_f0jugZVZi0).

<sup>89</sup> NPC Infrastructure Agriculture/Community Outreach Meeting, November 16, 2018, hosted by National Petroleum Council, Washington, DC, and by Webex to Ohio, South Dakota, and Pennsylvania.

<sup>90</sup> Upland Erosion Control, Revegetation, and Maintenance Plan, <https://www.ferc.gov/industries/gas/enviro/guidelines/upland-pocket-guide.pdf>.



infrastructure siting and permitting; however, a study is underway at the Ohio State University, expected in 2020.

Disruption in communities and to landowners can last for years so, public input, effective stakeholder engagement, and developer transparency are critical to successfully siting and operating energy infrastructure. Public input and stakeholder engagement vary, as to both extent and effectiveness. Many articles on community engagement and suggested best practices have been published.<sup>91</sup> It can be difficult to come up with one structure of engagement that is effective for all communities because each has its own values, concerns, and stakeholder interests. However, there are common features of effective community engagement that are identified as best practices for industry to follow (see the Best Practices for Stakeholder Engagement discussion later in this section) beyond engagement that is currently required by the regulatory processes toward a commitment to engagement best practices.

A critical element to the successful siting and operation of future energy infrastructure involves engagement and increased awareness among all stakeholders. Throughout the history of infrastructure development there have been episodes of failures and successes; realizing future opportunities in successful stakeholder engagement is essential to addressing concerns, mitigating impacts, and ultimately economic development, job creation, and continued reliable and affordable energy.

<sup>91</sup> See, e.g., Federal Energy Regulatory Commission, *Suggested Best Practices for Industry Outreach Programs to Stakeholders*, July 2015, <https://www.ferc.gov/industries/gas/enviro/guidelines/stakeholder-brochure.pdf>; Association of Oil Pipelines, Association Information Bulletin, “Corporate Social Risk Management & Reporting,” <http://www.aopl.org/wp-content/uploads/2017/11/AOPL-Information-Bulletin-CSRM.pdf>; Dorobantu, S., and Flemming, D., “It’s Never Been More Important for Big Companies to Listen to Local Communities,” *Harvard Business Review*, November 10, 2017, <https://hbr.org/2017/11/its-never-been-more-important-for-big-companies-to-listen-to-local-communities>; Tisha Schuller at The Breakthrough Institute, <https://thebreakthrough.org/people/tisha-schuller>, and Adamantine Energy, <https://energythinks.com/>. Topic Paper 3-6: “The Aspen Institute Dialogue on Energy Governance: Stakeholder Engagement Best Practices and Recommendations,” Marilu Hastings, George and Cynthia Mitchell Foundation, September 5, 2019.

A project developer will receive the legal license to proceed with the construction and operation of a project by successfully navigating the regulatory processes described in this section. However, public support or acceptance is another aspect. Regulatory processes at all levels of government provide opportunities for stakeholders to provide input to the process, recognizing the importance of public involvement in and transparency of regulatory decisions. Social acceptance by communities in which the projects are located can influence whether a project goes forward or gets delayed. Agencies and project developers sometimes develop proactive strategies for identifying and communicating with stakeholders to educate them on the details of the project, alert them on where and how to participate in the process, and identify and address their concerns early. However, in some states, like Texas, there is no requirement for private companies to conduct stakeholder engagement activities or notices prior to development. In a recent case that was dismissed against the Texas Railroad Commission and the project developer, the judge wrote “The Court is concerned with a power that, when exercised by a government entity, must be done in the harsh light of public scrutiny of open meetings and public notice, but, when exercised by a private entity, may be determined without public notice by a select few driven primarily by their financial interests.”<sup>92</sup> Some companies undertake voluntarily stakeholder engagement. Balance in practices would benefit energy infrastructure development.

To be able to provide reliable and affordable energy for decades to come, industry must do better by moving beyond outreach that is currently required by the regulatory process to a commitment to use best practices in community engagement.

**Finding:** Successful infrastructure projects depend upon early, effective, and continuous stakeholder engagement and collaboration. Following this model can lead to positive outcomes for partner communities, project sponsors, and consumers.

<sup>92</sup> KXAN News, “Judge dismisses lawsuit related to pipeline planned to run through parts of hill country,” June 26, 2019, <https://www.kxan.com/news/judge-dismisses-lawsuit-related-to-pipeline-planned-to-run-through-parts-of-the-hill-country/>.

**The NPC recommends** that industry should adopt community engagement best practices to enhance outreach and to raise prospects for successful project permitting and implementation. In states where stakeholder engagement requirements are lax, companies should take a voluntary approach to implement best practices.

## A. Soliciting Public Input to the Regulatory Process

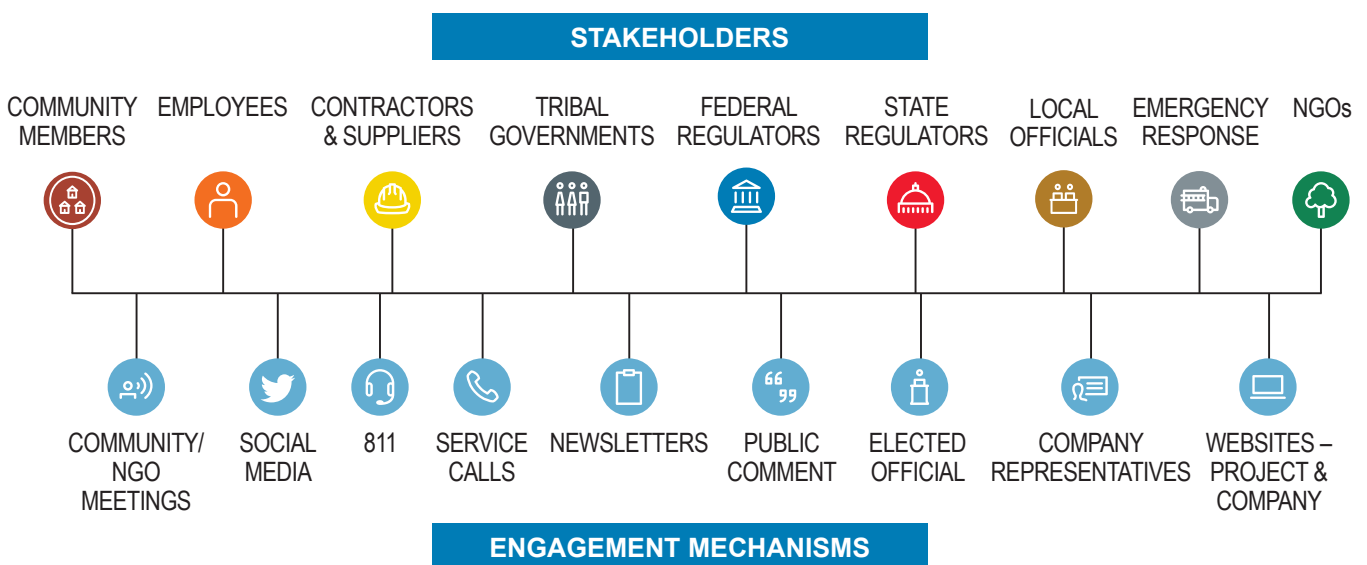
Public input solicitation and comment procedures are integral to each of the regulatory agencies’ guidelines at the state and federal level. For example, written comments are solicited by FERC and other agencies when changes to regulations and/or procedures are proposed. FERC’s solicitation of public comments in 2018<sup>93</sup> provided an opportunity for interested parties to respond. The Ohio Farm Bureau Federation (OFBF) stated: “We understand that FERC seeks information and stakeholder perspectives to help determine if and how it should revise its approach on certification of new natural gas transportation facilities as established in Section 7 of the Natural Gas

Act.”<sup>94</sup> The OFBF responded with input on issues important to rural land owners, communities, and agricultural producers including the need for agricultural mitigation plans, coordination with state and local agencies, environmental, and economic concerns that impact long-term farm productivity and suggested improvements to the commission’s review process. Comments and input are also solicited by FERC during public comment meetings (scoping meetings) held in the community in which the infrastructure is to be located. Industry and FERC representatives participate in sharing infrastructure plans and responding to stakeholder concerns and suggestions. These sessions alone often do not effectively address stakeholder concerns and can result in increased fear, mistrust and more intense pushback by the community if residents/stakeholders believe their concerns are not taken seriously or are ignored. The variety of stakeholders is illustrated in Figure 3-8.

Because of the prolific shale discoveries in the past decade, the natural gas industry has experienced a period of significant growth. This growth, along with increased public awareness of FERC’s review process and heightened controversy over pipeline projects, has resulted in greater public involvement in the development and siting of

93 Notice of Inquiry, Docket #PL 18-1-000.

94 Ohio Farm Bureau Federation, 2018.



**Figure 3-8. Types of Stakeholders**

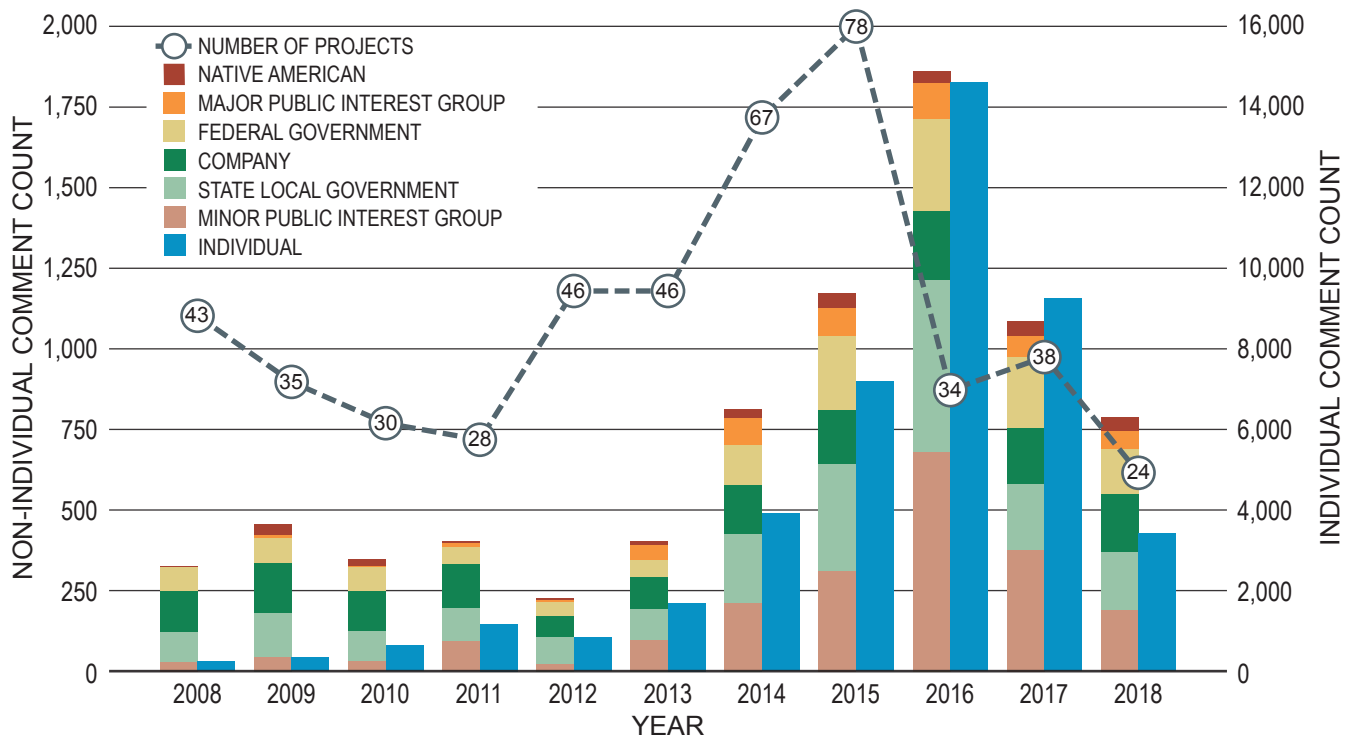
natural gas facilities. As a result, the staffs of FERC and other federal, state, and local agencies have become increasingly interested in providing guidance for stakeholder involvement both within and outside the agencies. FERC has addressed this issue, in part, by organizing and attending conferences, seminars, public meetings, and workshops designed to explain and explore issues related to siting natural gas projects. In addition, FERC routinely works with the project sponsors and stakeholders to identify and resolve issues prior to the filing of an application through use of FERC’s pre-filing process.

Commenter involvement at FERC is illustrated in Figure 3-9. Data includes total comments, or submittals with the “Comments/Protest/Comment on Filing” class/type, filed at FERC during a Certificate Proceeding or pre-filing review where the year is defined by the filing date.

The pre-filing process provides an opportunity and a means for FERC’s staff to involve the public early. Pre-filing is intended to reduce the time it takes to develop the record on which the FERC

makes its decision while ensuring the highest levels of environmental protection and public participation. Some companies have embraced this idea and established model programs, while other companies have yet to implement a stakeholder outreach program. Consequently, there is variability among companies’ outreach programs—some well-established and others less robust as to how they plan for and execute outreach on individual projects. FERC met with some of the companies with well-established stakeholder outreach programs to review how they plan for and execute outreach on individual projects. FERC combined the results of those discussions with its own experience to identify some of the best practices for stakeholder outreach.<sup>95</sup> FERC combined the results of those discussions with its experience to identify some of the best practices for stakeholder outreach. The purpose of the FERC Best Practices is to highlight the actions FERC believes project developers can use to effectively engage stakeholders

<sup>95</sup> Federal Energy Regulatory Commission, *Suggested Best Practices for Industry Outreach Programs to Stakeholders* (“FERC Best Practices”), July 2015, <https://ferc.gov/industries/gas/enviro/guidelines/stakeholder-brochure.pdf>.



Source: LawIQ prepared for this NPC study.

**Figure 3-9.** Commenter Involvement at FERC

in the application process for siting, construction, and operation of interstate natural gas facilities and LNG terminals.

FERC Best Practices identified five attributes of successful stakeholder outreach programs:

- Senior management support
- Integrate the thoughts and ideas of the entire project development team
- Training programs for project staff
- Engage and educate stakeholders, including permitting agencies and potential opponents about the industry, as well as the project
- Utilize technology (e.g., graphic information systems, database management systems, and interactive web-based tools) to manage and document stakeholder interactions.<sup>96</sup>

During the FERC pre-filing process infrastructure developers and agencies notify all applicable stakeholders—including state, local, and other federal agencies and potentially affected property owners—about a proposed project so that the developer and agency decision-makers can provide a forum to hear stakeholder concerns.

Project developers utilize different means of engaging stakeholders, such as informational meetings and open houses, as part of the company's community outreach program in FERC's pre-filing process in the vicinity of the proposed project area to share information about its project with the public. Additionally, FERC sponsors public hearings and scoping meetings in the project regions and states as another opportunity for public involvement. Property owners near an infrastructure route or asset, and other stakeholders, can provide detailed comments either in favor of or in opposition to the project, or about issues pertaining to their properties. Many agencies require one or more public meetings for more complex projects. There is no single format for public meetings. Most agencies have town-hall style public meetings where a limited number of people—usually chosen either first come, first served or by lottery—stand at a microphone and speak. FERC has

recently revised the format enabling one-on-one interactions to address concerns. The open house format can result in positive interaction with interested parties but, where there is a high degree of controversy, it can also result in grandstanding and can limit both the number of speakers and the ability of other members of the public to have a dialog with agency personnel. Also, people for whom English is a second language or who are uncomfortable with public speaking may be more comfortable with the one-on-one process.

The Administrative Procedures Act, NEPA, SEPA, and many agency regulations require consultation with stakeholders at various stages of project development. At the federal level, each agency has its own implementing procedures, including for public review of documents and comment periods. However, there are some general steps that stakeholders can expect through the decision-making process.

Once a permit application has been filed, agencies conduct public meetings, where citizens can attend in person and make comment. When an agency publishes a draft EA or EIS there is a minimum of 45 days for the public to comment on the document. Agency regulations differ as to the level of outreach required to solicit comments. Some agencies allow electronic comments and ensure all documents are available on their websites. Other agencies require hardcopy documents to be placed in public libraries and accept comments by mail. However, there is no single, government-wide standard that indicates what outreach is necessary or how comments should be accepted. Agencies' variation in formats and means of communicating with stakeholders can create confusion.

### ***Findings:***

- Public notice and awareness of energy infrastructure projects would be enhanced if there were a consistent, easy-to-use website and hearing format that accommodated English and non-English speaking stakeholders.
- Agencies have different public meeting formats.

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<sup>96</sup> Ibid.



### ***The NPC recommends that:***

- The lead federal agency needs to have a consistent and inclusive public comment process with full transparency of scoping meeting locations, dates, maps, timelines, etc.
- CEQ should update guidance for agencies to develop a simple, intuitive, easy to understand and use format for public involvement in infrastructure project permitting, public hearings, and notice and comment stages.

## **B. Engagement with Community and Stakeholders**

Moving beyond threshold requirements to inform and solicit stakeholder input entails effectively engaging the community by creating long-term relationships that can help to meet both company and community goals in a collaborative manner.

### **1. Community Engagement**

The legal license to operate is issued by a permitting agency, such as FERC, to an energy company upon successfully navigating the regulatory requirements and processes. Social license to operate is important but less well defined and not regulated; it is also neither a veto nor unanimity standard. Effective community engagement to develop and maintain public support helps a company ensure its customers keep buying their products, employees stay engaged, and regulators do not start introducing new regulations or penalties. They are similar in that both must be obtained by the company, and the lack of either can prevent a project from moving forward. It is essentially a risk management issue.

Lack of community engagement can result in negative public input to the regulatory agency, protests, or litigation to challenge an agency ROD. Public support is influenced by the company's approach to and quality of interaction with residents and stakeholders. The editor of the *Oil and Gas Journal* has written: "License to operate means not just legal permission to perform specific work but social sanctions for business activity.

Judgments about it are rendered not in courts of law, but in the much less well defined yet often more potent court of culture."<sup>97</sup> And these judgments are made more quickly and spread more rapidly than ever before with the plethora of social media and viral videos that can be instantly uploaded and distributed globally.

The public's perception of an energy company and how it operates, both within and outside of the community, can lead to either acceptance and approval or ongoing controversy and conflict. In the energy industry one energy company's behavior influences the public's perception of the entire industry. So, if one company does not take local community and stakeholder concerns and issues seriously and does not address them honestly and expeditiously, that company's missteps influence public opinion for all companies within the energy industry, including infrastructure providers.<sup>98</sup> "Regulators and industry representatives who have an interest in community support and public experience can take several points..." from a study of farmers and ranchers published in 2019. As an example, one of these points is: "agents of industry and subcontractors that interact with farm and ranch operators have a substantial influence on its (the industry's) reputation."<sup>99</sup> A former manager of stakeholder relations said that social license is "tantamount to Relationship 101," and states that the risk of a shale resource remaining undeveloped is "not for a lack of legal license, but for lack of growing, earning, and maintaining a social license."<sup>100</sup>

Many companies have demonstrated models, through their intentional actions, of successful

97 Tippee, B., "It's time for a fresh look at the license to operate," *Oil and Gas Journal*, April 26, 2010.

98 Hastings, M. "A New Operational Paradigm for Oil Operations in Sensitive Environments: An Analysis of Social Pressure, Corporate Capabilities and Competitive Advantage," *Business Strategy and the Environment*, 1999, 8 (5).

99 Haggerty, J., Smith, K., Weigle, J., Kelsey, Walsh, K., Coupal, R., Ksay, D., and Lachapelle, P., "Tradeoffs, balancing, and adaptation in the agriculture-oil and gas nexus: Insights from farmers and ranchers in the United States," *Energy Research and Social Science*, 2019, 47, 84-92.

100 Smith, D., and Richards, J., "Social license to operate: Hydraulic fracturing-related challenges facing the oil & gas industry," *Oil and Gas, Natural Resources, and Energy Journal*, 2015, 1 (2), p. 81, <http://digitalcommons.law.ou.edu/cgi/viewcontent.cgi?article=1006&context=onej>.

best practices for community engagement (see subsection III.E, Best Practices in Community and Stakeholder Engagement). These companies understand that best practices must exceed the input gathering and public comment solicitation process by striving to engage stakeholders, as early as possible, in the planning and siting of infrastructure projects. These companies also seek to understand and respect the culture, norms, and concerns of each local community, communicate with local stakeholders effectively by tailoring their methods to the unique needs of their local audiences, and validate stakeholder concerns through respect and empathy. The desired goal of best practices in engaging community is to create an environment in which trust exists and the community comes to support and even promote the infrastructure development.<sup>101</sup>

Stakeholders who participate in the siting and permitting process for oil and natural gas transportation infrastructure have a wide range of interests in the outcome of the project. In addition to state and local government officials, federal and state legislators are also important stakeholders who can exert influence on agency siting and permitting decisions through oversight and budgetary measures. Private citizens may include affected landowners, farmers and ranchers, small business owners, and local community leaders—both governmental and nongovernmental.

Local and national public interest groups, or nongovernmental organizations (NGOs), advocate for several issues, including the environment, historic preservation, and public safety. They may comment on a proposed pipeline project during, for example, the NEPA process or any state processes that include public comment periods. NGOs must have standing to participate in rulemakings, permit applications, and agency decision-making, and to sue to challenge an agency ruling on a permit decision. Standing requires that an NGO demonstrate “injury-in-fact” to one of its members, causal connection between the injury and the conduct complained of, and that the injury can

be redressed by a favorable decision in the case.<sup>102</sup> There is a wide range of NGOs, covering myriad concerns and interests, with diverse membership bases. Federal agencies maintain databases of potential stakeholder organizations and contact information for the NEPA process.

Because of their sovereign status, American Indian and Alaska Native interests, concerns, and feedback are discussed subsection III.D, American Indians and Alaska Natives and Government-to-Government Consultation.

### C. Stakeholder Feedback

Stakeholders regularly express concerns about the siting, permitting, construction, operations, and maintenance of pipelines, rail, LNG facilities, and other facilities to transport and store oil, gas, and NGLs for a variety of reasons. The study group held several listening sessions with public interest groups, private citizens, and local government representatives. The study group also reviewed public comments submitted by these groups on infrastructure projects, as well as the experiences related by study group members, including companies, American Indians and Alaska Natives, academia, and public interest groups. Categorization and summaries of this feedback are noted in the following section and include environment and safety issues, nuisance concerns, and land and habitat impacts. Climate change is another concern for a broad range of stakeholders, many of whom are raising carbon emissions and the impacts of global warming in challenges to infrastructure decisions in regulatory and legal proceedings.

If the necessary stakeholder engagement is not effectively implemented early in project development, delays and costs can be incurred. Engagement is critical for regulators and industry because they bear the primary responsibility for the ultimate decisions on how, where and whether energy development takes place. To establish and maintain a social license to operate requires balancing economic interests with best business practices and operating procedures in the community context where projects occur. Failure to establish effective stakeholder engagement processes

<sup>101</sup> American Petroleum Institute, “Community engagement guidelines,” *ANSI/API bulletin 100-3*, 2014, <http://www.api.org/oil-and-natural-gas/wells-to-consumer/exploration-and-production/hydraulic-fracturing/community-engagement-guidelines>.

<sup>102</sup> *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992).

can lead to increased tensions and conflict among stakeholders, as well as hamper industry's social license to operate.<sup>103</sup> If a company or industry loses this social license, the legal license to operate can be jeopardized over the medium to long term. For instance, in the recent Texas legislative session, a bill to increase oversight and regulation of pipeline projects in Texas was defeated by industry. Legislators are hearing from constituents about their concerns, and this may result in legislative action in subsequent sessions. Recommendations on improving and ensuring mutually valuable, multidirectional stakeholder engagement that creates value for all parties is provided in this report.

## 1. Environment, Public Health, and Safety Concerns

### a. *Public Health and Safety*

Stakeholders frequently cite fears that the development of energy transport infrastructure, from pipelines to rail and other facilities, will pollute ground and surface water, impacting drinking water supplies, air quality, and aquatic habitat. A concern for stakeholders is the possibility of pipeline failures, either slow leaks, large spills, or explosions, as well as derailments and truck accidents that release product. These concerns are heightened by recent high-profile incidents involving natural gas explosions in residential areas in San Bruno, CA, in 2010, and just outside of Boston, MA, in 2018. PHMSA reported 288 significant events involving pipelines in 2018 with fatalities, injury requiring in-patient hospitalization, unintentional release of gas of 3 million cubic feet or more, emergency shutdown of an LNG facility or an underground natural gas storage facility, highly volatile liquid release of 5 barrels or more of product or other liquid release of 50 barrels or more, liquid release resulting in unintentional fire or explosion, or monetary loss of \$50,000 or more in total costs.<sup>104</sup>

103 The Aspen Institute, "Principled Governance of Shale Resources: The Aspen Institute Dialogue Series on Energy Governance," May 2019, <https://www.aspeninstitute.org/publications/principled-governance-of-shale-resources/>.

104 Pipeline and Hazardous Materials Safety Administration, "Pipeline Incident 20 Year Trends," November 1, 2018, <https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-incident-20-year-trends>.

Third party studies have been conducted to summarize the impacts of interstate natural gas compressor stations and review the permitting process. Specifically, these studies document the regulations, rules, and laws that govern the siting and operation of interstate natural gas compressor stations, and how compliance with such regulations protects the health and safety of those living near a compressor station.<sup>105</sup>

Industry must maintain the infrastructure and operate safely. Industry and all levels of government agencies should engage with communities and the public stakeholders from the earliest engagement to understand their safety concerns. Industry and government can then respond to concerns, whether by providing information or explaining the safety, maintenance, and environmental measures in place. Federal and state regulation of infrastructure operations during the life of a project address land use planning in the early stages to avoid hazardous terrain, artifacts, and sensitive ecosystems, damage prevention, maintenance plans, and inspection protocols during operations. Early partnerships with local emergency responders and regular communication and training are important. The work with local first responders can be shared with communities and stakeholders. Compliance with safety regulations is the baseline expectation and a safety culture focused on performance beyond compliance is necessary to engender public trust.

Chapter 4, "Technology Advancements and Deployment," describes new technologies, from precision manufacturing to the digitization of monitoring and control systems that are improving the safety and environmental impacts of energy infrastructure.

"Call before you dig" programs, with 8-1-1 toll free numbers, help enhance public awareness of pipeline locations and are a mitigation to pipeline strikes on underground pipelines. However, pipeline strikes continue. Pipeline locator or

105 "How the Regulatory Process Protects Those Living Near Natural Gas Transmission Compressor Stations," prepared by Trinity Consultants for the INGAA Foundation, December 2016 and "Hancock and Highland Compressor Stations Human Health Risk Assessment," prepared by TRC Environmental Corporation for Millennium Pipeline Company, LLC, February 2017.



identification programs depend on the training and skill of the workers locating the lines.

### *b. Air and Water Quality*

Various concerns have been expressed with the infrastructure projects including oil and natural gas pipeline operations. Concerns range from spills and emission leaks that have impacted the environment, including water and air contamination, land, and even agriculture impacts.

Operators of the nation’s energy infrastructure—pipelines, railroads, trucks, terminals, marine—are regulated and subject to both state and federal requirements to protect the environment and the quality of natural resources.

The regulatory and permitting process for energy infrastructure is robust, and it serves to protect the health and safety of the public. However, spills and leaks do occur but are infrequent. Various regulations have been promulgated to prevent such leaks. These regulations include the Oil Pollution Prevention promulgated under the authority of the Clean Water Act. This rule includes requirements for Spill Prevention, Control, and Countermeasure Plans, and for Facility Response Plans that help prevent and manage spills to the environment. Fugitive emission monitoring has also been employed to help identify emission leaks and to expedite repairs of emission leaks.

As noted in the discussion on regulatory frameworks, EPA has established limits on air and water quality and works with state and local authorities to issue operation permits for equipment that emit pollutants, monitor air quality, and monitor operations that could potentially violate air and water quality.<sup>106</sup> Further discussion on these steps is included in Chapter 4, “Technology Advancement and Deployment.”

***The NPC recommends*** that infrastructure companies should continue to adopt

technologies and practices that minimize air emissions, including methane.

### *c. Noise and Vibration*

The primary concern of stakeholders concerning noise and vibration is compressor stations. There is a federal regulatory framework in place to regulate the health, safety, and noise impacts from natural gas transmission compressor and oil pump stations built along interstate natural gas pipelines. These regulations seek to protect the health and safety of those who live, work, or recreate near natural gas transmission compressor stations. A natural gas compressor station is required to meet these regulations, which ensures that the operation of the compressor station is consistent with federal health and safety objectives. A proposed station must comply with these regulations to obtain a FERC certificate to operate.<sup>107</sup>

FERC requires that noise impacts from a new compressor station, or any modification, upgrade, expansion, or update to an existing compressor station must not exceed 55 dB(A) at the closest noise sensitive areas (i.e., homes, businesses, parks, churches, etc.). This level is equivalent to the noise generated by a refrigerator or normal indoor conversation. Natural gas compressor station design includes fully enclosing compressor units within highly sound-insulated buildings. These buildings insulate mechanical noise and offer the highest degree of operational safety. In addition to pipeline compressor stations, noise concerns have been raised with train horns. The U.S. Department of Transportation (DOT) has a process where a community concerned with rail noise can ask to establish a quiet zone.<sup>108</sup>

### *d. Wildlife and Vegetation*

Habitat fragmentation refers to loss and discontinuity of large expanses of intact habitats (e.g., prairie, forests, rangelands) that are home to various wildlife. This fragmentation can cause discontinuity in the populations of species that

106 INGAA Foundation, “How The Regulatory Process Protects Those Living Near Natural Gas Transmission Compressor Station,” (prepared by Trinity Consultants), December 29, 2016, Report: 2016.11.

107 Ibid.

108 U.S. Department of Transportation, Federal Railroad Administration, “The Train Horn Rule and Quiet Zones,” <https://www.fra.dot.gov/Page/P0889>.



are separated by human activity, including infrastructure development. Habitat fragmentation is a primary concern from a terrestrial habitat perspective—both direct (actual habitat lost from the footprint of infrastructure) and indirect (behavioral avoidance of otherwise suitable habitat rendered unsuitable at some distance away from infrastructure) habitat loss for many species and their response to development. Habitat fragmentation issues transcend all species—not just those that are state or federally listed endangered species.

Impacts on specific habitats that make up part of a species home range also are of concern. One example is big game migration corridors (e.g., elk and mule deer) that interface with transportation systems and other infrastructure from energy development. Radio collars that utilize global positioning system technology have substantially increased data quality and pinpoint movement corridors of numerous species of wildlife on the landscape.<sup>109</sup> The Department of Interior Secretarial Order 3362<sup>110</sup> has placed new emphasis on corridors and winter range, thus putting these nonprotected yet recreational and economically vital species in the spotlight for conservation that undoubtedly will influence planning and development of infrastructure. Importantly, collisions, habitat loss, and barriers to movement are well-known impacts of big game with highway and railway systems that must be managed. Wildlife crossings (i.e., over and underpasses) are well proven to drastically reduce highway and railway collisions and can eliminate movement barriers. These crossing structures offer an excellent option to effectively mitigate impacts from transportation infrastructure projects.<sup>111,112</sup>

109 University of Wyoming, Wyoming Migration Initiative, <https://migrationinitiative.org/>.

110 U.S. Department of the Interior, Order No. 3362, “Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors,” [https://www.doi.gov/sites/doi.gov/files/uploads/so\\_3362\\_migration.pdf](https://www.doi.gov/sites/doi.gov/files/uploads/so_3362_migration.pdf).

111 Clevenger, Anthony P., “Conservation Value of Wildlife Crossings: Measures of Performance and Research Directions,” *Schwerpunkt: Landschaftszerschneidung*, 2005, <https://arc-solutions.org/wp-content/uploads/2012/03/Clevenger-2005-Conservation-value-of-wildlife-crossings-Measures-of-performance-and-research-directions.pdf>.

112 *Frontiers in Ecology and Evolution*, “Performance of Arch-Style Road Crossing Structures from Relative Movement Rates of Large Mammals,” October 26, 2017, <https://www.frontiersin.org/articles/10.3389/fevo.2017.00122/full>.

The environmental, conservation, hunting, and tourism communities also are concerned about effectively mitigating unavoidable or unforeseen impacts, especially given recent policy decisions by the Department of Interior<sup>113</sup> eliminating requirements for compensatory mitigation, which is a project proponent’s activities, monetary payments, or in-kind contributions to conduct on- and off-site actions intended to offset adverse impacts of a proposed action onsite. Without compensatory mitigation for impacts, resource loss—habitat, species or both—is inevitable.

Another concern with infrastructure development is the impact on species habitat, migration seasons, and patterns of foraging. Stakeholders with concerns about infrastructure impacts on habitat and migration may seek to prevent permits or obstruct or delay construction or restrict operation of such infrastructure to avoid the direct impacts of construction. Also, there is ample scientific evidence demonstrating that habitat impacts are not limited to those directly related to the footprint of the infrastructure, and perhaps even more importantly the indirect impacts on habitat use (i.e., the behavioral avoidance of otherwise suitable habitat) thus yielding even greater loss of habitat than just the footprint.

**Finding:** Conservation groups have expressed concern about lack of inclusion in planning and development processes to ensure species that are not necessarily protected under the Endangered Species Act, Migratory Bird Treaty Act, or other state and federal laws are considered and managed to conserve their habitats and populations.

**The NPC recommends** that to ensure best practices, infrastructure companies should solicit input from local, regional, and national stakeholders regarding habitat impacts early in their planning and development processes, and engage collaboratively with stakeholders on cooperative solutions. Companies should

113 Bureau of Land Management, “Compensatory Mitigation,” IM2019-018 Instruction Memorandum, December 6, 2018, <https://www.blm.gov/policy/im-2019-018>.

also adopt innovative approaches to mitigating these impacts.

From a coastal marine fisheries perspective, existing and new shipping channels can have impacts on sediment distribution into coastal marshes. Offshore platforms, loading facilities, and other infrastructure may have both negative (e.g., potential spills and other sources of contamination, construction, and operations noise) and potentially positive (e.g., habitat structure) impacts to fish and marine wildlife.

Currently, laws and regulations exist to protect species and habitats through wildlife sanctuaries and critical habitats designated by the FWS under the Endangered Species Act, marine sanctuaries under the jurisdiction of the NMFS and NOAA under the Magnusson-Stevens Act, and wilderness areas designated by the BLM under Federal Land Policy and Management Act and the USFS under the National Forest Management Act.

The energy industry is in a position to lead a partnership effort among the nation's oil and natural gas companies, federal and state wildlife and resource management agencies, and conservation nonprofits to create an initiative that supports on-the-ground projects to address habitat conservation and mitigation needs nationwide.

Most companies work independently to support conservation programs and projects. However, there is another model worth considering that could have a much larger impact on the conservation outcomes, community support, and collaboration with multiple nonindustry and federal agency partners. Working together under a consortium of companies can use positive philanthropic contributions to generate measurable results for wildlife and habitat. Such an initiative could make proactive and science-based conservation investments to benefit species and improve habitats for people and wildlife and directly support environmental sustainability and species conservation. The initiative could also identify and invest in conservation opportunities to address water scarcity, improve water quality, and engage local communities.

Corporate contributions could be leveraged by public and private funding sources. The industry's conservation impact will be amplified by the support of the other entities that are involved, creating a collaborative atmosphere in which business and biodiversity can prosper.

Regional initiatives would provide an opportunity to build new relationships and strengthen existing connections, with fellow corporate leaders, conservation nonprofits, private business owners, volunteers, and resource management agencies at the local, state, and federal levels.

An investment by the industry would deliver strategic, measurable conservation benefits—with impacts verified using science-based approaches to measure and verify results. The industry would also benefit from enhanced reputation and local connections within communities that long-term conservation investment provides.

For example, the National Fish and Wildlife Foundation (NFWF) recently launched collaboration with oil and natural gas companies in the Permian Basin, the Pecos Watershed Conservation Initiative, which serves as an excellent example of a consortium of companies working together toward common conservation goals at the landscape scale.

Working together, a consortium of companies active in the Permian Basin are supporting the initiative, both financially and in its implementation. The companies have been joined in providing funding to NFWF in addition to funding by the U.S. Department of Agriculture's Natural Resources Conservation Service in New Mexico and Texas. Both the New Mexico Department of Game and Fish and the Texas Parks and Wildlife Department are also heavily involved in the program, as the state agencies responsible for most of the wildlife in the region and as key implementation partners.

This consortium of companies is making proactive and science-based conservation investments across the unique Chihuahuan Desert landscape to benefit native species and improve habitats for people and wildlife. The consortium identifies and invests in conservation opportunities to address water scarcity, improve water quality, and engage local communities.

A consortium like this brings private funding together with public agency funding to accomplish meaningful conservation for fish, wildlife, and their habitats in target landscapes across the country. Through a landscape-based approach, this could address multiple aquatic and terrestrial species in an area of significant development for the oil and natural gas producers.<sup>114</sup>

### *e. The Relationship Between Climate Change, NEPA, and Litigation*

Climate change concerns have substantially increased since the 1992 United Nations Framework Convention on Climate Change, which stated that addressing climate concerns requires “stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system...” Since then, increasing numbers of companies and organizations and a significant portion of the public have developed concerns about climate change and the need for effective measures to reduce GHG emissions.

This study’s analysis of siting and permitting statutes, regulations and litigation, and the public engagement sessions revealed a lack of clarity and consistency at the federal and state levels in how to assess GHG considerations with respect to the development of new oil and natural gas transportation infrastructure and potential impacts on climate change.

In the absence of federal policy to address GHG emissions, advocates for action view continued investment in oil and natural gas infrastructure as perpetuating the causes of climate change. Potential GHG emissions from new infrastructure can lead climate advocates and stakeholders to use litigation to attempt to delay or block infrastructure projects, seeking to minimize or avoid these GHG emissions.

To resolve these concerns, permitting reform and a national climate change policy are needed.

114 For more information on the Pecos Watershed Conservation Initiative, please see National Fish and Wildlife Foundation, Pecos Watershed Conservation Initiative, <https://nfwf.org/swrivers/pecos/Pages/home.aspx>.

### *i. Climate Change is a Concern*

The fourth U.S. National Climate Assessment,<sup>115</sup> released in 2018, notes that U.S. GHG emissions have been declining as a result of changes in the energy sector and policy actions across all levels of government and also notes, “While mitigation and adaptation efforts have expanded substantially in the last four years, they do not yet approach the scale considered necessary to avoid substantial damages to the economy, and human health over the coming decades.” Other excerpts from the summary findings are given in the “2018 National Climate Assessment” text box.

The fourth National Climate Assessment also notes that while U.S. GHGs have been declining as a result of changes in the energy sector and policy actions across all levels of government, the impacts of climate change have resulted in losses to infrastructure and property. Without measures to improve resilience, losses are expected to grow.<sup>116</sup>

For some stakeholders, the U.S. announcement to withdraw from the 2015 Paris Accord has caused even greater concern. Finally, financial institutions are driving conversations about climate change, including policy, and physical risks, with energy companies they invest in and lend to.<sup>117</sup> As a result of these assessments and announcements, many states, cities, and companies have announced commitments and policies aimed to reduce, or further reduce, GHG emissions.

### *ii. U.S. Emissions Profile*

The U.S. Energy Information Administration (EIA) produces an Annual Energy Outlook report with energy data and projections, including GHG emissions associated with energy production. The 2019 EIA Annual Energy Outlook projects that economy-wide carbon emissions through 2050, under existing US policies, will essentially stay

115 Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States. Summary Findings: Actions to Reduce Risks (2018), <https://nca2018.globalchange.gov/>,

116 Ibid.

117 Moody’s Analytics, “Climate change impact on financial institutions,” *The Actuary*, July 7, 2016, <https://www.theactuary.com/features/2016/07/climate-change-impact-on-financial-institutions/>.

## 2018 NATIONAL CLIMATE ASSESSMENT (EXCERPTS FROM SUMMARY FINDINGS)

**C**limate change creates new risks and exacerbates existing vulnerabilities in communities across the United States, presenting growing challenges to human health and safety, quality of life, and the rate of economic growth.

“Transformations in the energy sector—including the displacement of coal by natural gas and increased deployment of renewable energy—along with policy actions at the national, regional, state, and local levels are reducing GHG emissions in the United States.”

“Forward-looking infrastructure design, planning, and operational measures and standards can reduce exposure and vulnerability

to the impacts of climate change and reduce energy use while providing additional near-term benefits, including reductions in GHG emissions.”

“Without continued substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.”

“Mitigation and adaptation actions also present opportunities for additional benefits that are often more immediate and localized, such as improving local air quality and economies through investments in infrastructure.”

Source: Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States. Summary Findings: Actions to Reduce Risks. <https://nca2018.globalchange.gov>.

flat reaching 5.02 billion metric tons in 2050. That level is substantially above the levels of emissions contemplated by various emissions reductions scenarios to avoid the negative impacts of climate change.<sup>118</sup>

In the 2019 report, EIA indicated that U.S. energy-related CO<sub>2</sub> emissions had increased in 2018 to 5.25 billion metric tons but projected slight decreases in emissions in 2019 and 2020. Emissions in 2018 were 15% lower than the almost 6 billion tons of emissions in 2007, even though in the 10 years from 2007 to 2017, overall natural gas use had increased by 17%—primarily from the increased use in the power sector. Methane emissions were down over the same period by about 3% from the natural gas value chain, and down by about 18% in the transportation and storage sector—the subject of this study. Methane emissions are 10% of total U.S. GHG emissions. Of this 10%, 3.8% is from the

agriculture sector, followed by 3.1% from the natural gas and petroleum systems, and 1.6% from landfills. Within natural gas and petroleum systems, methane emissions from transportation and storage sector total 1.3 million metric tons or 0.5% of total U.S. GHG emissions. The transportation and storage sector continue their focus to make further reductions.<sup>119</sup>

The United States has been a leader in CO<sub>2</sub> reductions, with the largest absolute magnitude of reductions, largely as a result of the economic fuel switching from carbon intensive fuels to the less carbon intensive natural gas. Natural gas also supports the expansion of intermittent renewables. Moreover, the energy industry has taken multiple collaborative actions and set up public-private programs to address GHGs, including:

- Reducing GHG’s from the operation of energy infrastructure

118 IEA, World Energy Outlook 2018, p. 537, Annex A Tables for Scenario Projections, United States: Current Policies and Sustainable Development Scenarios.

119 U.S. Environmental Protection Agency, “Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017,” <https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf>.



- Funding and leading research to abate GHGs
- Advancing technology deployment
- Improving transparency into actions to address emissions.

In recent years, much of industry has worked in concert with the government and advocates on programs to reduce GHG emissions from oil and natural gas infrastructure. Reducing methane emissions across the natural gas value chain further improves the GHG's benefit of fuel switching to natural gas. Some program examples:

- *Natural Gas Star Program*—Industry and EPA identified best practices in reducing methane emissions and sharing across industry. This program has a goal of reducing methane emissions by 125 million metric tons from oil and natural gas operations.<sup>120</sup>
- *Our Nation's Energy (ONE) Future*—An industry-led program, the purpose of which is to implement best practices to reduce the overall natural gas value chain methane emissions to 1% or less of total throughput by 2025.<sup>121</sup>
- *The Environmental Partnership*—69 companies using cost-effective, proven technology and sharing best practices to reduce methane emissions from three of the most significant sources.<sup>122</sup>
- *Oil and Gas Climate Initiative*—13 companies support of efforts which help to reduce GHG emissions: “reduce the collective average methane intensity of ... aggregated upstream gas and oil operations below 0.25% by 2025... reduce the carbon footprint of energy consumed...and promote a commercially viable safe and environmentally responsible circular

carbon economy, including carbon capture use and storage.”<sup>123</sup>

**Finding:** The nation faces the dual challenge of providing affordable energy to support economic growth and human prosperity while addressing the environmental effects, including the risks of climate change. Industry shares the public's concerns that climate change is a serious issue that must be addressed. Litigation of individual projects to address global climate concerns is an ineffective approach.

**The NPC recommends** that all infrastructure companies should strive for an outstanding environmental compliance record and to reduce the intensity of greenhouse gas emissions from their operations. Emissions reduction programs, such as One Future, the Methane Challenge, the Environmental Partnership, and EPA's Natural Gas Star Program, are all means of demonstrating a company's efforts to reduce methane emissions.

### iii. Stakeholder Actions in Response to Climate Change: NEPA and Litigation Delaying Permitting

Stakeholders are increasingly raising climate change concerns and the need for governmental action to address GHG emissions in the siting and permitting processes for new energy infrastructure. Comments filed by citizens in opposition to many permitted infrastructure projects suggest that many who contest new infrastructure do so out of the belief that the nation will not take other effective measures to achieve GHG emissions reduction objectives.

Those concerned with the climate impact of a federal action relating to an energy infrastructure project use the NEPA process and other environmental permitting processes as forums

120 U.S. Environmental Protection Agency website, Natural Gas STAR Program: Methane Challenge Program, <https://www.epa.gov/natural-gas-star-program/methane-challenge-program>.

121 ONE (Our Nation's Energy) Future home page, <https://onefuture.us/>.

122 The Environmental Partnership, “Who We Are,” <https://theenvironmentalpartnership.org/> (accessed November 14, 2019).

123 Oil and Gas Climate Initiative, “Our Agenda,” <https://oilandgasclimateinitiative.com/policy-and-strategy/#our-agenda>.

for addressing their climate concerns. Agencies' application of NEPA is anything but simple or straightforward, and 17 Supreme Court decisions have interpreted NEPA or its CEQ regulations since enactment in 1970.<sup>124</sup> U.S. Courts of Appeals have issued 238 decisions in NEPA cases in the past decade,<sup>125</sup> and lawsuits based on NEPA violations have increased in the past five years.<sup>126</sup> These data indicate that federal agencies continue to be challenged to apply NEPA law, regulations, and guidance to 21st century environmental issues.

A 2019 study found NEPA to be the most frequent statutory basis for litigation against natural gas and oil pipelines. For pipeline projects, the most frequently claimed NEPA errors have been insufficient analysis of direct and indirect effects and insufficient review of upstream GHGs, downstream GHGs, and cumulative impacts. Federal agencies' NEPA reviews are typically thorough and generally upheld—agencies have a more than 80% success rate in litigation.<sup>127</sup> Although FERC is not the agency with the largest number of cases, it ranks high among agencies

with NEPA cases and in recent years has had mixed results.<sup>128</sup>

The main NEPA interpretation issue in the litigation is whether the FERC, in assessing the environmental impacts of a particular project, must include (1) GHG emissions upstream of a project, from an increase of production to support the infrastructure project, or (2) emissions downstream of a project, from the use of the fuel transported by the energy infrastructure.

The dispute about including downstream emissions in the NEPA analysis essentially concerns the use of the fuel at the endpoint. Currently, a majority of FERC Commissioners have determined that downstream emissions should not be included because of their view that (1) NEPA only requires consideration of effects that are reasonably foreseeable and causally related, and (2) NEPA limits the assessment to the regulatory control of the agency authorizing the federal action. In many cases, a pipeline project leads to another pipeline, local distribution system, or export facility. Thus, the endpoint use of the product is diffuse and not readily knowable. FERC has ruled that attempting to calculate the emissions from combustion of the product is highly speculative and therefore unreliable. FERC has also ruled that it does not have jurisdiction over these endpoints and thus is not required to assess the GHG emissions.

Proponents of including downstream emissions in the FERC environmental review, relying on NEPA's requirement to evaluate indirect impacts, have a different view of what is reasonably foreseeable and causally related. The proponents—including some FERC commissioners—contend that although it may not be clear where exactly the product would be combusted, information such as the quantity of the product is available to calculate the GHG emissions. These proponents contend that “even if [the agency] does not have exact

124 See, e.g., *Dep't. of Transportation v. Public Citizen*, 541 U.S. 752 (2004) (NEPA requires EIS to evaluate the environmental effects of its decision in “a reasonably close causal relationship” between the environmental effect and the alleged cause, proximate cause.” Evaluation includes the direct, indirect and “[c]umulative impact” of its action, which cumulative impact is defined as ‘the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.’ 40 CFR 1508.7.”); *Monsanto v. Geertson Seed Farms*, 130 S. Ct. 2743 (2010) (type of relief available when an agency violates NEPA requirements); and *Lujan v. National Wildlife Federation*, 497 U.S. 871, 110 S. Ct. 3177 (1990) (defining plaintiff standing under NEPA).

125 See National Association of Environmental Professionals, NEPA Practice, “Annual NEPA Report 2016,” June 2017, [https://naep.memberclicks.net/assets/annual-report/2016/nepa\\_annual\\_report\\_2016.pdf](https://naep.memberclicks.net/assets/annual-report/2016/nepa_annual_report_2016.pdf).

126 *Ibid.*, and Annual NEPA Report 2017, NAEP NEPA Practice June 2018 (not available yet on the internet; for members only).

127 National Association of Environmental Professionals, NEPA Practice, “Annual NEPA Report 2016,” June 2017, p. 33, [https://naep.memberclicks.net/assets/annual-report/2016/nepa\\_annual\\_report\\_2016.pdf](https://naep.memberclicks.net/assets/annual-report/2016/nepa_annual_report_2016.pdf), and GAO Report to Congressional Requesters, “National Environmental Policy Act: Little Information Exists on NEPA Analyses,” April 2014, <https://www.gao.gov/assets/670/662543.pdf>.

128 See, e.g., National Association of Environmental Professionals, NEPA Practice, “Annual NEPA Report 2017,” June 2018, p. 32-33; *Sierra Club v. FERC*, 867 F.3d 1357 (D.C. Cir. 2017) (downstream GHG emissions resulting from the combustion of natural gas were a reasonably foreseeable indirect effect of a pipeline project designed to transport gas to certain power plants in Florida.); *Delaware Riverkeeper Network v. FERC*, 857 F.3d 388 (D.C. Cir. 2017); *City of Boston Delegation v. FERC*, Nos. 16-1081, et al. (D.C. Cir. July 27, 2018).

information about the source or end use of the gas to be transported, it still can produce comparably useful information based on reasonable forecasts of the GHG emissions associated with production and consumption,” arguing that NEPA “does not require exact certainty—rather, it requires only reasonable forecasting.”<sup>129</sup>

Including upstream emissions as part of the NEPA review generally follows the same points of view, with other FERC commissioners asserting that potential increases in production that an energy infrastructure project might induce is too speculative to assess and is not subject to the jurisdiction of the agency. Proponents of including upstream emissions assert that “adding firm transportation capacity is likely to spur demand for natural gas<sup>130</sup> [and, a]s noted, expan[sion of] the supplies of economic natural gas, which, by the law of supply and demand, ought to put downward pressure on the price of natural gas in the region, potentially increasing demand.”<sup>131</sup>

The lack of specific guidance or regulation under NEPA for agencies to make this GHG assessment in their review of energy infrastructure projects results in uncertainty and confusion on the evaluation to be conducted. The NEPA statute and regulations are not well suited for evaluating the relative significance of environmental impacts caused by individual projects’ GHG emissions in a national or regional context, particularly due to the global aspects of climate change. This dichotomy of assessing project environmental impacts and national or regional context also appears in analyses under other environmental statutes, such as Endangered Species Act, Clean Water Act, Clean Air Act. A lack of clarity on conducting GHG

emissions evaluations creates uncertainty for both the regulated community and regulators alike.

In the past few years, CEQ guidance to federal agencies on how to assess GHGs in their NEPA reviews has been issued, rescinded, and reissued. On June 26, 2019, the CEQ released new, draft guidance instructing federal agencies on how to consider and document GHG emissions when evaluating proposed federal actions, including rulemakings and permitting decisions, under NEPA. The guidance, if finalized, would replace a now-revoked 2016 guidance, which advanced broad positions on how agencies should evaluate GHG emissions and the effects of climate change when undertaking NEPA reviews for proposed federal actions. However, uncertainty remains due to the newness of CEQ’s draft guidance and the ultimate outcome of any subsequent rulemaking.

Recent litigation over FERC’s consideration of GHG emissions is discussed in the “Recent Litigation Over FERC’s Consideration of Greenhouse Gas Emissions” text box.

These disputes can lead to costly and time-consuming litigation over the environmental review of infrastructure projects. Litigation consumes public and private resources, can delay the construction, maintenance, and operation of sited and approved projects, creates uncertainty for communities and project developers, and can reduce the resiliency of U.S. energy infrastructure.

Congressional action adopting a comprehensive policy to reduce economy-wide GHG emissions could help alleviate the concerns of environmental stakeholders, thus minimizing the need for litigation as a forum for addressing their climate concerns and the delays to the construction, operations, and maintenance to infrastructure. Defining by law the appropriate environmental review process could also minimize legal challenges by clarifying what should or should not be included in the NEPA GHG assessment.

#### *iv. Findings and Recommendations*

While some opponents do not see a path forward which allows for both new oil and natural gas infrastructure and national measures to mitigate the impacts of climate change, others would

129 Dissent regarding Transcontinental Gas Pipe Line Company, LLC, Commissioner Richard Glick Statement, May 3, 2019, FERC Docket No. 17-101-000.

130 *Barnes v. U.S. Dep’t of Transp.*, 655 F.3d 1124, 1138 (9th Cir. 2011) (holding that it “is completely inadequate” for an agency to ignore a project’s “growth inducing effects” where the project has a unique potential to spur demand); *id.* at 1139 (“[O]ur cases have consistently noted that a new runway has a unique potential to spur demand, which sets it apart from other airport improvements, like changing flight patterns, improving a terminal, or adding a taxiway, which increase demand only marginally, if at all.”).

131 Dissent regarding Transcontinental Gas Pipe Line Company, LLC, Commissioner Richard Glick Statement, May 3, 2019, Docket No. 17-101-000.



## RECENT LITIGATION OVER FERC'S CONSIDERATION OF GREENHOUSE GAS (GHG) EMISSIONS

In 2016, environmental groups and landowners challenged FERC's approval of the proposed 685-mile Southeast Market Pipelines Project (SMPP) (*Sierra Club v. FERC*, 867 F.3d 1357 (D.C. Cir. 2017)), arguing that the agency's NEPA analysis failed to adequately account for the GHG emissions that would result from burning gas transported to power plants connected to the new pipeline. FERC had concluded that it was not possible to exactly determine the amount of the project's emissions. The D.C. Court granted the environmentalists' petition, agreeing that FERC should have done a more comprehensive evaluation of the GHG emissions from the downstream combustion of the pipeline gas.

In 2018, FERC announced a new policy as part of a rehearing order on its approval of a compressor station in New York that it was ending "its temporary practice of providing generic emissions estimates when the upstream production and downstream use of natural gas are not cumulative or indirect impacts of the proposed natural gas transportation project." A small nonprofit, Otsego 2000, challenged the decision. FERC argued that neither NGA nor NEPA required the commission to consider emissions from the compressor station as indirect effects, contrasting its actions in this case to consideration of the SMPP's indirect effects when connected directly to power plants that burn natural gas. The D.C. Court declined to hear the merits of the case (*Otsego 2000, Inc. v. FERC*), citing the plaintiff's lack of standing in the matter.

More recently, the court dismissed a petition by local residents and business owners for review of FERC's approval of a natural gas compression facility in a Tennessee Gas Pipeline case (*Birckhead v. FERC*, 925 F.3d 510 (D.C. Cir. 2019)) on the basis that the commission failed to consider upstream and downstream emissions related to the project. FERC argued that it had no way to quantify those emissions, in part because it could not ask Tennessee Gas about the origin of the gas in the pipeline. However, the petitioners failed to raise FERC's lack of

effort in pursuing this information as a violation of its NEPA obligations in their request for review, and the court can only consider issues included in those documents. While the court ruled against the petitioners, its decision contains hints of how it might have decided if the petitioners had, in fact, raised the issue:

"Despite our misgivings regarding the Commission's decidedly less-than-dogged efforts to obtain the information it says it would need to determine that downstream GHG emissions qualify as a reasonably foreseeable indirect effect of the Project, Concerned Citizens failed to raise this record-development issue in the proceedings before the Commission. We therefore lack jurisdiction to decide whether the Commission acted arbitrarily or capriciously and violated NEPA by failing to further develop the record in this case."

And, most recently, in a Transcontinental Gas Pipe Line case (*Allegheny Defense Project, et al., v. FERC*, No. 17-1098 (D.C. Cir. 2019)), the court created more uncertainty regarding the appropriate consideration of GHG emissions by the FERC. While the court upheld the FERC's environmental review of the project, the court appears to have a different view of any causation and reasonably foreseeable tests described in *Sierra Club* and *Birckhead* declaring that downstream GHG emissions are an indirect effect of a natural gas pipeline project:

"The [petitioners] are correct that customers' burning of the natural gas that the Project transports will produce greenhouse-gas emissions. See *Sierra Club*, 867 F.3d at 1374. They are also correct that NEPA required the Commission to consider both the direct and indirect environmental effects of the Project, and that, despite what the Commission argues, the downstream greenhouse-gas emissions are just such an indirect effect."



support new oil and natural gas infrastructure if the nation adopts policies to reduce GHG emissions. It is likely that opposition to infrastructure permitting will continue at some level. However, the patchwork of local, state, regional, and sector specific GHG policies is affecting the resiliency of the national energy infrastructure and leads to inefficiencies in meeting the dual challenge of supplying affordable and reliable energy to the nation while reducing GHG emissions.

Concurrent Congressional action to reduce carbon emissions across the economy and to address how carbon emissions are treated within the siting and permitting process would both greatly improve the permitting certainty of energy transportation infrastructure and set the nation on a course to simultaneously address climate change concerns.

Beyond voluntary measures, economists generally agree that a market-based approach is a much more economically efficient way of reducing CO<sub>2</sub> emissions than inflexible standards and mandates or subsidies. Whether through a carbon tax, cap-and-trade, or other mechanism, economists believe that placing a cost on CO<sub>2</sub> emissions across all economic sectors would enable the marketplace to find the most economical combination of steps to achieve CO<sub>2</sub> emissions reductions—and not only from energy sector. Carbon pricing advocates recommend that any cost must be imposed in a predictable manner to provide long-term investor confidence and that it be designed and implemented in a way that does not impair U.S. competitiveness.

The NPC, in its 2007 *Hard Truths* Report to Energy Secretary Samuel Bodman, stated as a key strategy that the U.S. should “provide an effective global framework for carbon management, including establishment of a transparent, predictable, economy-wide cost for carbon dioxide emissions.”

The NPC, in its 2011 *Prudent Development Report* (Prudent Development: Realizing the Potential of North America’s Abundant Natural Gas and Oil Resources) transmittal letter to Energy Secretary Steven Chu recommended five core strategies, including: “recognizing that the United States will find it difficult to reduce GHG emissions further without a mechanism for putting a price on GHG emissions that is economy-wide,

market-based, predictable, transparent, and part of a global framework.” A well-designed pricing system would be an efficient way to build upon the emission reductions that have occurred over the past decade as a result of the market, technology, and policy changes which drove the U.S. energy renaissance.

With respect to the litigation on what kind of analysis NEPA requires for an infrastructure permit, it will be important to clearly define the scope of emissions which must be disclosed. While CEQ can provide guidance as to the degree to which upstream and downstream emissions are reasonably foreseeable and causally related and can provide metrics by which emissions can be calculated, this guidance can change from administration to administration. Congressional action would be a more permanent and reliable basis for investment. Confirming via legislation that reasonably foreseeable and closely causally related is confined to the impacts of the project alone and within the jurisdiction of the permitting agency, consistent with Supreme Court ruling,<sup>132</sup> could provide the clarity needed. A measure to clarify NEPA is more likely to pass Congress if it is also clear that the upstream and downstream project emissions are controlled in some other legally mandated fashion.

Some believe action on climate is essential for environmental reasons while others believe it is important as a means of overcoming permitting challenges. There is a consensus that, for a broad range of reasons, Congress should act on permitting reform and climate change at the same time.

Whatever policy action Congress takes should be comprehensive and national, provide certainty and consistency, be economy wide, applicable to all sources of emissions, market-based, transparent, predictable, technology agnostic, and internationally competitive.

**Finding:** The permitting and construction of numerous energy infrastructure projects has been challenged, delayed, or stopped as a result of litigation by stakeholders concerned

132 541 U.S. 752 (2004) Department of Transportation et al. v. Public Citizen et al., No. 03-358, Supreme Court of United States. Argued April 21, 2004. Decided June 7, 2004. Certiorari to the United States Court of Appeals for the Ninth Circuit.

about climate change and the associated policy debate.

**The NPC recommends** that Congress should:

- Clarify that GHG assessments under NEPA, for oil and natural gas infrastructure projects, are confined to emissions that are (i) proximately caused by the Federal action (see *Dep't. of Transportation v. Public Citizen*, 541 U.S. 752 (2004)), and (ii) are reasonably foreseeable.
- Enact a comprehensive national policy to reduce GHG emissions and seek to harmonize federal, state, and sectoral policies to enhance efficiency and effectiveness. Congress should ensure that the enacted national policy is economy wide, applicable to all sources of emissions, market-based, transparent, predictable, technology agnostic, and internationally competitive.

## 2. Environmental Justice

Environmental justice has been defined as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA has this goal for all communities and persons across this Nation.”<sup>133</sup> Fair treatment means that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies.”

Environmental justice issues range from where to locate infrastructure like compressor stations and power plants to community investment in neighborhoods where disproportionately underprivileged and minority people live. It is important for developers and operators to understand the communities affected by infrastructure

<sup>133</sup> U.S. Environmental Protection Agency, “Environmental Justice,” <http://www.epa.gov/environmentaljustice>.

development. Some communities may require locally targeted meaningful communications.

The EPA is responsible for setting standards for assessing environmental justice in regulatory analysis and has developed technical guidance for practitioners.<sup>134</sup> Agencies must consider: (1) whether the project will be located within one mile of minority and low-income populations, (2) if the impacts from that project are “high and adverse,” and (3) if the impact is disproportionately on environmental justice populations.<sup>135</sup> For natural gas pipelines, FERC requires a resource report that analyzes environmental justice as part of the NEPA process.

Environmental justice requires parity/equality among costs and benefits—equitable allocation of costs and benefits—i.e., those who experience the majority of the environmental, social and economic risks should share in the benefits of development (jobs, tax revenues, purchases of goods and services, entrepreneurial opportunities, skill training, etc.). For rural communities, which are often stressed by the increased demand for expanded/improved public services (fire and safety, etc.) and infrastructure (roads, water, etc.) there should be commensurate benefits and financial support that will help to address these demands. For agriculture producers, whose productivity and profitability can be negatively impacted by pipeline construction, actual construction performance, remediation, and long-term maintenance need to be included in an overall plan to minimize land use and economic impacts.

## 3. Economic Interests and Skilled Labor Need

Stakeholders view the economic impacts of the construction and operation of oil and natural gas transportation infrastructure very differently depending on their situation and experience. Local governments often express concerns over the cost of maintaining town roads and bridges

<sup>134</sup> U.S. Environmental Protection Agency, “Technical Guidance for Assessing Environmental Justice in Regulatory Analysis,” June 2016, [https://www.epa.gov/sites/production/files/2016-06/documents/ejtg\\_5\\_6\\_16\\_v5.1.pdf](https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf).

<sup>135</sup> *Ibid.*

with increased traffic of heavy equipment from construction sites. They also must bear the cost of the increased demand for public services as a result of an influx of temporary construction workers. These temporary workers can also be a benefit to local homeowners who increase their income by providing rental housing and to retail enterprises which start up or expand to meet the needs of workers. Much of this one-time impact is due to job creation and increased economic activity.

Pipeline development can also have both positive and negative economic effects on agricultural producers and landowners. While they may benefit from right-of-way lease payments and reimbursement for lost production, they may still be unable to use parts of their property during construction and remediation, which may take years. Pipeline companies monitor right-of-way post-construction to rectify any issues. Impacts that affect farmer's crop production or grazing activities include soil compaction, damaged subsurface drainage tile, inadequate topsoil replacement, settling and erosion, dewatering, growth of noxious weeds—all of which reduce agricultural productivity (and revenues) for many years to come. The Wayne County, Ohio, Farm Bureau identified, by interviews with specific farmers, that dewatering damaged crops reduced corn yields and impacted crop income.<sup>136</sup>

Recreational and commercial fishing and hunting are important revenue sources for some states and rural communities, as well as individual landowners who may lease hunting rights. These stakeholders fear that infrastructure development could restrict access to recreational fishing or hunting grounds or reduce fish and wildlife populations.

Local communities welcome the economic benefits, such as construction jobs, growth in retail enterprises and increased tax revenues, that often accompany new infrastructure projects. Some of these benefits may not be long lasting and challenge local communities to address the boom-bust cycle of a natural resource dependent economy. An economic impact study of the NEXUS Pipeline

in Ohio emphasizes this point through projections of short-term and long-term economic impacts: “One-time pipeline construction impact in the eleven county region, including preconstruction during 2015-2017, is estimated to have an impact of 3,925 jobs, \$450.5 million in value added, and \$374.4 million in labor income during the construction phase of the project.”<sup>137</sup> When construction is complete and ongoing operations begin, the economic impact of the pipeline decreases substantially: “It is estimated that pipeline operations will support a total of 44 jobs (28 direct, 5 indirect, and 11 induced), generate \$2.7 million in associated labor income, and result in \$3.1 million of additional economic activity annually as a result of ongoing operations beginning in 2018 going forward.” This short-term boom in job creation and economic activity followed, within 3 years, by a substantial reduction in jobs and revenue when operations begins makes it difficult, and costly, for local communities to plan for and manage the impacts of pipeline development.

Many of the job creation and related benefits do not accrue completely to the local community. While skilled trades such as welders and pipefitters are needed for pipeline construction, there is often a shortage of these skilled trade workers at the community level.<sup>138</sup> In the absence of local training and apprenticeship programs, skilled pipeline workers must be brought in to complete construction within the project's timeline. This reduces the direct benefit to the community and creates additional stressors and demands for public services brought about by an influx of temporary residents.

The chronic skilled labor shortage continues to overwhelm the construction industry. America's oil and natural gas industries are among the most impacted. As the energy sector market expands, an acute skilled labor shortage is taking a toll on the oil and natural gas sector. Building and maintaining America's more than 2.5 million miles of

<sup>137</sup> Bowen, N., Romich, E., Civittolo, D., Davis, G., and Penrose, C. 2015. *Economic Impact Analysis of the Spectra Energy NEXUS Pipeline Project*. Columbus: Ohio State University, p. 5.

<sup>138</sup> National Public Radio, “High-Paying Trade Jobs Sit Empty, While High School Grads Line Up for University,” April 25, 2018, <https://www.npr.org/sections/ed/2018/04/25/605092520/high-paying-trade-jobs-sit-empty-while-high-school-grads-line-up-for-university>.

<sup>136</sup> Wayne County response to FERC inquiry, listening sessions with agricultural producers, representatives and local stakeholders.



pipelines requires a diverse workforce of highly trained and skilled career professionals.

An industry-wide survey<sup>139</sup> by the Associated General Contractors of America last year revealed that “80% of construction firms were having a hard time filling hourly craft positions that represent the bulk of the construction workforce.” The Commercial Construction Index<sup>140</sup> indicated that the skilled labor shortage will have the greatest impact on businesses over the next 3 years. It revealed 88% of contractors expected a moderate impact from the workforce shortages, and 57% expected the impact to be high in the next 3 years.

In its first-quarter 2019 Commercial Construction Index report, USG Corp. and the U.S. Chamber of Commerce reported that 70% of contractors are struggling to meet project deadlines due to a chronic skilled labor shortage. More than half of the respondents expressed concern about their workers having adequate skills, the report revealed. Over 80% of the contractors reported that the workload for their existing employees has increased significantly. The skilled labor shortage has increased the cost of new work for 63% of respondents, resulting in 40% of them having to turn down project offers.

Accredited apprenticeship programs add highly trained and skilled apprentices with on-the-job training to the workforce every day. As an example, the building trades<sup>141</sup> invest more than \$1.5 billion annually in apprenticeship and journeyman training and operate more than 1,600 training centers in the U.S. registered apprenticeship programs help fill the skills gap resulting from a wave of retirements and lack of a plan to build a pipeline

of workers. There is a lack of skilled trades training and pipeline of workers on the community level.<sup>142</sup>

In the absence of adequate skilled trades training programs and skilled workers on the community level, projects use transitory labor to meet their needs, which limits direct economic benefits to the communities from job creation. Skilled trades training and apprenticeship programs will help build a skilled workforce on the community level and also maximize the economic earning potential for those communities.

Construction jobs are project-based by nature but that does not mean that they are temporary or the construction workers are temporary workers. They are career tradespeople, who travel to complete various projects. Construction jobs are by their nature temporary and transitory. As the economy and population grow, new construction jobs do, too, spurred by the demand for new buildings, roads, and other structures.<sup>143</sup> The workers perform construction activities at multiple sites, moving from one job to the next.<sup>144</sup> As projects and construction sites grow, finding and retaining skilled workers is an issue.<sup>145</sup>

Increasing the skill level of the local workforce by establishing apprenticeship programs and training will help maximize the economic earning potential for local communities.

### **Findings:**

- While the economic benefits from infrastructure development are often welcomed

139 Associated General Contractors of America, “80% of Contractors Report Difficulty Finding Qualified Craft Workers to Hire as Association Calls for Measures to Rebuild Workforce,” August 29, 2018, <https://www.agc.org/news/2018/08/29/eighty-percent-contractors-report-difficulty-finding-qualified-craft-workers-hire-0>.

140 For Construction Pro, “Contractors Optimistic with Strong Backlog, Fear Growing Safety Risks,” n.d., <https://www.forconstructionpros.com/business/press-release/21021264/usg-corporation-skilled-labor-shortage-to-have-greatest-impact-on-commercial-construction-over-next-three-years>.

141 North America’s Building Trades Unions, “Enhance Your Skills, Advance Your Life,” 2019, [https://nabtu.org/wp-content/uploads/2019/02/NABTU\\_ApprenticeshipPrograms.pdf](https://nabtu.org/wp-content/uploads/2019/02/NABTU_ApprenticeshipPrograms.pdf) (accessed August 27, 2019).

142 National Public Radio, “High-Paying Trade Jobs Sit Empty, While High School Grads Line Up for University,” April 25, 2018, [https://www.npr.org/sections/ed/2018/04/25/605092520/high-paying-trade-jobs-sit-empty-while-high-school-grads-line-up-for-university%20\(this%20should%20now%20become%20FN%202.%20NEXUS%20report%20is%20FN1](https://www.npr.org/sections/ed/2018/04/25/605092520/high-paying-trade-jobs-sit-empty-while-high-school-grads-line-up-for-university%20(this%20should%20now%20become%20FN%202.%20NEXUS%20report%20is%20FN1) (accessed August 27, 2019).

143 U.S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, Construction and Extraction Occupations, <https://www.bls.gov/ooh/construction-and-extraction/home.htm>.

144 Associated Builders and Contractors, “Construction Job Growth is Steady in June, says ABC,” July 5, 2019, <https://abc.org/News-Media/News-Releases/entryid/16569/construction-job-growth-steady-in-june-says-abc>.

145 Sumner, S., “How can there be a shortage of construction workers?”, Library of Economics and Liberty, [https://www.econlib.org/archives/2017/04/how\\_can\\_there\\_b.html](https://www.econlib.org/archives/2017/04/how_can_there_b.html).



by local communities and stakeholders, they often do not completely offset the challenges experienced as a result of this development. Also, benefits of job creation in the skilled trades may not accrue to local residents and tribal members due to a lack of local job training and apprenticeship programs.

- It is becoming increasingly challenging to keep pace with hiring and developing a well-qualified workforce to build and maintain existing and future infrastructure. A skilled labor shortage exists in the United States and will continue to grow as the current workforce continues to retire.

***The NPC recommends that:***

- Industry should recognize the economic, social, and environmental concerns of the agricultural, hunting, and recreational stakeholders as well as the concerns of local government regarding roads and bridges and increased demands for services.
- Industry should collaborate with local communities to develop strategies to capture benefits of infrastructure development and to mitigate economic, social, and environmental challenges for stakeholder groups such as local government, farmers, tribal members, recreation, and hunting/fishing interests.
- Industry should adopt a stance of endorsing accredited apprenticeship programs as a community good and an economic engine for the community.
- Industry should collaborate with labor unions to develop labor feeder pools and training programs to maintain a sustainable skilled labor workforce required to construct, operate, and maintain the infrastructure by utilizing a national network of accredited apprenticeship programs.
- The U.S. government, states, local communities, secondary schools, and industry

should promote vocational career education and technical training of their constituents, members, and communities. Industry, along with secondary and technical schools should support registered and accredited apprenticeship programs to ensure an adequate supply of skilled industrial construction, operations, and maintenance workers.

#### 4. Eminent Domain

Challenges to the use of eminent domain to acquire land for pipeline construction have focused on elements of economic valuation, property rights, and, increasingly, environmental concerns. The U.S. Constitution gives federal and state governments the right to use eminent domain to take private lands for public use, provided landowners receive “just compensation.” In the case of pipelines, the “taking” is often a linear easement within private property boundaries for the pipeline and ROWs for access, in which the private property owner shares some set of rights with the pipeline operator.

The NGA authorizes the use of eminent domain for the construction of interstate natural gas transmission pipelines upon the receipt of a certificate of public convenience and necessity, giving natural gas pipeline developers authorization for eminent domain actions if it cannot negotiate easements with landowners. However, a recent Third Circuit Court of Appeals decision held that (1) a state’s sovereign immunity under the 11th Amendment to the U.S. Constitution has not been abrogated by the NGA, and (2) there has not been a delegation to interstate pipelines of the federal government’s exemption from the state’s sovereign immunity, the practical result being that condemnation lawsuits authorized by the NGA against states in the Third Circuit are barred by the state’s 11th Amendment immunity.<sup>146</sup> This ruling will have an impact on some pipeline siting decisions, which could result in routing around land in which the state has an ownership or other easement interest or seeking a mutual agreement with the state for the necessary right of way if no

<sup>146</sup> *In Re: PennEast Pipeline Company, LLC*, Nos. 19-1191 through 19-1232 (3<sup>rd</sup> Cir 2019).

alternative route exists. Some in the industry are concerned that the ruling will give a state too much control over natural gas interstate pipeline projects—the precise outcome Congress sought to avoid in enacting the NGA. While it is noteworthy that the Third Circuit’s ruling would not prohibit condemnation authorized under state law, the instances under which interstate pipelines would have condemnation rights under state law are limited and differ from state to state. The Third Circuit suggested that there may be a work-around to have an accountable federal official file the necessary condemnation actions and then transfer the property to the pipeline company—this suggestion by the court overlooks the practical issue that the NGA grants the certificate of approval and accompanying eminent domain right to the pipeline company, not the federal government or a federal official. Another unfortunate consequence of the decision is that it may force some pipelines to add significant distance, costs, and the related increase in impacts to landowners and the environment to avoid state property.

The rapid expansion of oil and natural gas transport infrastructure following the shale boom, as well as new electricity transmission built to accommodate utility-scale renewables projects, also has brought increased scrutiny to eminent domain in states around the country, with debates focused on both just compensation and what constitutes public use or benefit. These debates are playing out at FERC, in state legislatures, and the courts. Today’s heightened scrutiny over eminent domain is also a response to a Supreme Court case (*Kelo v. City of New London*) over whether a city could take private land for the purposes of stimulating the local economy, in this case a new development by a private corporation, that was decided in 2005. The Supreme Court ruled against property owners and found that New London was within its authority to consider that increasing the tax base by transferring private land to another private landholder (the developer) was in the public interest. The *Kelo* decision has prompted legal and legislative moves to clarify what constitutes public use or benefit and led 45 states to enact laws strengthening private property rights.<sup>147</sup> These changes are now contributing to recent fights over eminent domain

147 Somin, I., “The Political and Judicial Reaction to *Kelo*,” *Washington Post*, June 4, 2015.

and energy infrastructure. Property owners and environmental advocates are now challenging the exercise of eminent domain for energy infrastructure at FERC and in states around the definition of public interest or benefit that prompted the *Kelo* fight, since in the case of pipelines, land rights transfer from the private landowner to a private pipeline company.

Many landowners directly affected by infrastructure projects planned and implemented with no or limited prior notice, and the eminent domain action associated with the project, are not concerned with environmental issues. They are concerned about the loss of the use of their property, what constitutes just compensation, and the degree of land restoration after the project is complete.

Restoration is an important and often overlooked element of landowner agreements but is an opportunity for an infrastructure company to create goodwill with stakeholders. An innovative restoration approach implemented through a partnership between Valley Crossing Pipeline, LLC, King Ranch, Inc., and the Caesar Kleberg Wildlife Research Institute identified and utilized a native seed mix throughout Valley Crossing’s newly constructed right-of-way in Kenedy County, Texas. The right-of-way lies within a primary migratory corridor of the monarch butterfly. The project transformed 42 miles of uninterrupted corridor populated with native grasses and plants that provide habitat needed by the monarch butterfly population.<sup>148</sup>

Other legal challenges revolve around a goal to reduce environmental impacts of pipelines, including carbon emissions from fossil fuels.<sup>149</sup> The FERC Commissioners are currently divided on the extent to which (and when in the approval process) climate and environmental impacts should be considered in granting pipelines authorization to begin eminent domain proceedings. However, numerous Courts of Appeals have upheld a

148 Texas A&M University, Kingsville, Javelina News, “Monarch Butterfly and Native Plant Habitat Restoration Habitat Receives \$100,00 Grant,” January 26, 2018, [https://www.tamuk.edu/news/2018/01/butterflyhabitat.html#.XVbLvy\\_Mx0s](https://www.tamuk.edu/news/2018/01/butterflyhabitat.html#.XVbLvy_Mx0s).

149 Coleman, J. W. and Klass, A. B., “Energy and Eminent Domain,” *Minnesota Law Review*, 104, March 7, 2019, (Forthcoming), SMU Dedman School of Law Legal Studies Research Paper No. 413, <https://ssrn.com/abstract=3348630> (accessed June 5, 2019).

pipeline company's right to condemn under the NGA once the certificate is issued, and several petitions for certiorari challenging some of these decisions were recently denied by the U.S. Supreme Court. At the state level, pipeline developers are encountering new efforts to limit the use of eminent domain, from temporary moratoria (South Carolina and Georgia) to a Kentucky state court decision that a pipeline carrying liquids for export was not in the interest of the state's consumers.<sup>150</sup> The Kentucky decision also raises an additional issue around the question of public interest with respect to pipelines carrying product for export outside the United States.

### ***Findings:***

- The Third Circuit's decision that pipeline condemnation lawsuits under the Natural Gas Act against states are barred by the state's Eleventh Amendment immunity could have a significant impact on the siting of some new pipeline infrastructure and will result in significant state-level control over federally approved natural gas infrastructure projects crossing state lands.
- Eminent domain disputes with landowners lead to delays and complexities in implementing projects.

### ***The NPC recommends that:***

- Because the Natural Gas Act (NGA) does not differentiate between privately held and state-owned property, Congress should enact the necessary changes to the NGA to expressly clarify that all property (whether privately owned or state-owned) are subject to an NGA certificate holder's right of eminent domain and that pipelines are not barred by Eleventh Amendment immunity in bringing eminent domain actions against a state.
- Where a proposed route would cross state land, pipeline project developer and the state should work proactively and cooperatively

with each other to develop a process for joint input to FERC on the siting.

- Industry should follow stakeholder engagement best practices, whether required or not, to engage all landowners affected by eminent domain early in the project design process.
- Companies should work with industry groups, habitat researchers, and landowner groups to establish restoration best practices that provide new, native habitat for pollinators and other species.

## **5. Historical and Cultural Preservation**

The routing of infrastructure may impact what NEPA refers to as the "human environment," the social and cultural resources that, with natural elements, make up the environment that NEPA was designed to protect. These culturally important resources, the value of which may be intangible, can include buildings, archeological sites, historical districts, graves, artifacts, abandoned shipwrecks, and access for practitioners of traditional religions to traditionally important natural sites. Protecting culturally important viewsheds may also be a consideration for interested communities. Often a traditional cultural property (TCP) is not listed because groups such as American Indians and Alaska Natives consider sacred places confidential, but these sites may be eligible for National Register of Historic Places inclusion. In other cases, a TCP is a property that is eligible as a result of being associated with cultural beliefs or practices of an existing, nonnative community that is important in maintaining the continued cultural identity of that community and is rooted in that community history.

### **D. American Indians and Alaska Natives and Government-to-Government Consultation**

American Indians and Alaska Natives have interests in the development of energy infrastructure on tribal lands, not only in protecting their land, water, treaty rights, and sacred sites, but also in sharing in the economic benefits of new

<sup>150</sup> Ibid.



infrastructure. In a report on infrastructure in Indian Country, the National Congress of American Indians notes an overarching concern with permitting processes:

“Tribal lands and natural resources are a primary source of economic activity for Tribal communities; however, Tribal Nations are often left out of the planning stages of large-scale federal infrastructure permitting projects near reservations or on ancestral lands. Due to this, Tribal governments voice concerns with many of these projects not because they are against development, but because Indian Country often bears the burdens and harms of infrastructure projects without getting any of the benefits.”<sup>151</sup>

U.S. law recognizes Indian tribes as domestic dependent governments that have the rights of sovereignty and self-determination. Any decisions with implications for American Indians or Alaska Natives, such as the siting of infrastructure, must be made in consultation with the affected tribe. CEQ regulations for implementing NEPA require agencies to consult with tribes during the preparation of environmental reviews, and Section 106 of NHPA concerning historic, religious, or culturally important sites requires consultation when activities will occur on historic properties either on or off tribal lands. Federal agencies have developed extensive regulations and guidelines, although different at each agency, for meaningful consultation. Now that some federal agencies have created more effective consultation protocols, tribes and advocacy groups are using the federal courts to enforce them. This alone provides tribes an opportunity to delay energy infrastructure projects if tribes feel their interests have not been considered in the siting and permitting process.

Throughout the process of this study several American Indians and Alaska Natives have been study participants and have contributed to this study’s research, findings, and recommendations. Following is feedback from the tribal study

151 National Congress of American Indians, “Tribal Infrastructure: Investing in Indian Country for a Stronger America,” An initial report to the Administration and Congress, 2017, [http://www.ncai.org/resources/ncai\\_publications/ncai-infrastructure-in-indian-country-report](http://www.ncai.org/resources/ncai_publications/ncai-infrastructure-in-indian-country-report).

participants’ perspective wherein several concerns about siting and permitting decisions, as well as the consultation process itself, are raised.

## 1. Overlooked Workforce Development

Tribes frequently lament lost opportunities for workforce development associated with all phases of the pipeline project or regional program when project developers do not consider a multitude of workforce development opportunities with tribes in the regions immediately surrounding a project. A variety of workforce development partnerships, like MOUs, have formalized these arrangements. Some pipeline operators and trade unions have made great strides with tribes.<sup>152</sup> Many impacted reservations suffer extreme levels of unemployment and have large numbers of tribal members willing to work. Without tribal employment and business requirements, much of the revenue a project might send to tribal economies ends up flowing to county and state tax rolls, exacerbating long-standing tribal-state tensions.

## 2. American Indians, Alaska Natives, Labor Union, and Federal Government Collaboration and Training

Trade unions, including but not limited to the International Brotherhood of Teamsters, Pipeliners Local Union 798, and Laborers International Union of North America can be involved in the construction or operation of modern energy infrastructure assets. American Indians and Alaska Natives have been a part of trade unions and infrastructure dating back to 1886 when ironworkers bridging the St. Lawrence river on Mohawk tribal land in Quebec hired tribal members.

Many trade unions and federal agencies have a long history of having apprenticeship programs for and with American Indians and Alaska Natives. During this study, the Pipeliners Local Union Local 798 detailed its job training program with American Indians and Alaska Natives, for example, a program with the Cherokee Nation. As one pipefitter said, not all trainees stick but when it does the energy industry provides life-changing jobs for

152 Thompson, L., “Labor Reserves: Tribal-Union Workforce Partnerships Address Pipeline Labor Shortage,” North American Oil and Gas Pipelines, October 3, 2018.



the union trainee and his or her family. Numerous labor unions have recently signed agreements with federally recognized tribes formalizing their relationship and committing to a joint effort in training labor force that includes American Indians and Alaska Natives.

Another example is the long-running National Ironworkers Training Program for American Indians (NITPAI) that operated from 1972 through 2011. NITPAI was a pre-apprentice program cooperation between the Bureau of Indian Affairs (BIA) and the ironworkers International. The BIA provided the funding and the ironworkers provided the training. Before it ended in 2011, American Indians and Alaska Natives from all parts of the United States participated in this course with hopes of starting careers as apprentice iron workers. This course has been modeled in Canada. NITPAI graduates were placed as apprentices at local unions throughout the country, subject to Bureau of Apprenticeship and Training and local union approval. It is estimated more than 3,000 American Indians finished the course.

Similarly, the International Brotherhood of Electrical Workers (IBEW) has conducted intensive pre-apprenticeship programs for American Indians at the tribal technical colleges, providing hands-on electrical work and classroom time. The IBEW program was sponsored by the union, the National Joint Apprenticeship Training Committee, the National Electrical Contractors Association, and the U.S. Department of the Interior's Office of Indian Energy and Economic Development. The BIA covered direct program costs.

The federal government can play an important role by facilitating the American Indian and Alaska Native workforce with labor unions for energy infrastructure development. The General Accountability Office recently made 22 recommendations to enhance government-to-government consultation and to improve to communication with tribes about how tribal input from consultation was considered in agency decisions on infrastructure projects.

Labor unions regularly interface with the Department of Energy (DOE), and the DOE has engaged labor unions and worker stakeholders.

### **Findings:**

- Creating workforce training and employment programs is an effective method in building relationships with tribes during the development of energy infrastructure projects.
- Collaborative pre-apprenticeship labor training programs for American Indians and Alaska Natives hold promise to build an indigenous, growing work force of skilled trade unions on reservations and in nearby towns to be ready to work on energy infrastructure projects.

**The NPC recommends** that the federal government should, after consultation with tribes, construction companies, and trade schools, support American Indian and Alaska Native workforce development through labor pre-apprenticeship training programs for American Indians and Alaska Natives of trades involved in the construction, maintenance, or operation of energy infrastructure. In addition, the NPC encourages energy companies and labor unions to initiate agreements with tribes to provide work and training opportunities relative to energy infrastructure projects.

### **3. Avoiding Tribal Siting**

Tribal communities are concerned about pipeline companies avoiding route alignments within reservation boundaries. Commonly, proponents avoid forming partnerships with impacted tribes early on in the siting and project development process out of concern that deliberations will delay a project's review. Tribes often feel proponents do not take early opportunities to develop trust and lasting relationships with tribes to facilitate project rights-of-way, siting decisions, and other major location decisions.<sup>153</sup>

<sup>153</sup> Journey D. H., Bragg, D. C., Coleman R. E., and Gonzalez B., "Lessons from a Programmatic Agreement and Heritage-Based Consultations," *Journal of Forestry*, September 2017, 115(5): 458-467.

## 4. Siting and Sacred Sites

Tribes also have concerns about the impacts occurring from late or delayed consultation. They fear the lasting impacts of unanticipated discoveries, when proponents do not meet with tribes early on in the development process to identify and avoid disrupting sacred sites.<sup>154</sup>

## 5. Arms-Length Negotiations

Tribal communities are frequently troubled by what they perceive as impersonal, potentially un-trustworthy negotiation styles. Proponents often structure their tribal engagement in ways that do not emphasize getting to know tribes at the cultural or personal level—the old-fashioned way—before getting into siting and development negotiations.<sup>155</sup>

## 6. Complex and Nebulous Permitting Framework

While many tribes are advancing significantly in their legal expertise, tribes have a less experience navigating the existing regulatory framework governing permitting across multiple federal agencies. This complex system is why tribal negotiation experts advocate for pipeline companies to work directly with the tribes, instead of acting only through the agencies.<sup>156</sup>

## 7. Lack of Consultation Requirements in Proceedings

Federal consultation requirements do not apply when states oversee the siting and permitting process. While the USACE may be considered the lead regulatory agency over some portions of such a pipeline, the agency's jurisdiction in these pipelines is confined to water crossings or easements for corps-managed lands. This means federally recognized tribes only have the opportunity for

154 "Pipeline Leadership a Star in Dallas," North American Oil and Gas Pipelines, November/December 2017.

155 Kramer, B., "Editor's Message: Getting to Know People the Old-Fashioned Way," North American Oil and Gas Pipelines, February 26, 2018.

156 Kramer, B., "How Collaborating with Tribal Communities Benefits Pipeline Development," North American Oil and Gas Pipelines, February 5, 2018.

government-to-government consultation on a small portion of that entire project.<sup>157</sup>

## 8. Climate Change

The Intergovernmental Panel on Climate Change found that indigenous peoples of North America are disproportionately vulnerable to climate change. The most vulnerable industries, settlements, and societies are generally those in coastal and river flood plains; those whose economies are closely linked with climate-sensitive resources; and those in areas prone to extreme weather events. Nearly all tribes fit into one of those categories, and most Alaska Native communities fit into all three. With that being said, how the energy industry recognizes the implications of energy development on tribes in the context of climate change is an important concept that needs to be addressed. It is critical that government agencies consult with tribes related to climate change.

**Finding:** American Indians and Alaska Natives are a special class of stakeholder, due to their sovereign status. Federal agencies have developed extensive regulations and guidelines, although different at each agency, for meaningful consultation. Tribes have several concerns about siting and permitting decisions, as well as the consultation process itself.

### ***The NPC recommends that:***

- The federal government should continue to enhance nation-to-nation consultation with American Indian and Alaska Native governments regarding energy infrastructure development.
- Agencies should develop project-specific plans to document the steps they will take to coordinate public and tribal participation and complete the required environmental reviews and authorizations.

157 "Viewing Both Sides: A Look at the Relationship Between Tribes and Pipeline Companies," Lou Thompson, CEO of Tribal Energy Resource.

- American Indians and Alaska Natives and industry operators should strive for meaningful dialogue in areas of mutual interest and needs of tribes and industry, such as preservation of sacred sites, workforce development, and infrastructure development.

## E. Best Practices for Stakeholder Engagement

Public notice and comment are fundamental components of government decision-making. Although little empirical data exist to quantify how effective public input affects a project's probability of approval, costs, or timeline to completion, the concept that stakeholder engagement smooths project approval by reducing delays and litigation is well established.<sup>158</sup>

Stakeholder engagement is essential to addressing public concerns. While the obligation rests with government to take public comment, project owners play a key role in addressing public concerns. Proactive engagement can be more expansive than formal public input. Key elements of effective engagement include perceptions of trust, fairness, governance capacity, compatibility of interests, contact quality, and contact quantity.

Government regulations for public input are designed to address these needs, in particular ensuring transparency and fairness of procedures to solicit input and provide access to the process for all interested parties. Government agencies and industry associations have also developed recommended best practices for stakeholder engagement designed for project developers to inform and facilitate project development.

Early engagement is considered key to a project's likelihood of approval. In addition to identifying and addressing issues that stakeholders might raise as objections later in the design process, gathering public input in the pre-filing

process creates an early record that could speed agency approval. FERC guidance for industry outreach programs also emphasizes the need for management commitment to ensure adequate resources and support for internal collaboration, training for outreach staff, communications (including printed materials, mailings, a web portal, and social media), public meetings, site visits, and other activities.

Federal agencies are increasingly using environmental collaboration and conflict resolution (ECCR) to resolve disputes following the directive of a joint Office of Management and Budget/CEQ memo issued in 2005. ECCR uses neutral facilitators or mediators to work with agencies and stakeholders to negotiate settlements that avoid litigation and save time and money.<sup>159</sup> In 2017, FERC used ECCR for 111 cases and closed 101 of them, of which 94 involved siting and construction.<sup>160</sup> The majority of these cases closed within 6 months. One case involved a landowner dispute with a natural gas pipeline company over the routing of a pipeline across a dike on the property. FERC's Dispute Resolution Service mediated discussion that resulted in a new route for the pipeline through the property. Without ECCR, the case would likely have ended in litigation. FERC noted the benefits of ECCR include saving agency resources and providing more certainty to stakeholders and companies.

Industry stakeholder engagement best practices are inclusive. Engagement is a two-way, give-and-take dialogue, designed to be transparent and build trust between the parties and can result in mitigation of concerns. By knowing the community and interacting with them effectively (overcoming language barriers, lack of email and internet access, and reluctance to speak in front of groups) trust may be built among regulators, industry, and other stakeholders.

<sup>158</sup> PENN Program on Regulation, "Public Engagement and Transparency in Regulation: A Field Guide to Regulatory Excellence," June 2015, <https://www.law.upenn.edu/live/files/4709-nashwalters-ppr-researchpaper062015.pdf>.

<sup>159</sup> Federal Forum on Environmental Collaboration and Conflict Resolution, "Environmental Collaboration and Conflict Resolution (ECCR): Enhancing Agency Efficiency and Making Government Accountable to the People," May 2018, [https://ceq.doe.gov/docs/nepa-practice/ECCR\\_Benefits\\_Recommendations\\_Report\\_%205-02-018.pdf](https://ceq.doe.gov/docs/nepa-practice/ECCR_Benefits_Recommendations_Report_%205-02-018.pdf).

<sup>160</sup> Policy Report to OMB-CEQ, FY 2017, "Environmental Collaboration and Conflict Resolution (ECCR)," <https://www.udall.gov/documents/ECCRReports/2017/ECCRReportFY2017FERC.pdf>.

While there is an obligation with government to receive and address public comment, the project owners can also play a key role in addressing public concerns. Specific tools for community and stakeholder engagement include the following.<sup>161,162,163</sup>

1. Proactively engage with the community as early as possible:

Reach out to elected and appointed leaders and agency representatives to provide information and answer questions. Develop a relationship built on trust. Provide training for key community personnel such as first responders. Gain an awareness of stakeholder concerns. Respond to these concerns promptly and work toward collaborative solutions that meet the community's needs as well as the company's goals.

2. Train all project representatives:

Include right-of-way agents whom are often the first company contact with landowners. Company staff and subcontractors should be knowledgeable about the planning process, including landowner's rights and responsibilities, easily accessible if questions or concerns arise, understand community values and concerns, and possess good social skills/empathy as well as technical expertise. Expect respect in all interactions with landowners, community residents, stakeholder, and activists, and train employees and contractors to effectively represent their company with a consistent message and prompt feedback. Expect ethical codes of conduct and adherence to professional standards.

3. Continue ongoing community/stakeholder outreach and engagement:

Be transparent and intentional about changes in development plans. Consider having a company representative embedded in the community for the life of the project and company accessibility when construction is completed to address concerns that arise.

4. Target education and outreach to the needs of diverse audiences:

Provide materials/strategies to reach non-English speaking populations, for those who do not use the internet, limited education audiences, etc. Know the culture and demographics of the community so you can best determine how to be inclusive in your outreach.

5. Design public outreach meetings to be as effective as possible:

Conduct public meetings, open houses, forums etc., frequently and in locations and times convenient to community residents and stakeholders. Consider using a trained facilitator (neutral party) to facilitate public meetings so that all participants will have an equal opportunity to speak, share their concerns, and have them addressed.

6. Communicate in a variety of methods throughout the life of the project:

Develop educational materials for stakeholders and the community at large using a variety of distribution methods (mailings, web sites, flyers, posters) and tailored to meet the different needs of the audience. Develop a web site with materials that outline the proposed route. Post changes quickly to give landowners and others an opportunity to respond. Promote communications with stakeholders and community leaders that are ongoing, two-way, face to face when possible, and promote honest and open dialogue.

Additional best practices and recommendations are discussed in "The Aspen Dialogue on Energy Governance" text box.<sup>164</sup>

**Finding:** Inconsistent and insensitive land and right-of-way acquisition practices, insufficient communication and lack of transparency about project implementation plans, and inadequate stakeholder or tribal engagement practices can result in avoidable project delays.

161 Interstate Natural Gas Association of America, Commitment to Landowners and Commitments to Responsible Construction.

162 Federal Energy Regulatory Commission, Suggested Best Practices for Industry Outreach Programs to Stakeholders, July 2015, <https://www.ferc.gov/industries/gas/enviro/guidelines/stakeholder-brochure.pdf>.

163 Interstate Natural Gas Association of America, Commitment to Landowners and Commitments to Responsible Construction.

164 Topic Paper 3-6: "The Aspen Institute Dialogue on Energy Governance: Stakeholder Engagement Best Practices and Recommendations," Marilu Hastings, Cynthia and George Mitchell Foundation.



## THE ASPEN INSTITUTE DIALOGUE ON ENERGY GOVERNANCE: STAKEHOLDER ENGAGEMENT BEST PRACTICES AND RECOMMENDATIONS

**B**eginning in October 2016, the Aspen Institute Energy and Environment Program convened the Aspen Institute Dialogue on Energy Governance. This effort was funded by the Cynthia and George Mitchell Foundation and the Alfred P. Sloan Foundation. This policy dialogue brought together a group of experts from the scientific community, industry, government, and other organizations focused on the governance of oil and natural gas development from shale resources and other energy infrastructure development. The Dialogue commenced from the following question: *How can stakeholders be more involved and better engaged throughout the process to address issues, discuss the management of potential risks and benefits, and seek to avert conflict?* The findings and recommendations from the Aspen Institute Dialogue are summarized here.

### **Part I:** Findings

**Finding 1:** Effective Stakeholder Engagement is Not Being Practiced Systemically by Regulators or the Industry.

**Principle 1.1** Effective stakeholder engagement processes are multidirectional, inclusive, and seek to build trust.

**Principle 1.2** Processes require access to information and meaningful opportunities to influence both regulatory outcomes and industry decisions while recognizing the legal and economic limits that may restrict those outcomes and decisions.

**Principle 1.3** Processes must clearly articulate a purpose for the stakeholder engagement, the rationale that motivates participation, and acknowledge participants' diverse roles and definitions of success.

**Principle 1.4** Processes need neutral or trusted conveners and facilitators, especially if levels of trust among participants are low at the outset.

**Principle 1.5** Processes must start early in the shale development process but adapt to the changing needs of stakeholders over the lifetime of energy development, from inception, through construction, operation, decommissioning, and land reclamation.

### **Part II:** Recommendations

Create Effective, Early Engagement Among the Various Stakeholders Where All Those Interested in, Able to Affect, and Affected by Energy Development—Positively and Negatively—Can Raise Issues and Discuss the Management of Potential Risks and Benefits.

- **Recommendation 1.1 Build capacity and a leadership culture** that embraces effective stakeholder engagement principles.

Even absent a legal obligation to engage stakeholders, regulators and industry should voluntarily engage stakeholders in meaningful dialogue about development. Industry should provide more regular opportunities to discuss plans and operating practices, and work with stakeholders to establish best management practices that may eliminate or reduce impacts to the extent practicable. One strategy to enhance the capacity and culture for effective engagement within industry would be to establish a National Operator Advisory Board. This could help operators work collectively toward more effective engagement practices regarding energy, environmental, and related public policies that encourage responsible exploration, development, and production of oil and natural gas from shale resources.

- **Recommendation 1.2 Enhance and adapt stakeholder engagement processes.**

Many existing shale governance processes already formally require or rely on informal mechanisms for stakeholder governance. Yet existing processes often do not meet the expectations of successful stakeholder governance or appear ill-suited to addressing new issues, or new stakeholders, as patterns of shale development shift. As the context and stages of project development shift, the stakeholder engagement process likewise will need to adjust. Different stakeholders may need to be brought into the process at different stages. As issues change, or conflicts arise in engagement processes, neutral facilitators or new ground rules for who participates and what topics can be covered may also be critical.

**The NPC recommends** that infrastructure companies should consistently:

- Implement existing best practices (FERC, Interstate Natural Gas Association of America, American Petroleum Institute, Association of Oil Pipe Lines) for early and effective engagement with local governments, communities, private citizens, public interest groups, and American Indians and Alaska Natives to understand and address stakeholder concerns. Infrastructure companies should strive to incorporate stakeholder input into the proposed action wherever practicable and collaborate on finding solutions or conveying reasons in those circumstances where an interest is difficult to accommodate.
- Engage in educational and awareness efforts with communities and stakeholders to increase understanding of the need for infrastructure, the steps to be taken to construct and operate it safely, and how they will be engaged throughout the siting and development process.
- Work collectively toward more effective engagement practices regarding energy, environmental, and related public policies that encourage responsible energy development and transport.

#### IV. PERMITTING PROCESSES BY MODE AND ACTIVITY

There are a wide range of commodities, modalities, processes, and regulators affecting domestic energy security. Over time, differing authorities and challenging processes have led to extended delays, uncoordinated reviews, and overall complexity that frustrate the interests of economic development, energy security, environmental protection, and reliable and affordable energy. Agencies need to coordinate and cooperate to make timely decisions that withstand judicial review. Improvement is now needed to serve the goals of enhanced energy security, public safety, and environmental protection.

A flowchart of an energy-transmission project requiring federal agency approval is given in Figure 3-10.

Previous sections of this chapter have described in detail the overarching regulatory requirements for each part of the oil and natural gas infrastructure mosaic and highlighted the challenges these statutes and regulations poses for all stakeholders. The following discussion outlines the permitting and siting process for each specific mode of transport and infrastructure, but the regulations and challenges noted above are interwoven in each process discussed below. Despite the specific process for permitting each mode and commodity, the requirements and attendant challenges of the NEPA, SEPA, and other environmental statutes underpin each process outlined below. In addition to the statutory and regulatory challenges, the need for industry to maintain and strengthen community engagement also remains paramount in evaluating each specific permitting process.

The following section overviews processes by mode for siting and operations/maintenance, with a focus on the federal processes.

#### A. Siting and Permitting Processes by Mode

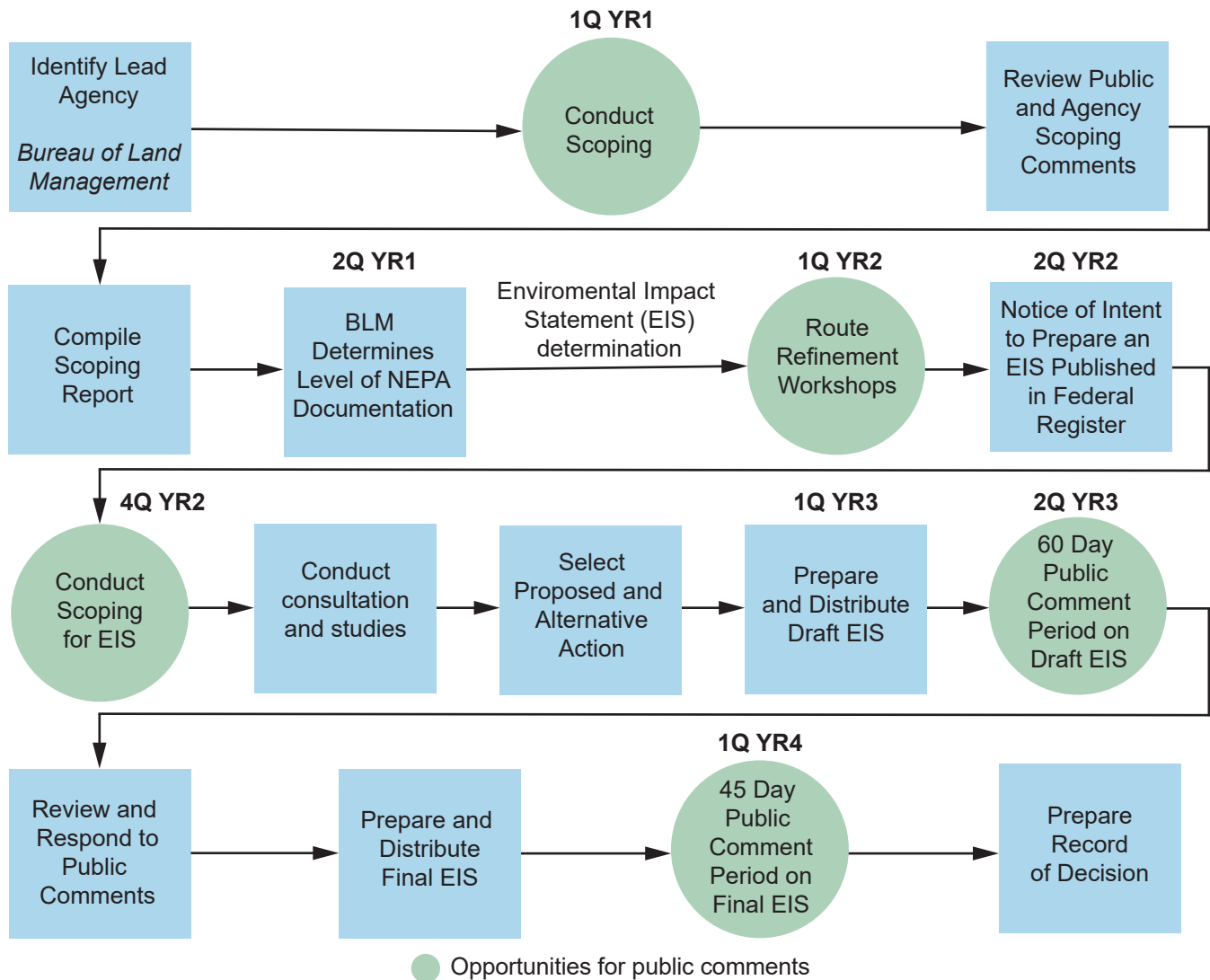
##### 1. Pipelines

###### a. *Interstate Natural Gas*

Historically, FERC's NEPA review was triggered by an application for a certificate of convenience and necessity, which is often referred to as a certificate proceeding in which the project is assigned a unique docket number that allows interested parties to see all public information and provide comments on the record.

***There are more than 300,000 miles of interstate and intrastate natural gas transmission pipelines.***

FERC has a practice of pre-filing that has replaced the certificate proceeding as the primary trigger for the initiation of NEPA review. In its prototype days, pre-filing was conceived as a way to bring federal, state, and local agencies together,



Source: Based on Review of Projects.

**Figure 3-10.** Flowchart of an Energy-Transmission Project Requiring Federal Agency Approval

along with key stakeholders—landowners, American Indians, Alaska Natives and other affected parties—to identify concerns early in the planning phase such that the project design could incorporate public concerns or agency input.<sup>165</sup> That goal remains unchanged.

However, as part of the Energy Policy Act of 2005 (EPAct 2005), to decrease the time needed for creating a complete application for new LNG terminals, Congress required that FERC adopt a

<sup>165</sup> Federal Energy Regulatory Commission, “Ideas for Better Stakeholder Involvement In the Interstate Natural Gas Pipeline Planning Pre-Filing Process,” December 2001, <https://www.ferc.gov/legal/maj-ord-reg/land-docs/stakeholder.pdf>.

rule requiring potential developers to initiate pre-filing procedures at least 6 months prior to filing a formal application with FERC. Since then, pre-filing has also become the preferred process for interstate pipelines that are not directly connected to an LNG terminal.

This process begins with the applicant’s request to FERC to use the process and the establishment of a pre-filing docket number (PF Docket). The goal of pre-filing is to avoid and minimize impacts to the maximum extent practicable through capturing concerns into the upfront routing and design. Figure 3-11 and Figure 3-12 illustrate FERC’s pre-filing review process.

The pre-filing process does not establish any deadlines by which the process must be concluded.

FERC’s regulations implementing NEPA (18 CFR Part 380.13(b)(1)), as well as 18 CFR Part 157.206 (b)(7), allow the project applicant to serve as FERC’s nonfederal representative for the purposes of informal consultations with the USFWS and NMFS. Under this authority, it is very common for interstate natural gas projects to coordinate closely with the USFWS or NMFS early in the project planning phase to design the project in such a way as to avoid affecting protected species. The agencies are assessing if the project will have no effect, may affect, or is likely to adversely affect a listed species or its critical habitat as described above. Projects that can achieve a no effect, may affect, or not likely to adversely affect determination for listed species and their habitats can conclude the ESA consultation process without a Biological Opinion or Incidental Take Statement. Informal consultation often still involves extensive field survey and studies to demonstrate that the species and its habitats are not present in the project area or that the project can

be designed to avoid any potential harm (i.e., timing restrictions, implementing certain construction methods, adopting alternate routes). If the project cannot achieve a “not likely to adversely affect” determination, then formal consultation is required. As noted above, formal consultation can only take place between the federal action agency (FERC) and the USFWS or NMFS.

Additionally, natural gas imports and exports require an authorization from the Secretary of Energy. Applications of import of natural gas and LNG and export of natural gas to a free trade agreement (FTA) country are deemed in the public interest<sup>166</sup> and must be approved without delay. Exports to non-FTA countries require determination if the export is in the public interest.

The Department of Energy must comply with NEPA as a cooperating agency in the FERC-led environmental review of LNG export applications.<sup>167</sup> DOE provides public notice and comment as part of all non-FTA export applications. Once DOE considers public input and the FERC NEPA process is complete, DOE issues a final decision on the export application.

Since approximately 2012, technological advances in natural gas extraction from the Marcellus and Utica shale formations have changed interstate natural gas pipeline market dynamics. Many of the major long-haul interstate pipelines were constructed to transport natural gas from the Gulf Coast and offshore Gulf of Mexico, West Texas, Rockies, and/or Canadian production areas to demand areas in California, Pacific Northwest, Midwest, and Northeast United States. Markets in these traditionally producing areas were served locally while smaller market areas in the Midwest and Mid-Atlantic coast were typically served along the way to the larger Northeastern markets. While California and the Pacific Northwest are still served by West Texas, Rockies, and Canadian production, the Northeast United States, Mid-Atlantic, and Gulf of Mexico markets now access these Marcellus and Utica natural gas supplies through established interstate pipelines. However, for those markets in

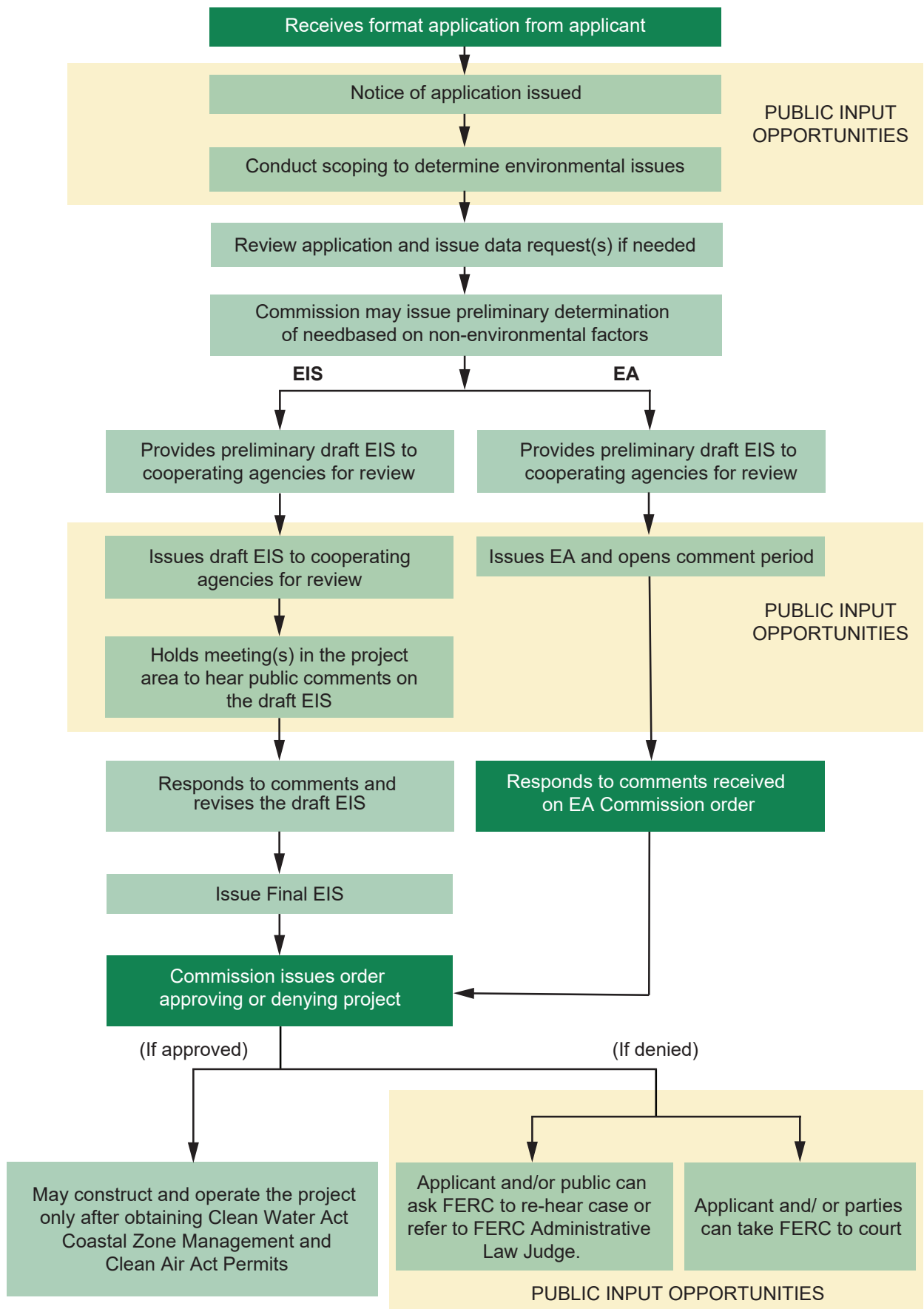


**Figure 3-11.** Processes for Natural Gas Certificates—Applicant’s Planning Process

<sup>166</sup> 15 USC 717b.

<sup>167</sup> 10 CFR 590, <https://www.govinfo.gov/content/pkg/CFR-2012-title10-vol4/pdf/CFR-2012-title10-vol4-part590.pdf>.





**Figure 3-12.** Processes for Natural Gas Certificates—Application Process

the Mid-Atlantic and Gulf of Mexico the pipeline systems must be reversed to allow natural gas to flow southward from Pennsylvania, West Virginia, and Ohio. This typically involves modifications to existing compressor stations, meter stations, mainline valves, and odorization facilities. In a typical project, these modifications are captured in the 7c application to FERC and are considered along with any new facilities required to transport the required volumes. With respect to permitting, facility modifications typically occur within the existing footprint and require minimal temporary workspace. As a result, permitting is usually not a significant constraint.

### ***b. Liquid and Intrastate Natural Gas Pipelines***

Oil, refined products, natural gas liquids, and other liquids pipeline permits are largely governed by programmatic federal programs (e.g., Nationwide Permits), state agencies implementing delegated federal authorities and state specific authorizations grounded in state law. Intrastate natural gas is similar to the permitting process for liquid pipelines. Individual states retain broad authority to permit and regulate interstate liquid pipelines for eminent domain, pollution control, natural resources, and environmental protections along any proposed route. Since liquid and intrastate pipelines are largely dependent on individual states approval, there is not a lead federal agency. Additionally, when a liquids pipeline operator decides to reverse a pipeline that has already been permitted and built (usually to meet a changing market or economic need), there is no additional siting or permitting requirement to reverse the flow of that pipeline. For liquids pipelines that reverse flow, regulatory oversight requirements almost always involve state or federal economic or tariff requirements as opposed to environmental permitting, siting, or licensing requirements.

Federal involvement in the permitting process occurs when liquid pipelines cross federal lands or require a permit from the USACE and thus USACE is the lead federal agency. USACE becomes involved if the liquid pipeline crosses U.S. waters, wetlands, levees, or other federal structures or projects.<sup>168</sup> In

addition to the USACE, other federal agencies and authorizations may be required if an oil pipeline would: (1) result in discharges into surface waters under the Clean Water Act; (2) impact protected wildlife; (3) impact cultural, natural, or historical resources or preservation sites; (4) cross federal lands; or (5) cross an international border.<sup>169</sup>

***There are more than 200,000 miles of liquids pipelines.***

Pipeline developers may seek to colocate pipelines on existing rights-of-way, corridors, where surveying and site preparation has been conducted previously.<sup>170</sup> However, colocating pipelines in existing corridors can increase the risk to the integrity of the pipeline. The risk of third-party damage, primarily from excavation, is higher when pipelines are located adjacent to each other.

Additionally, locating pipelines in electrical transmission corridors presents unique risks. In addition to the maintenance of the electrical transmission equipment presenting increased risk of third-party damage, electrical transmission lines interfere with the pipeline corrosion protection systems. This interference can be mitigated through proper engineering design and ongoing maintenance of the system, but it is a risk that needs to be managed properly during design, construction, and for the life of the pipeline.

Chapter 4, “Technology Advancement and Deployment” contains recommendations to improve use of corridors.

### ***c. Cross Border Permits***

Decisions affecting international borders of the United States are an executive function of foreign policy which is vested in and exercised by the

<sup>169</sup> Exec. Order 11423, as amended by E.O. 1337 §1, (governing presidential permits for cross-border pipeline crossings); 43 CFR §2885.11 (conditions for ROW access through federal lands).

<sup>170</sup> One proposed option is to use Section 368 corridors as a vehicle for pipeline permitting improvements. The corridors, as laid out in Section 368 of EPAct 2005, call for federal agencies to work together to facilitate pipeline development and electric transmission in the 11 contiguous western states. See DOE Office of Electricity, “Energy Corridors on Federal Lands,” <https://www.energy.gov/oe/services/electricity-policy-coordination-and-implementation/transmission-planning/energy>.

<sup>168</sup> 33 CFR §325.4.

President.<sup>171</sup> If infrastructure will cross the border of the United States, a permit to cross the border is required. The State Department, as the lead U.S. foreign affairs agency, advises the President on a presidential permit or cross-border permit if it would serve the foreign policy interests of the United States. A cross-border permit applies to the short segment of infrastructure that crosses the border. For the portions of the facility that are outside the border segment, the permit processes to protect health, safety, cultural resources, species, and other considerations discussed in the preceding sections apply.

Executive Order (E.O.) 13867 (Issuance of Permits with Respect to Facilities and Land Transportation Crossings at the International Boundaries of the United States) applies to certain types of facilities and land transportation, and its purpose is to define issuance as a Presidential action. The Secretary of State will advise the President if the infrastructure serves the foreign policy interests of the United States. The decision whether to grant or deny a border crossing is vested solely with the President.

The E.O. designates the Secretary of State responsibility to receive applications for certain cross-border infrastructure, adopt procedures that expedite cross-border permit reviews, and process applications within 60 days of the receipt of an application.

For natural gas pipelines that cross the U.S. border and require a cross-border permit, E.O. 10485, as amended by E.O. 12038 authorizes FERC,<sup>172</sup> in consultation with the State Department, to issue both the presidential permit and NGA Section 3 authorization approving the siting, construction,

and operation of facilities at an international border. These authorizations are necessary without regard to whether the facilities in the United States, located either upstream or downstream of the cross-border facilities, provide service in interstate or intrastate commerce.<sup>173</sup>

## 2. Inland Waterways and Port Facilities

The nation's coastal ports and inland waterways, illustrated in Figure 3-13, are part of a larger waterborne transportation network, collectively referred to as the Marine Transportation System (MTS). The MTS includes 25,000 miles of navigable channels and related infrastructure, such as publicly and privately owned marine terminals, intermodal connections, shipyards, and related repair facilities. The navigable channels include 12,000 miles of inland waterways (including two intracoastal waterways) with 236 lock chambers at 192 sites, and 926 coastal and inland ports (including the ports of the Great Lakes) with 13,000 miles of channels and 12 locks (not including the locks of the St. Lawrence Seaway). The MTS is further supported by 174,000 miles of rail, 45,000 miles of interstate highways, more than 115,000 miles of other highways, and 1,400 intermodal connections.<sup>174</sup>

The USACE has been responsible for maintaining navigation on the nation's waterways since 1899. USACE ports and waterways serve 41 states (including all east of the Mississippi River). USACE is charged with providing safe, reliable, efficient, and environmentally sustainable waterborne transportation systems (channels, harbors, and waterways) for movement of commerce, national security needs, and recreation.<sup>175</sup>

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171 U.S. Constitution, Article II.

172 Natural Gas Act, Section 3.

173 An authorization from the Department of Energy, Office of Fossil Energy is necessary for the import or export of the natural gas commodity itself (Natural Gas Act Section 3 Authorization for Import/Export of Natural Gas). The cross-border pipeline either must obtain this authorization on behalf of its shipper or the individual shipper must obtain this authorization for its own natural gas.

Additionally, for projects crossing the U.S. and Mexico border, an International Boundary and Water Commission (IBWC) license or other approval from the IBWC pursuant to federal treaties with Mexico may be needed. U.S. Customs and Border Protection Border Patrol Division: Projects crossing the border may need to consult with the Border Patrol to ensure no conflicts with operations and security.

174 The Quadrennial Energy Review, "Chapter V: Improving Shared Transport Infrastructures," in *Energy Transmission, Storage and Distribution Infrastructure*, April 2015, p. 5-13, <https://www.energy.gov/sites/prod/files/2015/08/f25/QUER%20Chapter%20V%20Shared%20Transport%20April%202015.pdf> (accessed June 6, 2019).

175 U.S. Army Corps of Engineers, "Navigation," <https://www.usace.army.mil/Missions/Civil-Works/Navigation/> (accessed June 6, 2019).



Source: National Waterways Foundation, *Inland Navigation in the United States*, Prepared by the University of Kentucky and the University of Tennessee, November 2014.

**Figure 3-13.** *The Inland Navigation System*

***The U.S. has 25,000 miles of navigable channels that are supported by 174,000 miles of rail, 160,000 miles of interstate highway and other highways, and 1,400 intermodal connections.***

A persistent challenge for USACE is how to manage its \$96 billion (2018 USACE estimate) in “construction activities that are eligible for federal appropriations,” or construction backlog. Despite the backlog, Congress appropriated \$2.18 billion for the current fiscal year (FY) and directed USACE to study additional projects for future construction authorization. Several of the currently proposed new large-scale and long-term projects, while of relatively obvious value for the movement of commerce and other core agency responsibilities, are each estimated to cost in the tens of billions and take many years to complete.<sup>176</sup>

<sup>176</sup> Congressional Research Service, “In Focus: Army Corps of Engineers: FY2019 Appropriations,” November 16, 2018, <https://fas.org/sgp/crs/natsec/IF10864.pdf> (accessed May 30, 2019).

Of its FY 2019 Appropriation, USACE was provided almost \$7.0 billion for civil works activities and \$200 million for regulatory activities. In February 2018, Congress also provided more than \$17.40 billion in emergency supplemental funding, mostly to repair disaster damage to existing USACE facilities, additional flood fighting, nonfederal levee and dam repair, and constructing new river and coastal flood control improvements.<sup>177</sup> The President’s budget request for FY 2020 calls for only \$5.0 billion for USACE civil works activities.<sup>178</sup>

#### ***a. Deepwater Ports***

The Deepwater Port Act of 1974 (DWPA), as amended, establishes a licensing system for

<sup>177</sup> Carter, Nicole T., “Army Corps of Engineers Annual and Supplemental Appropriations: Issues for Congress,” Congressional Research Service, October 1, 2018, <https://fas.org/sgp/crs/natsec/R45326.pdf> (accessed May 30, 2019).

<sup>178</sup> Congressional Research Service, “In Focus: Army Corps of Engineers: FY2020 Appropriations,” May 16, 2019, <https://fas.org/sgp/crs/natsec/IF11137.pdf> (accessed May 30, 2019).



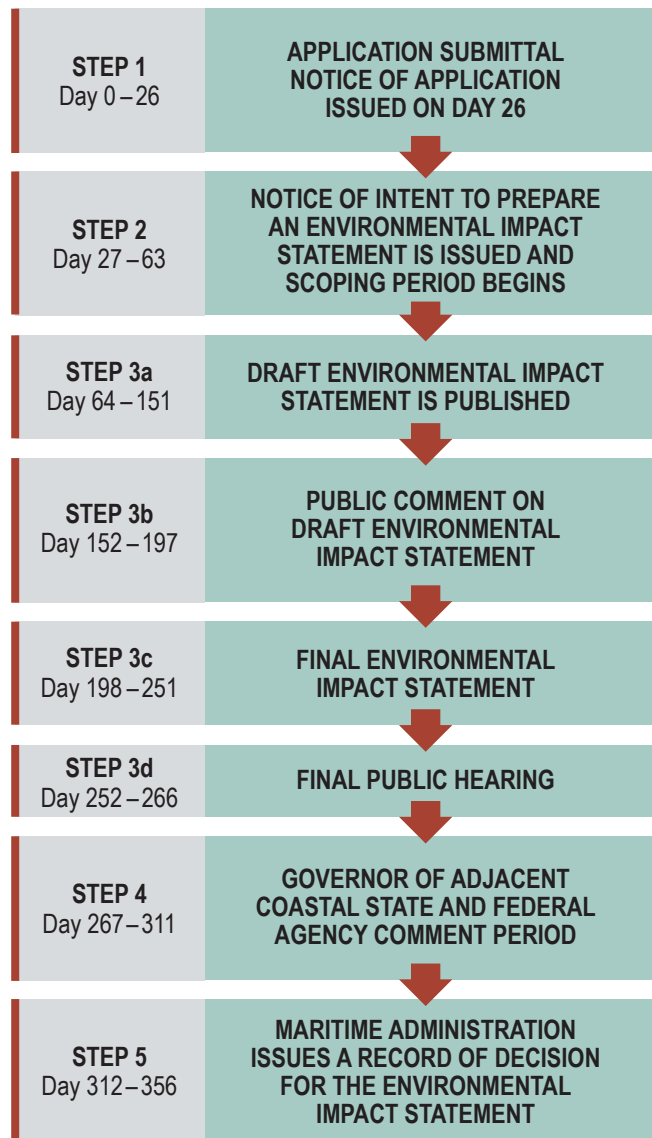
ownership, construction, operation, and decommissioning of deepwater port structures located beyond the U.S. territorial sea for the import and export of oil and natural gas. The DWPA sets out conditions that deepwater port license applicants must meet, including minimization of adverse impacts on the marine environment and submission of detailed plans for construction, operation, and decommissioning of deepwater ports. The DWPA also sets out detailed procedures for the issuance of licenses by the Secretary of Transportation and prohibits the issuance of a license without the approval of the governors of the adjacent coastal states. These responsibilities have been delegated to the maritime administrator.

The DWPA establishes a specific time frame of 330 days from the date of publication in the Federal Register (for notice of a complete application) for approval or denial of the deepwater port license. During this time, the Maritime Administration must receive and assess specific information from participating agencies and efficiently process all required licensing documentation.

The timeline of the DWPA requires preapplication development on the part of an applicant to meet license requirements and avoid a suspended review that can delay processing activities. The Maritime Administration and U.S. Coast Guard (USCG) work with applicants to meet review requirements and the expectations of state regulators and the general public in the licensing process.

The project milestones of the application process have mandatory deadlines and operate on a 356-day clock that begins when the applicant submits a deepwater port license application and ends when the Maritime Administration issues a record of decision. The clock may be paused and re-started at the discretion of the agency.

The Maritime Administration, the USCG and other federal and state agencies evaluate a newly submitted application for completeness. This process takes 26 days and results in either a notice of application published in the Federal Register or a formal rejection by the maritime administrator.



Source: MARAD's website, "Licensing Process," updated August 5, 2019.

**Figure 3-14.** Overview of Maritime Environmental Impact Statement Process

Figure 3-14 represents a typical timeline, assuming there are no clock stoppages to get additional information.<sup>179</sup>

The NEPA process takes approximately two-thirds (240 days, Steps 2 to 3d in Figure 3-14) of the application review timeline and begins when the Notice of Application is issued. During this

<sup>179</sup> From MARAD's website, "Deepwater Ports Licensing," <https://www.maritime.dot.gov/ports/deepwater-ports-and-licensing/licensing-process>.

time, the Maritime Administration and the USCG, in collaboration with other agencies, ensure that a thorough EIS is developed. Any gaps in information may require a suspension of the timeline. The Maritime Administration and the USCG will suspend an application review because of a lack of adequate information necessary to the application decision-making process. Issues that have triggered “stop clocks” are similar to those regulated and described in Section II of this chapter, Regulatory Framework for Energy Transportation Infrastructure.

Along with the NEPA review process, the Maritime Administration has its own approval criteria that must be met before a license may be issued.

Once the application has made it through the federal and state review process (Step 4) and has reached the record of decision stage (Step 5), the maritime administrator will render a final decision based on the applicant’s ability to meet and comply with the following nine criteria<sup>180</sup> as set forth in the Deepwater Port Act of 1974, as amended and in accordance with other applicable laws and regulations. Further, the official record of decision will describe the Maritime Administration’s decision to approve, approve with conditions, or deny the application.<sup>181</sup>

### 3. LNG Infrastructure

LNG infrastructure, illustrated in Figure 3-15, is visible, easily identifiable and LNG is relatively unknown. As such, public concerns about LNG safety and security risks continue to be raised. While LNG has historically made up a small part of U.S. natural gas supplies, the abundance of natural gas and its low carbon footprint are sharply

increasing worldwide LNG demand. LNG infrastructure consists primarily of tankers, import/export terminals, and inland storage plants.

The EPLRA 2005, Section 3 of the NGA gives FERC explicit and exclusive authority to approve onshore LNG terminal siting applications. It provides clarification around roles and responsibilities of decision-makers, such as:

- Requires FERC to promulgate regulations for mandatory pre-filing of LNG import terminal siting applications
- Directs FERC to consult with designated state agencies regarding safety in considering such applications
- Permits states to conduct safety inspections of LNG terminals in conformance with federal regulations, although it retains enforcement authority at the federal level.
- Designates FERC as the “lead agency for the purposes coordinating all applicable federal authorizations” and for complying with federal environmental requirements.
- Establishes FERC’s authority to set schedules for federal authorizations and establishes provisions for judicial review of FERC’s siting decisions in the U.S. Court of Appeals, among other administrative provisions (§ 313(b)).<sup>182</sup>

#### *a. FERC’s Process for Reviewing Applications for LNG Terminals*

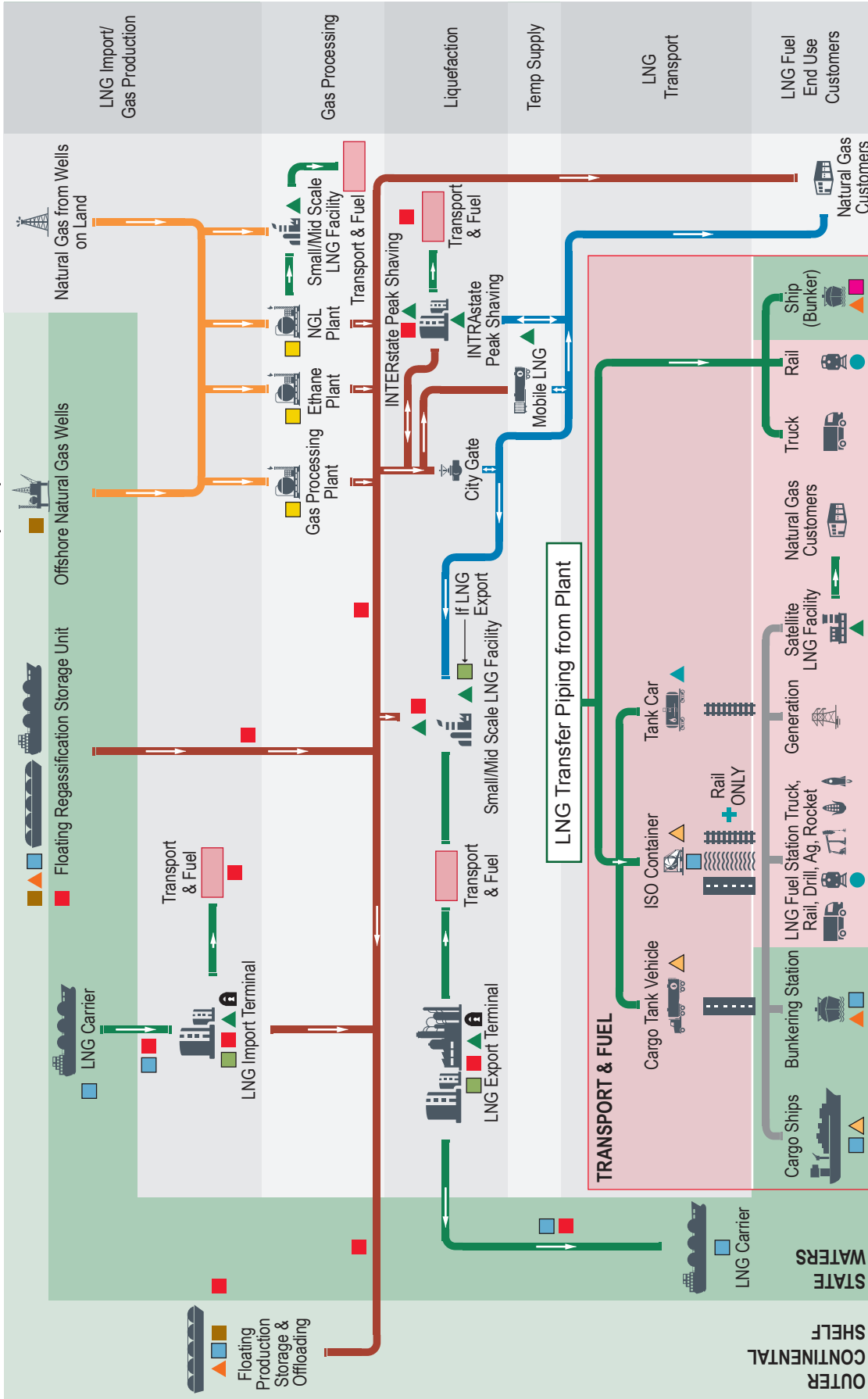
The initial step for LNG project developers in the process is to request from FERC approval to engage in the pre-filing environmental review process. The pre-filing process provides opportunities for federal and state cooperating agencies—such as state departments of environmental quality, USACE, PHMSA, USFWS, and others—and other public stakeholders to comment on the project impacts prior to an application to FERC being submitted. When FERC grants approval to start

180 The nine criteria required under the Deepwater Port Act of 1974 are: (1) Financial Responsibility; (2) Compliance with relevant Laws, Regulations, and License Conditions; (3) National Interest; (4) International Navigation; (5) Impact on the Marine Environment; (6) National Environmental Laws; (7) Consultation with Secretaries of the Army, State, and Defense; (8) Approval of the Governor of the Adjacent Coastal State; and (9) Consistency with the Coastal Zone Management Program. See MARAD’s website, “Deepwater Ports Licensing,” <https://www.maritime.dot.gov/ports/deepwater-ports-and-licensing/licensing-requirements>.

181 MARAD’s website, “Deepwater Ports Licensing,” <https://www.maritime.dot.gov/ports/deepwater-ports-and-licensing/licensing-requirements>.

182 Federal Energy Regulatory Commission, “FERC Processes,” <https://www.ferc.gov/resources/processes.asp?csrt=831636607884987356>.

FEDERAL OVERSIGHT OF LIQUEFIED NATURAL GAS (LNG) VALUE CHAIN



This schematic is intended to provide general information. Certain aspects may be regulated differently than shown and other federal agencies may also regulate LNG through the value chain.

Source: Pipeline and Hazardous Materials Safety Administration, "Jurisdiction of LNG Plants, Federal Oversight of LNG Value Chain," updated January 31, 2018.

Figure 3-15. LNG Infrastructure

the pre-filing process, the applicant will then prepare draft resource reports.

The requirements for the resource reports are outlined in Title 18 of the Code of Federal Regulations Section 380.12. The FERC resource reports are divided into 13 categories that assess various issues subject to NEPA jurisdiction. The resource reports are submitted by the applicant to FERC, which incorporates the contents of these reports into the NEPA document for the project.

For LNG terminals, several federal agencies participate as cooperating agencies in the preparation of the NEPA document. Typically, these cooperating agencies are USACE, USCG, DOT-PHMSA, EPA, and DOE.

The FERC Commissioners consider the final NEPA document when making their decision whether to approve the application, as well as whether to include any conditions that the project developer must meet if the application is approved. This document includes FERC staff's recommended measures for inclusion as specific conditions in the commission's order, which are intended to further mitigate the environmental impacts associated with the construction and operation of the proposed project.

To “accommodate the growing number and complexity of applications to site, build and operate” LNG terminals, in July 2019 FERC announced the formation of a new Division of LNG Facility Review & Inspection to be based in Houston, Texas. The Commission cited the growth of staff to review the LNG applications from 13 full-time staff in April 2018 to 20 full-time staff currently and the “need for FERC to expand its oversight” in the review of LNG terminal applications as support for the creation of the new office. With the creation of this new office, FERC hopes to be able to more efficiently complete engineering reviews, safety analysis with PHMSA and DOT, and complete the “additional work necessary once LNG project applications make final investment decisions and move towards construction.”<sup>183</sup>

183 “FERC Reorganizes to Create New LNG Division, Open Houston Regional Office,” FERC Press Release, July 23, 2019 (R-19).

## ***b. Other Environmental Permits for LNG Terminals***

In addition to the FERC order, several other permits are usually required for the construction and operation of an LNG terminal. For example, the Fish and Wildlife Coordination Act (16 USC 661-666) (FWCA) requires that FWS be consulted whenever the “waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted or otherwise controlled or modified” when a federal permit or license is involved. Consultation is to be undertaken for the purpose of “preventing loss of and damage to wildlife resources.” The law applies to any project that receives either federal funding or a federal permit and proposes to alter a perennial waterway or water body. There is no permit or application process for compliance with FWCA. Table 3-4 reflects the federal, state, and local permits required for a proposed LNG terminal and associated pipeline in Louisiana.<sup>184</sup>

## **4. Aboveground Storage**

Liquids are often stored in large aboveground tanks at pipeline terminals. Similar to the permitting requirements for interstate liquids pipelines, permits for aboveground liquids storage tanks are managed on an individual state basis and are often related to the permitting for the pipelines and terminals served by the pipelines. While the federal government does not have a lead role in the permitting of liquids storage, the federal government, through PHMSA, has a lead role in overseeing the safety of liquids storage.<sup>185</sup>

## **5. Underground Storage**

### ***a. Natural Gas***

Natural gas is stored in underground geologic formations. Whether these are naturally occurring structures, such as aquifers or depleted

184 Federal Register, Final Environmental Impact Statement for Venture Global Calcasieu Pass, LLC, and TransCameron Pipeline, LLC, <https://www.federalregister.gov/documents/2018/10/30/2018-23603/venture-global-calcasieu-pass-llc-transcameron-pipeline-llc-notice-of-availability-of-the-final>.

185 Protecting Our Infrastructure of Pipelines Enhancing Safety (PIPES) Act 2016, Sec. 14; Sec. 25.



Agency	Regulation/Permit/Approval	Project Applicability	Authorization/Interaction Required
<b>FEDERAL</b>			
<b>Federal Energy Regulatory Commission (FERC)</b>	Authorization under section 3(a) of the Natural Gas Act Certification under section 7(c) of the Natural Gas Act	Terminal and Pipeline	Authorization and Certification
<b>U.S. Army Corps of Engineers (USACE)</b>	Section 404 of the Clean Water Act	Terminal and Pipeline	Section 404/10 Individual Permit and Section 408 Approval/Coordination
	Section 10 of the Rivers and Harbors Act	Terminal and Pipeline	Permit
	Section 408 Authorization for work in federal project waters and federally navigable waters (33 USC section 408)	Terminal and Pipeline	Approval/coordination for dredge material disposal
<b>U.S. Coast Guard (USCG)</b>	33 CFR 105; 33 CFR 127; Maritime Transportation Security Act Waterfront Facilities Handling LNG and Liquefied Hazardous Gas (33 CFR 27), which includes Letter of Intent submission (33 CFR 127.007), Waterway Suitability Assessment consultation, and LOR from the USCG (33 CFR 127.009)	Terminal	Letter of Recommendation
<b>U.S. Fish and Wildlife Service</b>	Section 7 of the Endangered Species Act; Migratory Bird Treaty Act; Fish and Wildlife Coordination Act	Terminal and Pipeline	Threatened and Endangered Species Consultation
<b>U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS)</b>	Section 7 of the Endangered Species Act; Marine Mammal Protection Act; section 305 of the Magnuson-Stevens Act; Fish and Wildlife Coordination Act	Terminal and Pipeline	Marine Threatened and Endangered Species Consultation; Essential Fish Habitat (EFH) Consultation
<b>U.S. Department of Energy, Office of Fossil Energy</b>	Section 3 of the Natural Gas Act	Terminal	Authorizations to export LNG to Free Trade Agreement (FTA) and non-FTA countries
<b>U.S. Department of Transportation (DOT) – Federal Aviation Administration</b>	14 CFR 77 – Notice of Proposed Construction Possibly Affecting Navigable Air Space	Terminal	Notice
<b>U.S. DOT Pipeline and Hazardous Materials Safety Administration (PHMSA)</b>	49 CFR 193 NFPA 59A (2001 Edition)	Terminal	Letter of Opinion

Agency	Regulation/Permit/Approval	Project Applicability	Authorization/Interaction Required
<b>STATE</b>			
<b>Louisiana Department of Environmental Quality (LDEQ)</b>	Section 401 of Clean Water Act	Terminal and Pipeline	Water Quality Certification
	Hydrostatic Test Water Discharge (Louisiana Revised Statute 30:2001 et seq.)	Terminal and Pipeline	General Permit
	Section 402 of Clean Water Act	Terminal	Industrial Wastewater Discharge Permit
	LPDES General Stormwater Discharge Permit for Large Construction/Stormwater Pollution Prevention Plan (LAC 33, Chapter IX)	Terminal and Pipeline	Approval
	Title V and Prevention of Significant Deterioration Air Permits 40 CFR 70	Terminal	Air Quality Permit
<b>Louisiana Department of Natural Resources (LDNR)</b>	Louisiana Revised Statute 49:214:25	Terminal and Pipeline	Coastal Use Permit
<b>Louisiana Department of Wildlife and Fisheries (LDWF)</b>	Threatened and Endangered Species Consultation	Terminal and Pipeline	Consultation
	Dredging License for State Water Bottoms R.S. 56:2011	Terminal	License
<b>Louisiana Department of Culture, Recreation, and Tourism – Division of Archaeology</b>	National Historic Preservation Act	Terminal and Pipeline	Cultural Resources Comments
<b>LOCAL</b>			
<b>Cameron Parish Police Jury</b>	Development Permit	Terminal and Pipeline	Permit

**Table 3-4. Major Permits, Approvals, and Consultations for the Calcasieu Pass Terminal and TransCameron Pipeline Project**

hydrocarbon reservoirs, or constructed, such as salt caverns or depleted mines. There are three typical facility types. Underground facilities can be depleted reservoirs in oil or natural gas fields, aquifers, and salt cavern formations. Most existing natural gas storage in the United States is in depleted natural gas or oil fields that are close to consumption centers.<sup>186</sup> The conversion of a field from production to storage duty takes advantage of existing wells, gathering systems, and pipeline connections. Depleted oil and natural gas reservoirs are the most commonly

used underground storage sites because of their wide availability.

The principal owners or operators of natural gas underground storage (UGS) facilities are interstate pipeline companies, intrastate pipeline companies, local distribution companies, and independent storage service providers. Additionally, some companies use underground storage as part of midstream processing. About 120 entities currently operate more than 400 active underground storage facilities in the U.S. Lower 48 states.<sup>187</sup>

186 EIA, “The Basics of Underground Natural Gas Storage,” November 2015, <https://www.eia.gov/naturalgas/storage/basics/>.

187 Ibid.

Regulatory responsibility for permitting and inspection of wells and facilities receiving or storing gas currently differs for interstate and intrastate gas storage infrastructure. UGS facilities that link multiple states are considered to be interstate facilities and are subject to the permitting authority of the FERC. Intrastate UGS facilities are facilities that exist solely within the boundaries of a state and receive natural gas from an intrastate pipeline. State public utility commissions and state oil and natural gas boards currently establish their own regulatory frameworks for these intrastate facilities. Approximately half of the nation's 400+ UGS facilities are interstate facilities, and half are intrastate facilities.<sup>188</sup>

As of 2016, pipeline companies operate about 55% of all working gas capacity in the United States.<sup>189</sup> Underground storage is important to interstate pipeline companies directly because they depend heavily on storage inventories to facilitate load balancing and system supply management on their long-haul transmission lines. The bulk of their storage capacity, however, is leased to other industry participants.

Local distribution companies, investor-owned utilities, or municipalities (collectively, LDCs), account for about 26% of working gas capacity.<sup>190</sup> LDCs generally use gas from storage sites to serve customer needs directly, whereas intrastate pipeline companies use UGS for operational balancing and system supply as well as to supply the energy needs of end-use customers.

Independent operators operate the balance of the current working gas capacity. Many of the salt formation and high-deliverability sites currently being developed have been initiated by

independent storage service operators to serve third-party customers.

Regulation of natural gas pipelines bringing gas in and out of UGS facilities falls under federal jurisdiction under the Natural Gas Pipeline Safety Act and the NGA.

*i. Federal Approvals for Underground Natural Gas Storage Facilities That Provide Service in Interstate Commerce*

Section 7 of the NGA grants FERC jurisdiction over UGS facilities that provide service in interstate commerce. To site, construct, and operate an interstate UGS facility, operators must receive a certificate of public convenience and necessity from FERC. Part of FERC's review of applications for UGS facilities includes compliance with the NEPA. FERC is generally the lead agency for purposes of complying with NEPA and will prepare the environmental assessment or environmental impact statement. Other federal agencies that may need to take a major federal action to authorize the project (such as the USACE, EPA, BLM, and USFS) are typically cooperating agencies but have the independent obligation to comply with NEPA, which could result in them adopting FERC's NEPA document, supplementing it, or preparing their own.

*ii. State Approvals for Underground Natural Gas Storage Facilities That Provide Service in Interstate Commerce*

State agencies issue authorizations under federal law in areas that are not otherwise preempted by the Natural Gas Act. As discussed in previous sections, most states have been delegated authority to implement federal standards for Clean Air Act authorizations as well as Clean Water Act Section 401 and 402 approvals. These are required for permits for underground natural gas storage similar to requirements for permits for an interstate natural gas pipeline.

Underground natural gas storage facilities require other state and local authorizations, which may include certain state environmental permitting and construction-related items (e.g., building permits). However, frequently, these state and

188 "Ensuring Safe and Reliable Underground Natural Gas Storage," Final Report of the Interagency Task Force on Natural Gas Storage Safety, October 2016, p. 11, <https://www.energy.gov/sites/prod/files/2016/10/f33/Ensuring%20Safe%20and%20Reliable%20Underground%20Natural%20Gas%20Storage%20-%20Final%20Report.pdf>.

189 ICF International for Oak Ridge National Laboratory, "US Natural Gas Storage Capacity and Utilization Outlook," July 2016, <https://www.energy.gov/sites/prod/files/2017/02/f34/U.S.%20Natural%20Gas%20Storage%20Capacity%20and%20Utilization%20Outlook.pdf>.

190 Ibid.

local authorizations are ultimately subject to pre-emption by the federal government.

### iii. *Permitting of Intrastate Underground Natural Gas Storage Facilities*

UGS facilities that do not provide service in interstate commerce are not FERC-jurisdictional. Several federal and state agencies have authority over different aspects of siting, constructing, and operating intrastate UGS facilities. Crude oil, natural gas, NGLs, and refined products (NGLs and refined products collectively referred to herein as “petroleum products”) can be stored above- or below-ground in terminals or caverns for domestic use or for sale into the global economy.

### b. *Liquids Storage*

Crude oil and refined petroleum products, such as propane and natural gas liquids, can be stored underground. These facilities are usually located on terminal properties already in service. As such, the permitting process required for underground storage tanks (USTs) does not usually require any federal permits. USTs are permitted through the specific states where they are located. The process to permit an UST varies depending on what state and the requirements of that specific state.

In addition to the federal Strategic Petroleum Reserve (SPR)<sup>191</sup> that has an authorized storage capacity of 713,500,000 barrels working capacity, private companies own and operate below-ground caverns to store crude oil. Also, there are:<sup>192</sup>

- 1,053,999,000 barrels of bulk terminal working capacity
- 578,659,000 barrels of crude oil tank farms working capacity

191 DOE Office of Fossil Energy, “SPR Storage Sites,” <https://www.energy.gov/fe/services/petroleum-reserves/strategic-petroleum-reserve/spr-storage-sites>.

192 U.S. Energy Information Administration, “Working Storage Capacity by PAD District as of March 31, 2019,” <https://www.eia.gov/petroleum/storagecapacity/table1.pdf>.

The PHMSA and state and local agencies have regulatory authority over terminal storage.

***The United States has more than 2.5 billion barrels of liquid storage capacity between the SPR and industry terminals.***

## 6. Rail

The 140,000-mile domestic rail network is owned, operated, and maintained almost exclusively by private companies. Rights-of-way were obtained, for a significant portion of the system, from states and private landowners. Federal regulation only comes into play for safety, or where rail lines cross federal lands or would have some impact on waters of the United States. NEPA analysis is only required where there is this limited federal regulatory jurisdiction.

Railroads experience the same challenges as all other energy transportation providers during the permitting process. One railroad has estimated that in any given year, it obtains between 300 and 500 Clean Water Act permits from the USACE. In addition, its bridges over navigable waterways are subject to USCG bridge regulations, including obtaining permits to build or replace bridges on its system.

Of particular concern to railroads during the permitting process is the historic preservation process as it is applied to rail infrastructure, particularly bridges. Railroad bridges are typically built to last a century. Many bridges across the United States are coming to the end of their useful life, and no amount of care can change that. The application of the National Historic Preservation Act to rail infrastructure, especially bridges, has the potential to cause serious safety issues. Groups including the Advisory Council on Historic Preservation delay projects for years in trying to save infrastructure that no longer meets current transportation standards. As a country, it is important that we have a safe and secure national rail system. This requires federal policies recognizing that every railroad bridge on an active line will need to be removed and replaced at some point. Congress has attempted to alleviate some of the bottlenecks caused by the application of the



National Historic Preservation Act to rail infrastructure, but opponents in the historic preservation community have been successful in delaying the implementation of the solutions Congress has mandated. Unless and until bridges that are at the end of their useful life are modernized, risk to the safety and integrity of the national rail system remains.

Railroads have traditionally benefitted from Congress' decision to create a single entity with full authority to regulate rail transportation. The Interstate Commerce Commission Termination Act abolished the Interstate Commerce Commission and created the Surface Transportation Board (STB). The STB has sole regulatory authority over the construction, acquisition, operation, abandonment, and discontinuance of railroad tracks and facilities as well as sole authority for economic regulation of railroads, including facilities that are completely located in one state.

***The Surface Transportation Board is the lead agency over rail operations that includes the 140,000 mile-domestic rail network.***

However, recent decisions by the STB have distinguished between economic activities of railroads, over which it exercises complete jurisdiction, and proposed activities of rail customers, which are rail-related, in which instance other entities may be entitled to regulate. This distinction has been said to create the potential for patchwork regulation.

In a case involving Valero, the STB found that the oil company petitioner was outside the board's jurisdiction, as a nonrail carrier, and denied the declaratory order sought by the company that the city of Benicia was preempted from regulating with regard to the petroleum facility. If, instead, Union Pacific (UP) had been petitioning to build the facility, as opposed to Valero seeking to build it to take advantage of UP rail service to the site (and UP's common carrier obligation to transport even hazardous cargoes), the board's organic statute, which gives the STB full jurisdiction over the economic activities of railroads,

and the board's prior rulings would have given the railroad the ability to claim preemption against the California community in this case. The board found that it could not rule that Benicia was preempted from regulatory activity toward Valero, even if it would have been able to approve the same facility had it been proposed to be built and operated by the UP.<sup>193</sup>

The STB has clarified that its jurisdiction, while extensive regarding rail matters, is not unlimited. While opponents of oil-by-rail may have a useful tool in the form of the Valero decision for current proposals by nonrailroads, the board's finding may also inspire a new economic model for railroads and shippers seeking the means to engage in commerce involving a valuable, but disfavored, commodity.

Seeking to address public concern over the increased movement of crude oil by rail, in 2015 Congress codified and expanded upon DOT emergency orders from 2014-2015 when it passed the FAST Act,<sup>194</sup> which included enhanced safety design of rail cars to move crude oil. The FAST Act also called for phasing out older rolling stock, more frequent safety inspections, speed limits for oil trains, and enhanced emergency response preparations.<sup>195</sup>

## 7. Truck

Trucking is an important mode of transportation for new and existing energy infrastructure. Trucking transport services for the petroleum industry include hot oilers, vacuum trucks, transport trucks, and pump trucks. For the natural gas industry there are various trucking transportation services necessary during pipeline construction, maintenance, and operations. While pipelines and rail serve as the predominate transportation method for long-haul liquids movements, trucks

193 Valero Refining Company petition for declaratory order Surface Transportation Board docket number FD36036, September 20, 2016.

194 P.L.114-94, Title VII, Subtitle C, codified at 49 U.S.C. Subtitle V, § 20103 *et seq.* (2015).

195 Congressional Research Service, "In Focus: Rail Transportation of Crude Oil and the FAST Act: An Update," September 7, 2017, <https://crsreports.congress.gov/product/pdf/IF/IF10727> (accessed June 6, 2019).

are a critical piece in the transportation puzzle to move liquids from the wellhead to the pipeline origin points as well as from the terminals to the ultimate destinations. Trucks also serve as critical transportation in new fields before pipelines can be permitted and built to serve the long-haul transport. In addition, LNG can be transported by truck.

Stakeholder concerns with trucking include road safety and the degradation of roads, as well as concerns about increased noise and dust from trucks. Industry has established coalitions to improve the quality of communities such as the Permian Basin. The Permian Strategic Partnership is a coalition of leading Permian Basin energy companies who joined together to work in partnership with leaders across the region's communities to address current and future challenges to the responsible development of the vast oil and natural gas resources of the Permian Basin. The partnership seeks to improve the quality of place for Permian Basin families by partnering with local leaders to develop and implement strategic plans to foster superior education, accessible housing, a supportive healthcare system, safer roads, and workforce development.

## **B. Construction, Operations, and Maintenance**

The regulatory oversight of infrastructure projects does not end with receiving the permit. Permits and authorizations issued for infrastructure projects generally contain extensive conditions intended to ensure compliance with the extensive studies and environmental impact evaluations conducted during the siting and permitting process.

During the construction process, environmental inspectors employed by the project sponsor monitor the compliance of all construction activities with regulations and permits. These compliance processes include notifications and reporting requirements to regulatory agencies. In addition, the various regulatory agencies involved in the infrastructure process routinely conduct compliance inspections as an additional layer of oversight for compliance assurance.

Successful execution of the construction phase of a project requires close collaboration between the project owner, construction contractors, environmental inspectors, regulatory agencies, landowners, and local communities. Inevitably during execution of a project, unanticipated conditions may arise or sensitive resources may be identified. The collaboration of the stakeholders during the construction phase allows for timely resolution. A best practice is to have plans in place and communicated to stakeholders on how unanticipated conditions will be handled if encountered.

### **1. Interstate and Intrastate Pipelines**

PHMSA sets pipeline safety standards and conducts operational oversight to protect people and the environment from pipeline failures. PHMSA does this by setting and enforcing regulations and standards for the design, construction, operation, maintenance, or abandonment of pipelines by pipeline companies. This is in addition to the agency's duties to educate communities, operators, and states on pipeline safety.<sup>196</sup> PHMSA's authority includes enforcing violations it finds, which can include civil penalties or orders directing action. If PHMSA finds conditions that are hazardous, it can issue corrective action orders.

Following construction, an operator must continue compliance with operating permits. Compliance with air and water permits has aroused public concern in recent years. Principally, operators must engage in water and air emissions controls and testing. Emissions protocols include criteria emissions in the CAA, hazardous air pollutants, volatile organic compounds, methane, and liquids and wastewater release. Industry needs to continue to monitor and reduce emissions and detect emissions or leaks whenever possible. It is likely that states and the federal government will continue to mandate advanced technologies and emissions controls over the life of a piece of infrastructure. It is critical that a cost benefit analysis occur for enhanced emissions control and testing to ensure that the high cost of advanced emissions detection, control, and prevention justifies the cost expense by operators. That is, significant

<sup>196</sup> PHMSA and Pipelines FAQs, <https://www.phmsa.dot.gov/faqs/phmsa-and-pipelines-faqs>.

operational cost should not be imposed on operators for marginal benefits.

Emissions controls vary for tanks, pipelines, marine terminals, and vapor recovery systems. Additionally, remote sensing technologies and nuisance controls are frequently employed to monitor and manage ongoing operations. Controls, technological improvements, and sensors may be required enhancements to ongoing operations as their use becomes more pervasive. Failure to pay due attention could result in catastrophic failure. It is necessary to understand the performance standards for operation at the permitting stage. Further, it is important to ensure federal preemption of maritime commerce. Finally, it is important to clarify frequency and intensity of inspections to reduce waste.

## 2. LNG Storage

Typically, three federal agencies oversee the safe operation of LNG terminals—FERC, PHMSA, and the USCG.

FERC oversees the construction of LNG terminals, monitoring compliance with the conditions set forth in the commission's order. Subsequent to receiving the FERC order, the project developer prepares and submits to FERC for review an implementation plan, which outlines how the project will comply with the conditions in the order. To ensure compliance, the project may not commence with various phases of construction and operation until receiving written authorization from FERC.

PHMSA has exclusive authority to establish and enforce safety regulations for onshore LNG facilities. PHMSA LNG safety regulations are codified in 49 CFR Part 193 (Part 193), which prescribes safety standards for LNG facilities used in the transportation of gas by pipeline that is subject to federal pipeline safety laws. PHMSA inspects LNG facilities and operators to enforce compliance with the requirements of Part 193.

In addition to overseeing design, construction, and operations of oil and natural gas pipelines, rail, and other transport, PHMSA inspects each LNG facility under its jurisdiction for compliance with Part 193. During the inspections, PHMSA

reviews operator records to determine if facility equipment has been properly maintained and if the operator has developed and follows operation, maintenance, security, and emergency procedures that ensure the continued safe operation of the facility. As with pipelines, PHMSA enforces violations it finds at these types of facilities. Enforcement can include civil penalties or orders directing action. In addition, if PHMSA finds conditions that are hazardous, it can require expeditious corrections of the conditions through corrective action orders.

Terminals and the arriving vessels are subjected to a multitude of regulations covering all aspects of design, construction and operations and receive multiple inspections from local and federal entities (e.g., USCG annually under CFR 127 regulations, lights at various heights conforming to Civil Aeronautics Authority/Federal Aviation Administration regulations).

**Finding:** Since multiple agencies supervise LNG plant construction, consideration and approval of plans are rarely done jointly and can result in conflicting requirements, causing delay. For example, FERC, PHMSA, and the U.S. Coast Guard inspect the site during construction. The industry has all three agencies inspecting the facility at intervals during construction and operations. These inspections overlap in their scope and the agencies can contradict each other and what was agreed during permitting.

**The NPC recommends** that the regulatory requirement for review by FERC and PHMSA on the construction of the facility should be reviewed and the process better coordinated and streamlined. It is imperative that the agencies either coordinate the review or review concurrently and that the scope of the reviews be defined and jurisdictions identified.

There are several federal agencies that oversee LNG infrastructure security. The USCG has lead responsibility for LNG shipping and marine terminal security under the Maritime Transportation Security Act of 2002 (P.L. 107-295) which directs

the DOT to develop security measures for domestic maritime facilities and the vessels that call there.

LNG ships and terminals must comply with International Maritime Organization International Ship and Port Facility Security Code, and U.S. terminals must comply with the Marine Transportation Security Code, which defines additional requirements. LNG terminals have their own security plans, which are audited and tested by the USCG. Local regulations, established by the USCG, may require a moving safety/security zone around the vessel during the transit or alongside—this is enforced through the use of CFR regulations either during the transit and/or alongside.

PHMSA and the Transportation Security Administration both have security authority for LNG storage plants, as well as some security authority for LNG marine terminals. FERC approves the siting, with some security oversight, of onshore LNG marine terminals and certain utility LNG plants.

All arriving vessels to the United States must give 96 hours of notice using a set format to the USCG National Vessel Movement Center. Following receipt of the 96-hour message the local captain of the port will assess whether an additional security inspection or escort is required—based on risk.

Terminals must be constructed to 49 CFR 193, which incorporates by reference the National Fire Protection Association 59A—Standard for the Production, Storage, and Handling of Liquefied Natural Gas, 2001 and 2006 editions. This also includes various required siting and hazard analyses results and the associated protection and mitigation measures that are required.

Sometimes highly prescriptive testing requirements can create more risk than necessary if they are not fit for purpose. One such example is the requirement in 49 CFR Part 193.2619 that currently requires that control systems (e.g., relief valves) “must be inspected and tested once each calendar year...”

This regulatory requirement was developed for smaller scale facilities using more corrosive chemicals. These facilities were often seasonal, allowing

inspection to occur when the facility was offline. In contrast, for large-scale liquefaction facilities, utilization rates are 90% or higher. In large-scale LNG facilities complex process systems usually require 500 to 1,000 pressure relief devices per train depending on their design and each facility has multiple trains. The sheer scale of testing thousands of pressure-relieving devices annually unnecessarily increases risk to the precision tolerance equipment and the personnel performing the work (many are high up in the facility).

More modern, performance-based standards exist, such as NFPA 59A. API 576, *Inspection of Pressure Relieving Devices*, states that the frequency of inspection could vary widely depending on the various operating conditions, with less frequent inspection required when operations are satisfactory and more frequent when corrosion, fouling, operational upsets, and leakage occur. API 510, *Pressure Vessel Inspection Code; In-service Inspection, Rating, Repair, and Alteration*, recommends that intervals for testing not exceed 5 years for typical process services and 10 years for clean (nonfouling), noncorrosive services.

Topic Paper 3-7, “LNG Pressure Relief Device Testing,” provides background on testing of LNG pressure relief devices.

**Finding:** API standards for pressure relief device testing are applicable to LNG facilities. Having a regulation with a prescriptive time interval for testing, especially as short as 1 year, over-exposes the facility and personnel to elevated risk and hazards and reduces safety and reliability. Said another way, removing and testing these devices will increase the potential for failure and therefore will reduce safety and reliability.

**The NPC recommends** that the most appropriate and safest route for addressing inspection and testing of pressure relieving devices is for PHMSA to adopt API 576 and 510 by reference for pressure relief device testing and/or the adoption of the requirements in the 2019 NFPA 59A (18.10.10.7.2). In addition, PHMSA should consider updating all standards to



their current version, annually reviewing and updating Part 193 to the current version of all standards identified in the standard, allowing a facility to opt into risk-based analysis either in their application or for operations and let facilities opt into operations using process safety management.

### 3. Rail

Railroad maintenance is regulated under the Federal Rail Safety Act by the Federal Railroad Administration. An impediment to maintenance is the regulation of railroad ditches as waters of the United States. While the Federal Rail Safety Act requires that rail ditches be regularly cleaned and maintained to allow the flow of water, the regulation of rail ditches as the waters of the United States often slow the process down. The recent rule promulgated by the EPA and USACE appears to fix this issue for the most part.

### 4. Trucks

Trucking oil, refined products, or LNG products are regulated by the DOT-PHMSA requirements. PHMSA is responsible for oversight of these products as they are characterized as hazardous materials. Trucking drivers go through special licensing, training, and controlled substance testing.

Trucks use roads and surfaces that are primarily constructed and maintained by public agencies. Many operators collaborate with public agencies to maintain roads that experience wear and tear through operations.

### 5. Marine

More than one-half billion tons of freight move an average of 450 miles each year by barge, and there are no better ways to move, store, and otherwise manage this freight. If there were, shippers would choose them.<sup>197</sup>

Regulation of the construction, operations, and maintenance of marine infrastructure varies by infrastructure type. Terminals are subject to regulations with respect to security, spill prevention and response rules administered by the U.S. Coast Guard, state, and in some cases, local agencies. Tank vessel design, construction, operations, staffing, and maintenance are pervasively regulated by the U.S. Coast Guard, whose marine inspectors monitor and inspect all phases of construction, maintenance, repair, and operations.

Construction, maintenance, and operations of waterways infrastructure is generally the responsibility of the USACE pursuant to authorizations and appropriations from Congress and oversight by the Office of Management and Budget. Construction of locks, dams, harbors, and channels is subject to authorization from Congress, normally contained in periodic Water Resources Development Acts. For a project to be considered for authorization, it must go through a series of preparatory steps within the USACE, including preliminary design, and environmental and economic studies, culminating with a report from the Chief of Engineers recommending construction. Construction of a project following authorization is subject to appropriations from Congress. For multiyear projects, annual appropriations are required. For some projects, local sponsors must meet cost-share obligations. Once complete, projects are operated by the USACE, and are maintained by USACE personnel or contractors. Operations and maintenance funding is also subject to annual appropriations by Congress, which are often insufficient. As a consequence, many waterways vital for energy transportation are maintained at less than their authorized width and depth. Maintenance work on locks and dams is often deferred, increasing unscheduled closures and transportation disruptions. In addition to the waterway construction, maintenance, and operations activities of the USACE, the U.S. Coast Guard is responsible for maintaining the aids to navigation (buoys and the like) on coastal and inland waterways.

Topic Paper 3-8, “The Merchant Marine Act of 1920,” provides background on the Merchant Marine Act of 1920 (the “Jones Act”) and its implications in the movement of petroleum cargoes within the United States.

197 University of Kentucky and University of Tennessee, “Inland Navigation in the United States,” November 2014, <http://www.nationalwaterwaysfoundation.org/documents/INLANDNAVIGATIONINTHEUSDECEMBER2014.pdf>.

## V. REFORM EFFORTS

Federal efforts to reform permitting and siting processes have made important strides toward transparency, predictability, and domestic energy security. Policies and further improvements to streamline and simplify the pipeline permitting process to promote environmentally sound and safe development of U.S. energy is in the national interest, and advancing infrastructure is critically important to ensuring that Americans receive the full benefits from that energy through 2040 and beyond.

The current processes for obtaining permits to proceed with the construction and operations of new infrastructure can be complicated, lengthy, and costly. Developers have experienced delays in project planning and some consumers are paying higher energy prices where fuel deliveries have been constrained. Congress and the administration have an opportunity to accelerate investments in energy infrastructure by updating regulations, and simplifying, clarifying and making enduring changes to the permitting processes—ultimately putting more private-sector capital to work for America’s households.

### A. The Urgency of Siting and Permitting Reforms

The urgency to address the siting and permitting of infrastructure of all types is clear. In the energy sector, recent developments in supply, exploration, and production in the United States are in need of new infrastructure. The inland waterways system has experienced increasing ship traffic, coupled with the frequent shutting down of locks for repair that have resulted in vessel delays that nearly doubled from 64 minutes in 2000 to 121 minutes in 2014.<sup>198</sup> Recent studies that calculate or estimate the cost of the delays were not found; however, a study by Regional Estimated Models, Inc. (REMI) that modeled the national economic contribution of inland waterway infrastructure construction and the resulting efficiency gains in modernization of navigation identified anticipated gains from

198 2017 Infrastructure Report Card, “President Trump Highlights Need for Investments in Inland Waterways Infrastructure,” June 2017, <https://www.infrastructurereportcard.org/president-trump-highlights-need-for-investments-in-inland-waterways-infrastructure/>.

incremental output growth to be nearly \$38 billion, and the incremental wage growth over the same timeframe is estimated to be \$14.2 billion (at present value of 5% in 2012 dollars), respectively. The REMI-estimated output increase above the status quo due to navigation modernization is illustrated in Figure 3-16.

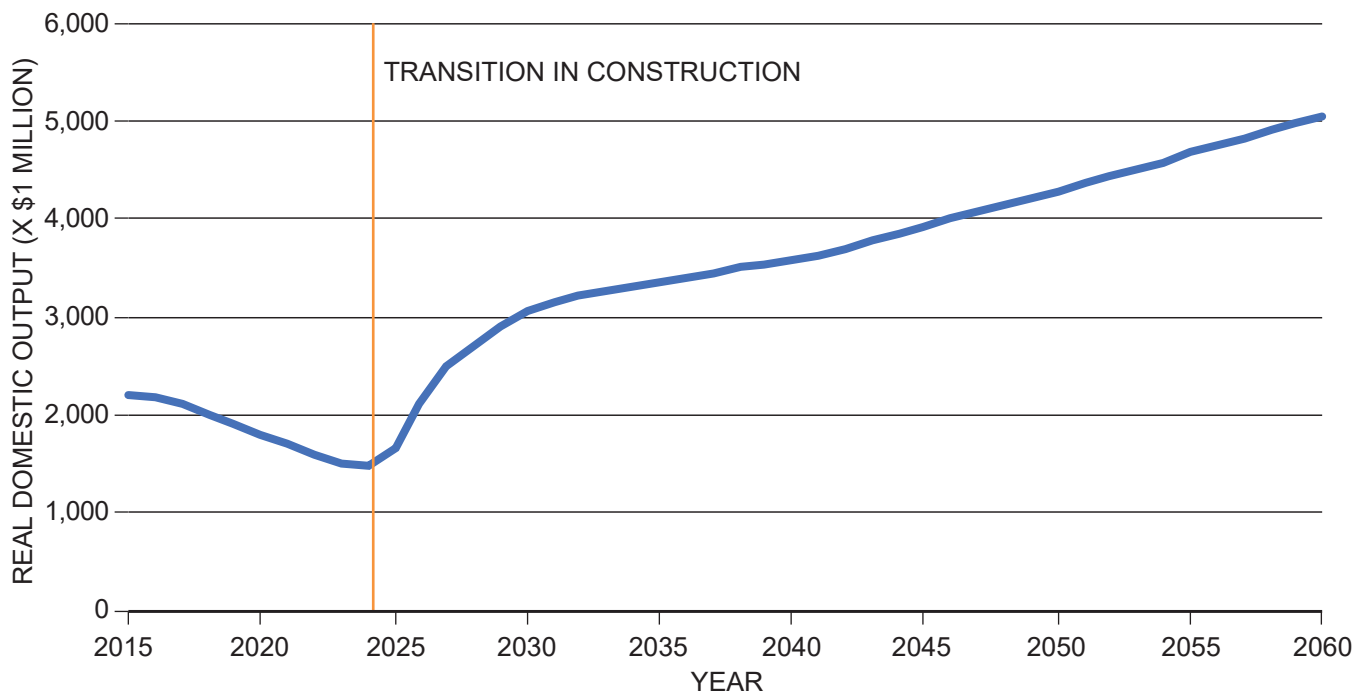
The impact of delay is reaching concerning levels in some regions. For example, infrastructure bottlenecks in the Northeast have contributed to New England consumers—residents, businesses and industries—paying among the highest prices for electricity among the U.S. Lower 48 states. An ISO New England report that studied 23 scenarios found that in all but the most optimistic cases, without new natural gas pipeline capacity during extended winter periods in 2024–2025, residents would be asked to curtail energy use or would experience rolling blackouts, even with new renewable capacity.<sup>199</sup> Further, pipeline constraints cause increased energy security and economic risks, as illustrated by the Northeast needing to import foreign LNG during the winter of 2017–2018. Over the last 2 years, bottlenecks related to the Permian Basin have centered on the need for a major expansion of pipeline takeaway capacity to move oil and NGLs out of the basin to major market and refining centers along the Texas and Louisiana Gulf Coast.

In some rural areas, particularly in the Northeast, it is common for heating oil to be used to heat homes in the winter. There are reliability, economic, and environmental benefits to alternative heating sources, such as natural gas. As the Senate Joint Economic Committee found, an excess economic cost of \$560 million occurred when heating oil was used instead of propane during a harsh winter.<sup>200</sup> Heating oil has greater GHG emissions than natural gas per BTU (British thermal unit).<sup>201</sup>

199 “United States of America Before the Federal Energy Regulatory Commission,” Response of ISO New England Inc., [https://www.iso-ne.com/static-assets/documents/2018/03/ad18-7\\_iso\\_response\\_to\\_grid\\_resilience.pdf](https://www.iso-ne.com/static-assets/documents/2018/03/ad18-7_iso_response_to_grid_resilience.pdf).

200 Joint Economic Committee, U.S. Congress, “Propane Price Spikes and their Impact on the Economy,” September 2014, [https://www.jec.senate.gov/public/\\_cache/files/c62f11e2-c285-4bdc-8790-21407a0445e8/propane-price-spikes-and-their-impact-on-the-economy.pdf](https://www.jec.senate.gov/public/_cache/files/c62f11e2-c285-4bdc-8790-21407a0445e8/propane-price-spikes-and-their-impact-on-the-economy.pdf).

201 U.S. Energy Information Administration, Frequently Asked Questions, “How much carbon dioxide is produced when different fuels are burned?” <https://www.eia.gov/tools/faqs/faq.php?id=73&t=11>.



Source: National Waterways Foundation, “Inland Navigation in the United States,” Prepared by the University of Kentucky and the University of Tennessee, November 2014, Figures 1.6 and 1.7.

**Figure 3-16.** REMI-Estimated Output Increases above the Status Quo Due to Navigation Modernization

Chapter 2, “Infrastructure Resiliency, Mapping, and Analysis,” analyzes the impact of delayed projects.

The causes of the lengthy approval process are many, including understaffed agencies, failure to identify stakeholder concerns early in the process to avoid conflicts, and litigation and protests over environmental concerns. The slow process of permitting and constructing infrastructure to connect demand with supply from regions of enhanced development to markets can result in (1) high energy and electricity prices, (2) slower economic development, (3) considerable concerns over electric reliability in periods of high demand, and (4) use of higher GHG emitting fuels.

As discussed in this chapter, the complicated regulatory environment and the required coordination across federal agencies and across

federal and state jurisdictional lines produces ample opportunities for permit applications to stall. A 2014 General Accountability Office report to Congress found that there is little information on the costs and benefits of completing a NEPA analysis or the timeframes for completing EISs.<sup>202</sup> In response, CEQ reviewed EIS completion times across all federal agencies from 2010 to 2017.<sup>203</sup> Of the 1,161 EISs, half were for large infrastructure projects (not all energy). The median time for completion from Notice of Inquiry to Record of Decision was 3.6 years; the average of 4.5 years was skewed by some projects that exceeded 10 years. While the cause of the longer review times could sometimes be attributed to delays on the part of applicants, an applicant cannot predict with any certainty the date by which the review process will be completed. In contrast, some global economic competitors, including Germany and Australia, have

202 General Accountability Office, “National Environmental Policy Act: Little Information Exists on NEPA Analyses,” 2014, GAO-14-370.

203 Council on Environmental Quality, “Environmental Impact Statement Timelines (2010-2017),” December 2018, [https://ceq.doe.gov/docs/nepa-practice/CEQ\\_EIS\\_Timelines\\_Report\\_2018-12-14.pdf](https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Timelines_Report_2018-12-14.pdf).

developed regulatory frameworks that can complete environmental permitting reviews in fewer than 2 years.

As was described in a 2015 George Mason University Mercatus Center policy brief, “For decades, presidents of both political parties have issued executive orders instructing agencies to identify systemic problems and analyze alternative solutions to ensure that regulations produce public benefits at an acceptable cost. These orders direct agencies to conduct real, comprehensive regulatory analyses before determining if, how, and with what to respond to potential problems and to own responsibility for ensuring their decisions continue to be the most beneficial options.”<sup>204</sup> Yet every presidential term has produced a net increase in regulation.<sup>205</sup>

Relating to NEPA, there have also been several attempts over the years to improve this environmental review process. As described earlier in this chapter, NEPA environmental assessments and environmental impact statements have grown in length and corresponding agency review time and litigation regarding NEPA assessments is increasing.

Congress has also attempted to reform the regulatory permitting process by enacting laws that give Congress authority to review regulations. The Congressional Review Act of 1996 established expedited procedures by which Congress may disapprove a broad range of regulatory rules issued by federal agencies by enacting a joint resolution of disapproval. More recently, in 2005, Congress passed the Safe Accountable Flexible Efficient Transportation Equity Act which provides that the DOT must notify Congress if, during an environmental review process, DOT encounters any delay that it cannot resolve in 30 days. In 2015, the Fixing America’s Surface Transportation (FAST-41)

Act was signed into law, and is discussed further in the next section. The current administration has demonstrated its support for the FAST-41 process through Executive Order 13807, which called for the designation of cross-agency priority goals, use of the One Federal Decision Process, and coordination with the FAST-41 created Federal Permitting Improvement Steering Council.<sup>206</sup>

The next section describes recent legislative and administrative reforms and concludes with recommendations for additional improvements to the system.

## **B. Recent Legislative Efforts for Regulatory Reform**

### **1. FAST-41**

FAST-41 created a new governance structure, set of procedures, and funding authorities to improve federal environmental review and authorization process for eligible infrastructure<sup>207</sup> projects. FAST-41 is intended to provide the following results:

- Publication of project-specific permitting tables, with a clearly defined process for modification, that will increase permitting predictability
- Increased transparency for federal environmental reviews and authorizations
- Improved synchronization of environmental reviews and authorizations.

<sup>206</sup> Office of NEPA Policy and Compliance, “Executive Order 13807: Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects (2017),” August 15, 2017, <https://www.energy.gov/nepa/downloads/eo-13807-establishing-discipline-and-accountability-environmental-review-and>.

<sup>207</sup> Projects may be eligible to be covered under FAST-41 if they: (1) involve construction of infrastructure, (2) require authorization or environmental review by a federal agency, (3) are subject to the National Environmental Policy Act of 1969, (4) are likely to require a total investment of more than \$200 million, and (5) do not qualify for an abbreviated environmental review and authorization process. Projects may also be covered if they are subject to NEPA and, due to their size and complexity, the Permitting Council determines that the FAST-41 coordination process and oversight would be beneficial. FAST-41 applies to the following sectors: conventional energy production, renewable energy production, electricity transmission, surface transportation, aviation, ports and waterways, water resource projects, broadband, pipelines, and manufacturing.

<sup>204</sup> Ellig, J., “Ready, Fire, Aim! A Foundational Problem with Regulations,” Regulation Policy Briefs, November 6, 2015, George Mason University, Mercatus Center, Regulation Policy Briefs, <https://www.mercatus.org/publication/ready-fire-aim-foundational-problem-regulations>.

<sup>205</sup> McLaughlin, P., “Regulation 360: Why We Must Reform Our Regulatory System (and How to Do It),” April 26, 2018, George Mason University, Mercatus Center, Regulation Policy Briefs, <https://www.mercatus.org/publications/regulation-360-reform-regulatory-system-how-do-it>.



To achieve those results, the FAST Act established the Federal Permitting Improvement Steering Council (FPISC) composed of agency deputy secretary-level members and chaired by an executive director appointed by the President. FPISC oversees FAST-41 implementation, interagency coordination and dispute resolution. The agencies involved in the FAST-41 include:

- Agriculture
- Army
- Commerce
- Interior
- Energy
- Transportation
- Defense
- Homeland Security
- Health and Human Services
- Housing and Urban Development
- Environmental Protection Agency
- Federal Energy Regulatory Commission
- Nuclear Regulatory Commission
- Advisory Council on Historic Preservation
- Office of Management and Budget
- Council on Environmental Quality.

Projects are eligible for FAST-41 status if they are subject to NEPA and, due to their size and complexity, the Permitting Council determines that the FAST-41 coordination process and oversight would be beneficial. Maintenance or smaller projects that are less than \$200 million qualify for an abbreviated environmental review and would benefit from being part of a FAST process.

FAST-41 applies to the following sectors: conventional energy production, renewable energy production, electricity transmission, surface transportation, aviation, ports and waterways, water resource projects, broadband, pipelines, and manufacturing.

FAST-41 is intended to improve the permitting process within the structure of existing federal environmental reviews and authorizations. It is

voluntary for industry to participate, and it does not apply to state review of an infrastructure project. For example, FAST-41 promotes early consultation and enhanced interagency coordination through the development of a project-specific plan for the completion of environmental reviews and authorizations, including deadlines. FAST-41 required the creation of a permitting dashboard online database. Eligible project environmental review and authorization target completion dates are required to be posted to track the status of federal permitting and reviews and improve coordination, transparency, and accountability. It provides new funding authority for governance, oversight, and processing.

For an eligible project moving through the FAST-41 process, agencies must develop a coordinated, project-specific timetable, which sets schedules for all required environmental review and permitting actions. If a permit or authorization is delayed, agencies are required to update the schedule at least 30 days before the existing reported completion date, and federal agencies will not extend the final completion date by more than 30 days without first consulting with the project sponsor.

The FPISC provides high-level oversight to ensure that federal agencies adhere to established timetables. Covered projects require reporting to Congress if the total length of modifications to a permitting timetable delays the permitting process by more than 150% of the original schedule. An annual report to Congress is required to assess each agency's progress toward implementation of FAST-41 best practices, as well as their compliance with recommended performance schedules for covered projects.

Additionally, if agencies are unable to agree on the timetable, the FPISC Executive Director will mediate disputes. If no conclusions are made after a total of 60 days, the Office of Management and Budget (OMB) will make a final decision. E.O. 13807 empowered the director of OMB to impact a federal agency's budget for those agencies that significantly fail to meet a permitting timetable milestone.

FAST-41 requires FPISC to issue an annual report<sup>208</sup> on feedback from agencies, project sponsors, and other stakeholders regarding their experience with FAST-41. The report also includes best practices. Including in the annual report the lessons learned and recommended improvements to the FAST-41 process and governance could improve the program.

**Finding:** Bipartisan actions by Congress and the Executive Branch, including mechanisms to expedite the permitting process for large infrastructure projects represent positive steps; however, more improvements are necessary.

- Utilization of FAST-41 by affected agencies is not fully realized.
- More can be done to accelerate investment in energy infrastructure and ensure energy security in a manner that ensures early and robust landowner and stakeholder engagement and in an environmentally sound manner.

***The NPC recommends that:***

- A federal agency should consult with FAST-41 project sponsors and other stakeholders to obtain feedback to improve FAST-41 before reauthorization.
- Taking due consideration of the feedback from consultation, Congress should reauthorize FAST-41 for an additional 7 years, and include the following improvements:
  - Expand FAST-41 to include eligibility for all federal energy infrastructure projects and continuing staffing of FPISC.
  - For federal permits or decisions delegated to the states (CZMA, CWA, CAA), states should be incentivized to comply with FAST-41 and One Federal Decision

and make decisions in conjunction with federal NEPA process timeline.

- FPISC should be leveraged to drive concurrent review by the states during federal permitting processes.
- Further reauthorizations by Congress of FAST-41 consider eliminating sunset provisions.

## 2. Litigation Cycle Reform

Agencies expend significant personnel, time, and money to conduct through permit reviews, environmental reviews, and public input consideration. Companies also expend significant resources to develop a project and conduct stakeholder engagement to ensure that a project plan is responsive to community concerns and legal requirements. Stakeholders that are interested in or concerned with an infrastructure project participate readily in the permitting process and often sue when they disagree with the record of decision. This is part of the checks and balances of the three branches of U.S. government.

FAST-41 reduced the statute of limitations to challenge any authorizations for covered projects from 6 years to 2 years. FAST-41 also provided that NEPA challenges will be reviewed only when filed by a party who submitted a related comment during the project's environmental review. FAST-41 also established guidance for the judicial review of actions seeking temporary restraining orders or preliminary injunction against a covered project.

NEPA has become the leading basis for challenging agency decisions, including with respect to energy infrastructure. Despite clear Supreme Court precedent on key issues such as the purpose of NEPA and the limiting principles governing NEPA review, new NEPA interpretations by FERC and other agencies and changes in CEQ guidance on NEPA interpretation have led to legal challenges. The uncertainty over the authoritative interpretation of the statute delays permitting as discussed earlier in subsection II.B.1, NEPA: The Magna Carta of Federal Environmental Law, as well as in subsection III.C.1.e, The Relationship

208 For example, see: Permitting Council, *Title 41, Fixing America's Surface Transportation Act (FAST-41), Annual Report to Congress for Fiscal Year 2018*, <https://cms7.permits.performance.gov/sites/permits.performance.gov/files/docs/documentation/49081/fast-41-fy2018-annual-report-congress.pdf>.

Between Climate Change, NEPA, and Litigation. The risk of litigation cycle encourages agencies to expand their NEPA reviews as a defensive measure rather than as an aid to decision-making.<sup>209</sup>

### **Findings:**

- Reducing the time within which stakeholders can sue still preserves the opportunity to challenge an agency decision and can improve project timeline certainty.
- Early and effective stakeholder and landowner engagement in the design, review and development phases of an energy project reduces the probability of litigation.

*The NPC recommends* that, where consistent with existing federal laws that protect public participation in agency permitting and environmental reviews, Congress should consider extending FAST-41 litigation reform to all federal agency decisions pertaining to infrastructure siting, permitting, construction, or maintenance. CEQ should ensure that revisions to the implementing regulations address common issues that are frequently litigated.

## **C. Executive Orders**

Recent developments in the federal permitting processes are demonstrated by the issuance of several Executive Orders (E.O.) that seek to address many of the issues identified in this chapter. While many of the E.O.s are still relatively new given the extensive time required for siting, permitting, and construction of linear energy infrastructure projects, following are examples of prominent

E.O.s in addition to E.O. 13867 discussed earlier in the Cross Border Permits section that reflect changes designed to promote successful infrastructure development.

### **1. Executive Order 13807: Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects (One Federal Decision)**

E.O. 13807 establishes an approach called “One Federal Decision” for use in evaluating major infrastructure projects. The goal of the E.O. 13807 is for the federal government to make efficient and effective infrastructure decisions and to change the way federal agencies process environmental reviews and authorization decisions. The E.O. states,

“Inefficiencies in current infrastructure project decisions, including management of environmental reviews and permit decisions or authorizations, have delayed infrastructure investments, increased project costs, and blocked the American people from enjoying improved infrastructure that would benefit our economy, society, and environment.”

One Federal Decision requires the identification of a lead federal agency that will be responsible for navigating the project through the federal environmental review and authorization process. Involved federal agencies “shall all agree to a permitting timetable” and agencies shall record their individual decisions in a single record of decision, unless certain conditions specified in the E.O. apply. The E.O. also requires agencies to establish an accountability and tracking system to ensure that project review schedules are met, the guidance for which will be issued in consultation with the FPISC. The Federal Infrastructure Permitting Dashboard tracks the federal government’s environmental review and authorization processes for covered major infrastructure projects.<sup>210</sup>

<sup>209</sup> From 2006 to 2016, the U.S. Courts of Appeals issued 238 decisions in NEPA cases. See NAEP NEPA Practice, Annual NEPA Report 2016, p. 32. In 2016, the U.S. Courts of Appeal issued 27 decisions involving implementation of NEPA by federal agencies. FERC was involved in three of these cases. Although FERC was not the agency with the largest number of cases, FERC’s three cases rank it high among agencies with NEPA cases in 2016; *ibid.*, p. 33. Since 2016, FERC has been involved in several notable NEPA decisions issued by U.S. Courts of Appeals. See, e.g., *Sierra Club v. FERC*, 867 F.3d 1357 (D.C. Cir. 2017); *Delaware Riverkeeper Network v. FERC*, 857 F.3d 388 (D.C. Cir. 2017); *City of Boston Delegation, et al. v. FERC*, Nos. 16-1081, et al. (D.C. Cir. July 27, 2018).

<sup>210</sup> Federal Infrastructure Permitting Dashboard, online tool, <https://www.permits.performance.gov/>.

## 2. Executive Order 13868: Promoting Energy Infrastructure and Economic Growth

E.O. 13868 is specifically focused on energy infrastructure. It requires the EPA to review Clean Water Act Section 401 water quality certification procedures in consultation with states and tribes and issue new guidance that promotes “timely collaboration, appropriate scope of reviews and types of conditions for certification, expectations for review times,” and directs all federal 401 implementing agencies to update their 401 guidance documents to reflect EPA’s new guidance.

Section 4 of E.O. 13868 directs DOT to propose a rule allowing transport of LNG in rail tank cars. DOT must also revise its safety regulations for LNG facilities to reflect modern industry practices. It also aims to facilitate renewals and reauthorizations of energy corridor rights-of-way and similar authorizations. Linear projects can be severely restricted when approaching/requesting ROWs across managed lands. Agencies have greater visibility of the volume of land crossing requests than applicants. When volume is high, such as in the Big Thicket area in Texas, agencies can reduce impact and expedite approvals by creating energy corridor crossings.

***The NPC recommends*** that federal land managers, in the interest of promoting energy infrastructure, should strive to identify potential “energy crossing corridors” for key crossing areas and conduct a single NEPA analysis. Agencies should consider developing a streamlined permitting process for critical infrastructure where a cluster of projects can be anticipated.

Agencies with land management or ownership responsibilities (Interior, Agriculture, and Commerce) must “develop a master agreement for energy infrastructure rights-of-way renewals” and begin renewal processes for expired energy rights-of-way. All agencies must review policies relating to the transportation of energy products with an eye toward the role that state and local governments play and report to OMB how the federal

government may provide intergovernmental assistance to meet the goals of the E.O.

It is too soon to tell whether recent bipartisan efforts to reform the siting and permitting process have resulted in greater efficiency and certainty. However, the reforms are already improving the transparency of federal processes by requiring regular reports to Congress on progress and the creation of dashboards that track the permitting process across agencies.

### D. Agency Staffing and Training

A common refrain regarding permitting is that regulatory agencies remain understaffed at both the federal and state level. Further, state budgets have contracted since the 2008 recession, which have a significant impact on recruitment and retention. Federal and state agencies should consider the enhanced use of contractors, experienced professionals, and retention allowances for experienced persons who can reduce unnecessary delay as consequences of declining budgets for staff. Further, the agencies could consider the “Strike-Team” approach employed by the BLM, which the BLM used to clear a backlog of applications for permits to drill in 2012.<sup>211</sup>

Industry cannot enforce laws and regulations against others who are not complying with the laws and regulations. Inspectors at the federal and state level are required to enforce the regulations. These inspectors must be adequately trained and adequate in number. Based on the number of inspectors in various states and federal agencies compared to the number of significant incidents of the inspected infrastructure, the study group believes that several regulatory agencies need additional inspectors.

The study group recognizes the importance of adequate, trained, inspectors to enforce the regulations. Coordinated federal agency and state enforcement can create an efficient pool of people

<sup>211</sup> U.S. Department of the Interior, Office of Inspector General, *Onshore Oil and Gas Permitting*, U.S. Department of the Interior, Report No.: CR-EV-MOA-0003-2013, June 2014, <https://www.doi.gov/sites/doi.gov/files/CR-EV-MOA-0003-2013Public.pdf>.



for enforcement. Effective oversight and early engagement and education of the public and stakeholders by both regulators and industry is critical to reducing risk and moving projects forward economically and expeditiously.

The USACE is continuing to refine its lead district process and establishing a single point of contact for projects crossing district boundaries is currently the standard. Along with the One Federal Decision process, initiatives continue to be worked to improve the efficiencies of the USACE regulatory processes.

One model of effective industry-government training is for emergency spill response training and drills. Operators routinely invite government staff to participate in training sessions. Opportunities to expand this collaboration should be explored.

**Finding:** Adequate, trained inspectors to enforce regulations are important.

***The NPC recommends that:***

- The Executive Branch should assign dedicated staff in all federal agencies to review energy infrastructure projects similar to the model that the Department of Transportation uses for highway infrastructure projects.
- Congress should provide all federal and state agencies involved in energy infrastructure permitting sufficient, experienced staffing for permitting reviews and analyses. Where it would not result in a loss of critical agency expertise to regulate the industry, agencies should have the flexibility to consider the enhanced use of contractors, experienced professionals, and retention allowances for experienced persons who can reduce unnecessary delay as a consequence of declining budgets for staff. Further, the agencies could consider the “Strike-Team” approach employed by the BLM, which the BLM used to clear a backlog of applications for permits to drill in 2012.

## VI. SUMMARY OF FINDINGS AND RECOMMENDATIONS

This chapter has highlighted the challenges with the permitting processes—from siting, to construction, operations and maintenance to closures of an asset—and the recommendations to improve the efficiency, safety, environmental performance, and resiliency of the energy system. The following is a compendium of recommendations of solutions for all stakeholders—federal and state agencies, local governments, tribal governments, private citizens and public interest groups, as well as industry—to accomplish the regulatory objective more effectively.

Findings	Recommendations
<b>II.B.1. NEPA: The Magna Carta of Federal Environmental Law</b>	
<p>A 6-year statute of limitations has been applied to federal agency decisions including NEPA. However, for projects subject to the FAST-41 Act, the statute of limitations is 2 years.</p> <p>NEPA creates a single environmental framework that is implemented in many ways by different agencies. While CEQ is responsible for guiding NEPA activities across federal agencies and issues regulations and guidance to agencies to comply with NEPA, each federal agency is directed by CEQ to develop its own NEPA procedures in conjunction with CEQ based on the agency’s mission, and authorizing statutes. This process has long been a source of complexity which can often lead to unnecessary delay. EIS development timelines and document lengths have grown beyond what was originally intended by the NEPA regulations. Litigation on the NEPA assessments has also increased.</p> <p>Federal agencies’ use of environmental collaboration and conflict resolution (ECCR) has avoided litigation and saved time and money, creating more certainty in the siting and permitting processes.</p>	<p>CEQ should issue in a timely manner regulations or guidance that improves collaboration across cooperating agencies, improves the use of ECCR and reinforces original NEPA regulations calling for concise NEPA assessments.</p> <p>Congress should extend the 2-year statute of limitations enacted in FAST-41 for claims against covered project NEPA assessments to all energy infrastructure projects and include other FAST-41 claim conditions such as the requirement that claimants have participated in the NEPA review process and submitted sufficiently detailed commentary so the lead agency has been notified of the issue that they seek to be reviewed by the court.</p> <p>Project developers and federal agencies should continue to use ECCR as a means to avoid litigation and shorten infrastructure permitting timelines.</p> <p>CEQ should incorporate into its NEPA regulations elements from the Memorandum of Understanding implementing One Federal Decision (OFD MOU) to improve early and timely interagency coordination to elevate delays and dispute resolution by providing a mechanism for resolving disagreements among agencies that requires initial elevation through the chain of command of each relevant federal agency and encourages resolution of disputes in a consistent manner.</p>

Findings	Recommendations
<b>II.B.3.a. Single Statute Gives Oversight to Multiple Agencies</b>	
<p>CWA 401 decisions are being made on elements unrelated to water quality.</p> <p>The U.S. Army Corps of Engineers (USACE) and EPA play indispensable roles in the infrastructure permitting process, including coordination among governments, agencies, and companies.</p> <p>Because states can condition their Section 401 water quality certificates or impose conditions on regional or other general permits to be issued by the Army Corps under Section 404, conditions vary from state to state, or within a watershed, and as a result there is no nationwide predictable set of standards.</p>	<p>The U.S. Army Corps of Engineers and EPA, when engaging the states on the implementation of CWA Sections 401/404, should exercise their authority to ensure that the statute is properly construed and enforced.</p> <p>EPA should:</p> <ul style="list-style-type: none"> <li>• Finalize and update regulations, published for public comment August 22, 2019, to clarify the scope of federal/state water quality standards.</li> <li>• Convene a Federal Advisory Committee with representatives of industry, state governments, affected local communities, and NGOs to develop consensus recommendations for how to improve states' Section 401 certification processes.</li> </ul> <p>The U.S. Army Corps of Engineers should:</p> <ul style="list-style-type: none"> <li>• Implement rulemaking to provide procedural consistency among NWP programs, potentially requiring pre-application to identify Lead Districts, points of contact, and variations in requirements across watershed and political boundaries.</li> <li>• Continue working and implementing One Federal Decision process initiatives to improve the efficiencies of the USACE regulatory processes, including a lead district for projects crossing multiple districts and for a single point of contact for One Federal Decision, and any project crossing district boundaries.</li> <li>• Clarify when the preconstruction notifications requirements for use of NWP 12 are required (e.g., when there are public water supply intakes downstream of the activity, or when the activity may affect listed species or officially designated critical habitat).</li> <li>• Implement consistent approaches to permit interpretation among its field offices to minimize variation of NWPs.</li> </ul>

Findings	Recommendations
<b>II.B.3.b. Multiple Statutes Convey Overlapping Oversight</b>	
<p>Overlapping and duplicative regulatory requirements, inconsistencies across multiple federal and state agencies, and unnecessarily lengthy administrative procedures have created a complex and unpredictable permitting process.</p> <ul style="list-style-type: none"> <li>• States approach permit coordination in varying ways for energy infrastructure projects.</li> <li>• In federal-led permitting projects, states vary in initiating their permitting reviews. Sequential rather than concurrent reviews can create delays.</li> </ul>	<p>The federal government should leverage the Federal Permitting Improvement Steering Council (FPISC) to encourage concurrent review by the states during the federal permitting process. FPISC has authority to enter into MOUs with states to accomplish concurrent review under FAST-41.</p> <p>For federal permits or decisions delegated to the states (CZMA, CWA, CAA), states should be incentivized to comply with FAST-41 and One Federal Decision and make decisions in conjunction with federal NEPA process timeline.</p> <p>EPA should:</p> <ul style="list-style-type: none"> <li>• Finalize and update regulations to clarify the scope of federal/state water quality standards.</li> <li>• Convene a Federal Advisory Committee with representatives of industry, state governments, affected local communities, and NGOs to develop consensus recommendations for how to improve states' 401 certification processes.</li> </ul>
<b>II.B.3.c. Greater Focus on and Adherence to Interagency Coordination</b>	
<p>Coordinated and streamlined NEPA review among multiple federal agencies is essential to the timely development of infrastructure required to meet the public need for natural gas.</p>	<p>CEQ should incorporate into its NEPA regulations elements from the OFD MOU to improve early and timely interagency coordination:</p> <ul style="list-style-type: none"> <li>• Roles and Responsibilities of Lead and Cooperating Agencies: The One Federal Decision MOU provides expanded guidance on the roles of each of the agencies, which is helpful in ensuring the efficient coordination among parties.</li> <li>• Permitting Timetable and Concurrence Points: Preparing a single multiagency permitting timetable with specific concurrence points ensures early and continued interagency coordination at key points during the process.</li> </ul>
<b>II.B.4. Agencies Have Multiple Interests</b>	
<p>Regulatory approvals of cooperating agencies can conflict with approvals of the lead agency.</p>	<p>To harmonize multiple permitting processes at the federal and state level, Congress should provide sufficient staffing for and authorize the lead federal agency implementing NEPA regulations to ensure that NEPA analyses fully encompass and support permit decisions of other federal and state agencies.</p>



Findings	Recommendations
<b>II.C.3. State Environmental Policy Acts</b>	
<p>Some states allow the federal NEPA review to substitute for completion of their program, similar to when federal agencies adopt a lead federal agency’s NEPA analysis. In other states, the federal and state reviews must run side by side and the state agencies cannot issue any permits until their state review is completed. As a result, these state programs can add time to a project timeline.</p>	<p>States should focus SEPA or other environmental reviews on analyses necessary to satisfy state law or delegated federal decisions not required by federal law.</p>
<p>Interstate Oil and Gas Compact Commission (IOGCC) and Environmental Council of the States (ECOS) can convene task groups to address multistate general issues.</p>	<p>States should consider utilizing ECOS’s relationships with state officials and knowledge of the federal process, to facilitate a common agreement between federal and state jurisdictions when there are potential conflicts between a NEPA review and a SEPA review to avoid delay, confusion, and legal vulnerability.</p> <p>Industry, a national organization made up of state regulatory agencies such as the IOGCC or ECOS, representatives of local governments and communities, and interested NGOs should collaborate to develop a model master structure for state permitting and coordination of approvals for infrastructure, to provide for efficient collaboration with operators and better coordination with federal agencies.</p> <p>States should adopt a single point of contact within a state for permit coordination.</p>
<b>II.E. Examples of Energy Infrastructure Projects Delayed, Denied, or Cancelled</b>	
<p>State and local policies, state denials of infrastructure projects, and state restriction of movement of particular forms of energy fragment the infrastructure network. Fragmentation has significant consequences on interstate commerce by restricting the ability of one state to obtain or transport energy from one state to another. Solutions are inherently political, difficult, and complex.</p>	<p>To mitigate negative impact on interstate commerce, all levels of government should have constructive dialogue, through forums like the former Advisory Commission on Intergovernmental Relations, about the overall economic benefits from the nation’s energy resources while effectively engaging stakeholders and minimizing local impacts and risks.</p> <p>Additionally, the Federal Energy Regulatory Commission, in consultation with the U.S. Department of Energy, North American Energy Standards Board, market participants, and stakeholders, should continue to study and advance policy updates that alleviate current impediments to contracting and infrastructure expansion between natural gas-fired power plants and pipeline operators.</p>
<b>III. Public Engagement for Infrastructure Projects</b>	
<p>Successful infrastructure projects depend upon early, effective, and continuous stakeholder engagement and collaboration. Following this model can lead to positive outcomes for partner communities, project sponsors, and consumers.</p>	<p>Industry should adopt community engagement best practices to enhance outreach and to raise prospects for successful project permitting and implementation. In states where stakeholder engagement requirements are lax, companies should take a voluntary approach to implement best practices.</p>

Findings	Recommendations
<b>III.A. Soliciting Public Input to the Regulatory Process</b>	
<p>Public notice and awareness of energy infrastructure projects would be enhanced if there were a consistent, easy-to-use website and hearing format that accommodated English and non-English speaking stakeholders.</p> <p>Agencies have different public meeting formats.</p>	<p>The lead federal agency needs to have a consistent and inclusive public comment process with full transparency of scoping meeting locations, dates, maps, timelines, etc.</p> <p>CEQ should update guidance for agencies to develop a simple, intuitive, easy to understand and use format for public involvement in infrastructure project permitting, public hearings, and notice and comment stages.</p>
<b>III.C.1.b. Air and Water Quality</b>	
	<p>Infrastructure companies should continue to adopt technologies and practices that minimize air emissions, including methane.</p>
<b>III.C.1.d. Wildlife and Vegetation</b>	
<p>Conservation groups have expressed concern about lack of inclusion in planning and development processes to ensure species that are not necessarily protected under the Endangered Species Act, Migratory Bird Treaty Act, or other state and federal laws are considered and managed to conserve their habitats and populations.</p>	<p>To ensure best practices, infrastructure companies should solicit input from local, regional, and national stakeholders regarding habitat impacts early in their planning and development processes, and engage collaboratively with stakeholders on cooperative solutions. Companies should also adopt innovative approaches to mitigating these impacts.</p>
<b>III.C.1.e. The Relationship Between Climate Change, NEPA, and Litigation</b>	
<p>The nation faces the dual challenge of providing affordable energy to support economic growth and human prosperity while addressing the environmental effects including the risks of climate change. Industry shares the public's concerns that climate change is a serious issue that must be addressed. Litigation of individual projects to address global climate concerns is an ineffective approach.</p>	<p>All infrastructure companies should strive for an outstanding environmental compliance record and to reduce the intensity of greenhouse gas emissions from their operations. Emissions reduction programs, such as One Future, the Methane Challenge, the Environmental Partnership, and EPA's Natural Gas Star Program, are all means of demonstrating a company's efforts to reduce methane emissions.</p>
<p>The permitting and construction of numerous energy infrastructure projects has been challenged, delayed, or stopped as a result of litigation by stakeholders concerned about climate change and the associated policy debate.</p>	<p>Congress should:</p> <ul style="list-style-type: none"> <li>• Clarify that GHG assessments under NEPA, for oil and natural gas infrastructure projects, are confined to emissions that are (i) proximately caused by the Federal action (see <i>Dep't. of Transportation v. Public Citizen</i>, 541 U.S. 752 (2004)), and (ii) are reasonably foreseeable.</li> <li>• Enact a comprehensive national policy to reduce GHG emissions and seek to harmonize federal, state, and sectoral policies to enhance efficiency and effectiveness. Congress should ensure that the enacted national policy is economy wide, applicable to all sources of emissions, market-based, transparent, predictable, technology agnostic, and internationally competitive.</li> </ul>

Findings	Recommendations
<b>III.C.3. Economic Interests and Skilled Labor Need</b>	
<p>While the economic benefits from infrastructure development are often welcomed by local communities and stakeholders, they often do not completely offset the challenges experienced as a result of this development. Also, benefits of job creation in the skilled trades may not accrue to local residents and tribal members due to a lack of local job training and apprenticeship programs.</p> <p>It is becoming increasingly challenging to keep pace with hiring and developing a well-qualified workforce to build and maintain existing and future infrastructure. A skilled labor shortage exists in the United States and will continue to grow as the current workforces continue to retire.</p>	<p>Industry should recognize the economic, social, and environmental concerns of the agricultural, hunting, and recreational stakeholders as well as the concerns of local government regarding roads and bridges and increased demands for services.</p> <p>Industry should collaborate with local communities to develop strategies to capture benefits of infrastructure development and to mitigate economic, social, and environmental challenges for stakeholder groups such as local government, farmers, tribal members, recreation, and hunting/fishing interests.</p> <p>Industry should adopt a stance of endorsing accredited apprenticeship programs as a community good and an economic engine for the community.</p> <p>Industry should collaborate with labor unions to develop labor feeder pools and training programs to maintain a sustainable skilled labor workforce required to construct, operate and maintain the infrastructure by utilizing a national network of accredited apprenticeship programs.</p> <p>The U.S. government, states, local communities, secondary schools, and industry should promote vocational career education and technical training of their constituents, members, and communities. Industry, along with secondary and technical schools should support registered and accredited apprenticeship programs to ensure an adequate supply of skilled industrial construction, operations, and maintenance workers.</p>
<b>III.C.4. Eminent Domain</b>	
<p>The Third Circuit’s decision that pipeline condemnation lawsuits under the Natural Gas Act against states are barred by the state’s Eleventh Amendment immunity could have a significant impact on the siting of some new pipeline infrastructure and will result in significant state-level control over federally approved natural gas infrastructure projects crossing state lands.</p> <p>Eminent domain disputes with landowners lead to delays and complexities in implementing projects.</p>	<p>Because the Natural Gas Act (NGA) does not differentiate between privately held and state-owned property, Congress should enact the necessary changes to the NGA to expressly clarify that all property (whether privately owned or state-owned) are subject to an NGA certificate holder’s right of eminent domain and that pipelines are not barred by Eleventh Amendment immunity in bringing eminent domain actions against a state.</p> <p>Where a proposed route would cross state land, the pipeline project developer and the state should work proactively and cooperatively with each other to develop a process for joint input to FERC on the siting.</p> <p>Industry should follow stakeholder engagement best practices, whether required or not, to engage all landowners affected by eminent domain early in the project design process.</p> <p>Companies should work with industry groups, habitat researchers, and landowner groups to establish restoration best practices that provide new, native habitat for pollinators and other species.</p>

Findings	Recommendations
<b>III.D. American Indians and Alaska Natives and Government-to-Government Consultation</b>	
<p>Creating workforce training and employment programs is an effective method in building relationships with tribes during the development of energy infrastructure projects.</p> <p>Collaborative pre-apprenticeship labor training programs for American Indians and Alaska Natives hold promise to build an indigenous, growing work force of skilled trade unions on reservations and in nearby towns to be ready to work on energy infrastructure projects.</p>	<p>The federal government should, after consultation with tribes, construction companies, and trade schools, support American Indian and Alaska Native workforce development through labor pre-apprenticeship training programs for American Indians and Alaska Natives of trades involved in the construction, maintenance, or operation of energy infrastructure. In addition, the NPC encourages energy companies and labor unions to initiate agreements with tribes to provide work and training opportunities relative to energy infrastructure projects.</p>
<p>American Indians and Alaska Natives tribes are a special class of stakeholder, due to their sovereign status. Federal agencies have developed extensive regulations and guidelines, although different at each agency, for meaningful consultation. Tribes have several concerns about siting and permitting decisions, as well as the consultation process itself.</p>	<p>The federal government should continue to enhance nation-to-nation consultation with American Indian and Alaska Native governments regarding energy infrastructure development.</p> <p>Agencies should develop project-specific plans to document the steps they will take to coordinate public and tribal participation and complete the required environmental reviews and authorizations.</p> <p>American Indians and Alaska Natives tribes and industry operators should strive for meaningful dialogue in areas of mutual interest and needs of tribes and industry, such as preservation of sacred sites, workforce development, and infrastructure development.</p>
<b>III.E. Best Practices for Stakeholder Engagement</b>	
<p>Inconsistent and insensitive land and right-of-way acquisition practices, insufficient communication and lack of transparency about project implementation plans, and inadequate stakeholder or tribal engagement practices can result in avoidable project delays.</p>	<p>Infrastructure companies should consistently:</p> <ul style="list-style-type: none"> <li>• Implement existing best practices (FERC, Interstate Natural Gas Association of America, American Petroleum Institute, Association of Oil Pipe Lines) for early and effective engagement with local governments, communities, private citizens, public interest groups, and American Indians and Alaska Natives to understand and address stakeholder concerns. Infrastructure companies should strive to incorporate stakeholder input into the proposed action wherever practicable and collaborate on finding solutions or conveying reasons in those circumstances where an interest is difficult to accommodate.</li> <li>• Engage in educational and awareness efforts with communities and stakeholders to increase understanding of the need for infrastructure, the steps to be taken to construct and operate it safely, and how they will be engaged throughout the siting and development process.</li> <li>• Work collectively toward more effective engagement practices regarding energy, environmental and related public policies that encourage responsible energy development and transport.</li> </ul>



Findings	Recommendations
<b>IV.B.2. LNG Storage</b>	
<p>Since multiple agencies supervise LNG plant construction, consideration and approval of plans are rarely done jointly and can result in conflicting requirements, causing delay. For example, FERC, PHMSA, and the U.S. Coast Guard inspect the site during construction. The industry has all three agencies inspecting the facility at intervals during construction and operations. These inspections overlap in their scope and the agencies can contradict each other and what was agreed during permitting.</p>	<p>The regulatory requirement for review by FERC and PHMSA on the construction of the facility should be reviewed and the process better coordinated and streamlined. It is imperative that the agencies either coordinate the review or review concurrently, and that the scope of the reviews be defined and jurisdictions identified.</p>
<p>API standards for pressure relief device testing are applicable to LNG facilities. Having a regulation with a prescriptive time interval for testing, especially as short as 1 year, over-exposes the facility and personnel to elevated risk and hazards and reduces safety and reliability. Said another way, removing and testing these devices will increase the potential for failure and therefore will reduce safety and reliability.</p>	<p>The most appropriate and safest route for addressing inspection and testing of pressure relieving devices is for PHMSA to adopt API 576 and 510 by reference for pressure relief device testing and/or the adoption of the requirements in the 2019 NFPA 59A (18.10.10.7.2). In addition, PHMSA should consider updating all standards to their current version, annually reviewing and updating Part 193 to the current version of all standards identified in the standard, allowing a facility to opt into risk-based analysis either in their application or for operations and let facilities opt into operations using process safety management.</p>
<b>V.B.1. FAST-41</b>	
<p>Bipartisan actions by Congress and the Executive Branch, including mechanisms to expedite the permitting process for large infrastructure projects, represent positive steps; however, more improvements are necessary.</p> <p>Utilization of FAST-41 by affected agencies is not fully realized.</p> <p>More can be done to accelerate investment in energy infrastructure and ensure energy security in a manner that ensures early and robust landowner and stakeholder engagement and in an environmentally sound manner.</p>	<p>A federal agency should consult with FAST-41 project sponsors and other stakeholders to obtain feedback to improve FAST-41 before reauthorization.</p> <p>Taking due consideration of the feedback from consultation, Congress should reauthorize FAST-41 for an additional 7 years, and include the following improvements:</p> <ul style="list-style-type: none"> <li>• Expand FAST-41 to include eligibility for all federal energy infrastructure projects and continuing staffing of FPISC.</li> <li>• For federal permits or decisions delegated to the states (CZMA, CWA, CAA), states should be incentivized to comply with FAST-41 and One Federal Decision and make decisions in conjunction with federal NEPA process timeline.</li> <li>• FPISC should be leveraged to drive concurrent review by the states during federal permitting processes.</li> </ul> <p>Further reauthorizations by Congress of FAST-41 consider eliminating sunset provisions.</p>

Findings	Recommendations
<b>V.B.2. Litigation Cycle Reform</b>	
<p>Reducing the time within which stakeholders can sue still preserves the opportunity to challenge an agency decision and can improve project timeline certainty.</p> <p>Early and effective stakeholder and landowner engagement in the design, review, and development phases of an energy project reduces the probability of litigation.</p>	<p>Where consistent with existing federal laws that protect public participation in agency permitting and environmental reviews, Congress should consider extending FAST-41 litigation reform to all federal agency decisions pertaining to infrastructure siting, permitting, construction, or maintenance. CEQ should ensure that revisions to the implementing regulations address common issues that are frequently litigated.</p>
<b>V.C.2. Executive Order 13868: Promoting Energy Infrastructure and Economic Growth</b>	
	<p>Federal land managers, in the interest of promoting energy infrastructure, should strive to identify potential “energy crossing corridors” for key crossing areas and conduct a single NEPA analysis. Agencies should consider developing a streamlined permitting process for critical infrastructure where a cluster of projects can be anticipated.</p>
<b>V.D. Agency Staffing and Training</b>	
<p>Adequate, trained inspectors to enforce regulations are important.</p>	<p>The Executive Branch should assign dedicated staff in all federal agencies to review energy infrastructure projects similar to the model that the Department of Transportation uses for highway infrastructure projects.</p> <p>Congress should provide all federal and state agencies involved in energy infrastructure permitting sufficient, experienced staffing for permitting reviews and analyses. Where it would not result in a loss of critical agency expertise to regulate the industry, agencies should have the flexibility to consider the enhanced use of contractors, experienced professionals, and retention allowances for experienced persons who can reduce unnecessary delay as a consequence of declining budgets for staff. Further, the agencies could consider the “Strike-Team” approach employed by the Bureau of Land Management (BLM), which the BLM used to clear a backlog of applications for permits to drill in 2012.</p>

