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Dynamic Delivery –
America's Evolving Oil and Natural Gas Transportation Infrastructure
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Topic Paper #3-2

LESSONS LEARNED: CASE STUDIES OF SELECT INFRASTRUCTURE PROJECTS

Prepared for the

Permitting, Siting, and Community Engagement for Infrastructure Development Task Group

On December 12, 2019 the National Petroleum Council (NPC) in approving its report, *Dynamic Delivery – America's Evolving Oil and Natural Gas Transportation Infrastructure*, also approved the making available of certain materials used in the study process, including detailed, specific subject matter papers prepared or used by the study's Permitting, Siting, and Community Engagement for Infrastructure Development Task Group. These Topic Papers were working documents that were part of the analyses that led to development of the summary results presented in the report's Executive Summary and Chapters.

These Topic Papers represent the views and conclusions of the authors. The National Petroleum Council has not endorsed or approved the statements and conclusions contained in these documents, but approved the publication of these materials as part of the study process.

The NPC believes that these papers will be of interest to the readers of the report and will help them better understand the results. These materials are being made available in the interest of transparency.

The attached paper is one of 26 such working documents used in the study analyses. Appendix C of the final NPC report provides a complete list of the 26 Topic Papers. The full papers can be viewed and downloaded from the report section of the NPC website (www.npc.org).

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Topic Paper

(Prepared for the National Petroleum Council Study on Oil and Natural Gas Transportation Infrastructure)

3-2	Lessons Learned: Case Studies of Select Infrastructure Projects
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Reviewers	
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SUMMARY

This paper details lessons learned from a few projects that experienced permitting challenges across various modes of infrastructure, pipeline, terminals and railroads.

I. INTRODUCTION

The vignettes in this paper analyze infrastructure construction or modification projects where permitting processes and public concerns in the public-private interactions have gone well or resulted in delays or project denials or cancellations. The focus, in either scenario, is highlighting lessons learned for improvement. The projects included are intended to be illustrative and not exhaustive.

II. LESSONS LEARNED

A. Pipelines

1. Natural Gas

The Potomac Pipeline, a 3.5-mile pipeline, proposed by Columbia Gas, a subsidiary of TransCanada, sought to move natural gas in the Marcellus Shale from Pennsylvania to West Virginia, traversing a narrow section of Maryland. The project was subject to FERC regulation, but required an easement under state land in Maryland, which was opposed by environmental groups. Maryland Governor Larry Hogan and the Maryland Board of Public Works denied the easement on January 2, 2019. Opponents to the pipeline that claimed that the Potomac Pipeline would jeopardize drinking water, as it planned to go under the Potomac River, which provides a significant amount of drinking water for the region. The Board of Public Works agreed. State Senators and Delegates in Maryland wrote the Governor that the pipeline would endanger public

health and contribute to climate change, although Governor Hogan claimed the vote was not impacted by the letter from the legislature.[1]

The Potomac Pipeline shows the influence and the importance of State Government, even in what is traditionally considered a Federal sphere. The critical element of concern for Potomac Pipeline's opposition was a water crossing of a navigable water, which is an issue properly considered by the United State Army Corps of Engineers (USACE). However, the pipeline's fate was sealed by the action of a State, which typically has a limited role in both water crossings, and in permitting for interstate natural gas pipelines. Similar state action which have impaired pipelines where the primary permitting responsibility is in the Federal sphere include the Constitution Pipeline, which has been suspended due to the denial of a state water quality permit in NY.

The recommendation in the wake of the Potomac Pipeline is that State and Federal permitting agencies collaborate more effectively, so that a permitting decision by one agency does not infringe upon the responsibilities or jurisdiction of another agency. In the Potomac Pipeline case, one can argue that the decision by the Board of Public Works in fact infringed upon the jurisdiction of the USACE, and that the underlying reasoning behind their decision should have been properly considered by the USACE, not the State of Maryland.

2. International/Cross Border

Valley Crossing Pipeline[2] is a 165-mile natural gas pipeline, 1000 feet of which required a Presidential permit to cross into the international border within the Mexican state of Tamaulipas. The project proponent was Enbridge, which permitted and constructed the 42" pipeline that carries 2.6 billion cubic feet per day (BCFD) of natural gas from Texas to Mexico. State Department approval was required for the section that extends from a point in Texas state waters about 30 miles east of Brownsville.

Valley Crossing Pipeline, a $1.6 billion pipeline, began construction in April 2017 and entered service on October 31, 2018[3]. Valley Crossing connects in the Gulf of Mexico with the

[1] https://www.washingtonpost.com/local/md-politics/hogan-votes-against-potomac-pipeline-following-years-of-opposition-from-activists/2019/01/02/2fb14566-0e02-11e9-84fc-d58c33d6c8c7_story.html?utm_term=.970381e79dc1 1/15/2019

[2] FERC docket CP17-19-000; approval order: https://www.ferc.gov/industries/gas/indus-act/pipelines/approved-projects/2017/CP17-19.pdf?csrt=3950303647458199031, accessed 2/5/19

3 Project timeline: 2016 - 2019

2016

October – FERC order granting presidential permit

Sur de Texas-Tuxpan pipeline, which runs roughly 500 miles in Mexico. It is the biggest gas pipe between the two countries. TransCanada is building the underwater pipeline from Tuxpan, Veracruz, which will join the Valley Crossing Pipeline at the border.

Interventionists[4] sought to have 165 miles subject to FERC permitting, instead of the state Railroad Commission. Approximately 100 comments were filed with FERC on the cross border section of the pipeline and ranged from opposing the pipeline, to concerns about potential explosions, eminent domain, impacts to a fishing spot called South Bay, and rejecting the construction of Texas LNG. The City of Port Isabel intervened on the permit request.

Objections to the project were submitted at every juncture of the FERC application and review process. Reasons stated were opposition to LNG terminals, natural gas infrastructure due to climate change concerns.

The Sierra Club (SC) asserted that interconnections with existing pipelines converted the 165 mile intrastate project into an interstate one, thus requiring FERC's review of border crossing project to be consolidated with review of the broader pipeline. SC commented that FERC must consider under the Natural Gas Act the public interest, public necessity and, under

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December 2016 – FERC requests Dept. of Defense (DOD) concurrence

2017

January – FERC notice to prepare environmental assessment on project and request for comment

February – DOD issues non-object letter

April – State Department issues concurrence with border crossing

July – Texas Historical Commission comments on project; FERC requests Marine Fisheries consultation

August – US Environmental Protection Agency comments on border crossing

November – FERC granting application with conditions

2018

January – National Marine Fisheries Service, Office of Energy Projects Endangered Species Act report

March – FERC authorized construction to begin

June – Construction began

October – FERC granted extension to complete construction and place into service due to schedule with interconnecting pipeline

2019

January – Request for FERC approval to place pipeline in service by February 8, 2019

Throughout construction, the project proponent filed bi-weekly status report with FERC.

[4] Interventionists included Sierra Club, residents, City of Port Isabel. Source: https://www.sierraclub.org/texas/blog/2018/07/valley-crossing-pipeline-exercise-corporate-trickery, accessed 1/15/19.

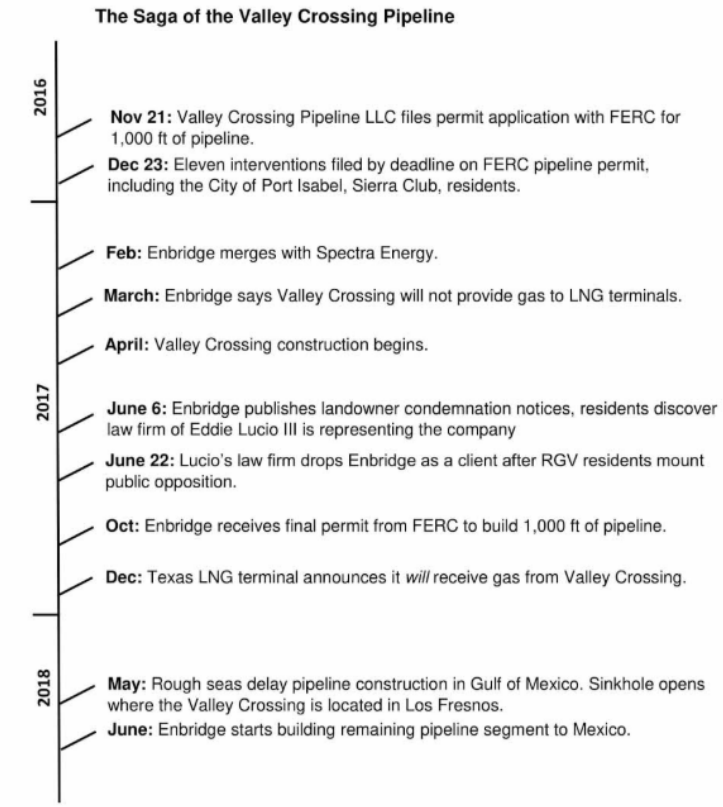
NEPA review the direct, indirect, and cumulative, of the entire pipeline because the is a connected action for purposes of NEPA review.

FERC rejected the SC position and, in the order granting the Presidential Permit and application, found "[t]he mere existence of a physical interconnection with an interstate pipeline is not sufficient to bring an intrastate pipeline under the Commission's jurisdiction, since being capable of receiving interstate gas is not the same as actually receiving it. Since Valley Crossing will initially neither receive nor transport any gas flowing in interstate commerce, the Valley Crossing Pipeline is not subject to the Commission's jurisdiction under section 7 of the NGA."

The proponent replied to all comments. Horizontal directional drilling technique was used under sensitive habitats to avoid potential impact to mangroves, oyster reefs, and open water habitats. An environmental inspector was present during construction to ensure compliance with environmental permits. Contingency plans and spill response plans were enacted in case of an inadvertent release of drilling fluid.

This pipeline project shows the jurisdictional purviews of the State department of export / import and national trade decisions, FERC review of the project at the time of application and not speculation of future changes, and the interaction of federal and state oversight of pipeline permitting and construction. Thorough preparation and current construction techniques by the project proponent and timely response to opponents' comments aided the lead agency in its review.

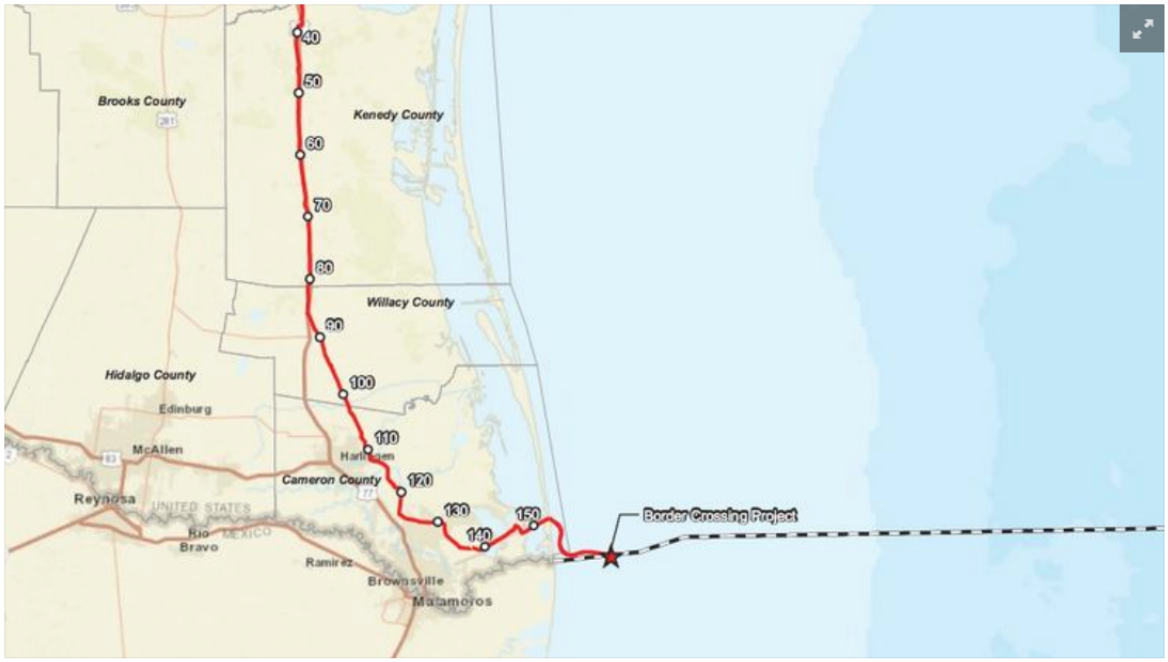
Sierra Club timeline:



Route:


Valley Crossing Pipeline
Nueces Header
Nueces Compressor Station
Valley Crossing Pipeline Route Overview Map
Compressor Station
Valley Crossing Pipeline
Infraestructura Marina del Golfo
Nueces
Jim Wells
Duval
Kleberg
Brooks
Kenedy
Starr
Willacy
Hidalgo
Cameron
Border Interconnect Point
Brownsville Compressor Station
0 5 10 Miles

Border crossing:



The Federal Energy Regulatory Commission is giving Valley Crossing Pipeline LLC more time to connect its natural gas pipeline to its counterpart in Mexico.

FEDERAL ENERGY REGULATORY COMMISSION

3. Atlantic Sunrise Pipeline

On March 31, 2015, Transcontinental Gas Pipeline Company ("Transco"), a subsidiary of Williams, filed a request with the Federal Energy Regulatory Commission ("FERC") to for authorization to construct and operate the Atlantic Sunrise pipeline, a natural gas pipeline in Pennsylvania, Maryland, Virginia, North Carolina, and South Carolina. As part of the permitting process, Transco held negotiations with regulators and other stakeholders and made modifications to the pipeline route and provided an addition $2.5 million for environmental conservation projects.[2]

FERC issued Transco's requested certificate on February 3, 2017.[3] On October 6, 2018, the Atlantic Sunrise pipeline went into full service and began moving natural gas.

4. Liquids Pipelines

a. Dalton and Palmetto Pipelines

The Palmetto Pipeline, a nearly 400-mile pipeline, proposed by Kinder Morgan, sought to move gasoline and diesel fuel across the Southeastern United States. In 2016, Kinder Morgan announced it would suspend construction on the $1 billion pipeline, after the Georgia legislature passed a law which would limit the use of eminent domain for the pipeline, as well as additional permitting restrictions.[5] The Georgia legislature saw the pipeline as providing no benefit to the State of Georgia, as its goal was to move gasoline and diesel fuel from South Carolina to Florida. The Georgia legislature also expressed significant concern regarding landowner rights. The legislature also expressed concerns about an environmental disaster if the pipeline were to leak or spill. One month prior to the legislature's decision, a Georgia Superior Court judge had denied Kinder Morgan the right to use eminent domain for the pipeline. Following the vote in Georgia, South Carolina passed a law restricting the use of eminent domain for the pipeline.[6]

The Palmetto Pipeline shows the influence and the importance of State Government, and the differing regulatory atmosphere for natural gas and oil. Had the Palmetto Pipeline been a natural gas pipeline, the Georgia legislature would have had only limited authority over its approvals and would have no jurisdiction with respect to the pipeline's use of eminent domain. However, the decentralized natural of oil pipelines, requiring permits and authorities granted from each state governments from the States that the pipeline transverses, makes the approval process prolonged and cumbersome. Further, communities who do not experience a direct

[5] https://insideclimatenews.org/news/01042016/palmetto-pipeline-kinder-morgan-georgia-eminent-domain-oil-gas-republicans

[6] https://www.corporatecrimereporter.com/news/200/how-the-kinder-morgan-palmetto-pipeline-was-defeated/1/24/2019

benefit from the pipeline, as either the source of the commodity or the market for the commodity, may, like Georgia, question how the pipeline provides any benefit to their community.

The recommendation in the wake of the Palmetto Pipeline is that State regulatory agencies collaborate more effectively in order to facilitate the movement of oil, or that the Federal government pass a law which would place eminent domain authority for oil under Federal jurisdiction. Through the transportation of oil and natural gas, there will always be states who are only marginally served by a pipeline because the State may not have a sufficient market for the oil being transported. However, the interests of adjacent or nearby States who could be served by the pipeline should be considered as well. Either states could collaborate more effectively to address these concerns, or the Federal Government should take it out of their hands. However, pipelines such as the Palmetto Pipeline should not be scrapped due to specific local concerns which could be best addressed through re-routing and safety management and spill mitigation plans.

B. Terminals

1. Cove Point LNG Terminal

Dominion Energy filed their application for a permit for the Cove Point LNG terminal on April 1, 2013 in Docket No. CP13-113. Prior to that filing, Dominion had been working on preparing their application through a series of pre-filing meetings with FERC staff and impacted landowners. Once the application was filed, many landowners appeared at FERC open meetings to express their concerns about the process and application, including concerns about the environmental and air quality impacts from the construction and operation of the proposed LNG terminal. Over the course of FERC's consideration of the permit application, many other environmental groups and NGOs also held several protests at the Commission expressing opposition to the LNG project.

On September 14, 2014, the Commission approved Dominion's permit request[1] for Cove Point and construction of the LNG facility began in October 2014. In March 2018 Cove Point LNG began commercial operations.

2. South Portland Pipeline

On August 24, 2018, the United States District Court for the District of Maine ruled against the Portland Pipe Line Corporation in a lawsuit with the City of South Portland, Maine, concerning the legality of a local ordinance prohibiting the loading of crude oil on to tankers and the building of necessary structures to accomplish that purpose. The Portland Pipe Line Commission alleged that the local ordinance violated the dormant commerce clause and the

foreign commerce clause of the United States Constitution. The Court found the local ordinance did not discriminate against foreign commerce, did not interfere with the Federal Government's ability to speak with one voice, did not represent an excessive burden with foreign commerce, and did not have an impermissible extraterritorial effect.

The facts of the case involved an oil pipeline which wished to reverse its flow, where it previously unloaded crude oil, and now wished to load crude oil transported from the Alberta oil sands on to tankers. Over the course of a number of years of planning and development, the City of South Portland had redeveloped the industrial area surrounding the dock for a mixed use, commercial and residential area. The city of South Portland passed the ordinance because its was concerned about the release of hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) associated with the loading of a ship (but are not present in the unloading of a tanker), as well as the visual impairment which would be necessary from installing vapor destruction units to address the HAPs and VOCs.

The South Portland decision is important in how it demonstrates how a narrowly written, narrowly tailored local ordinance can impair infrastructure development, so long as the facts and local situation underlying the ordinance support its goals, and the ordinance is not far reaching in its intent. Had the City of South Portland not chosen to redevelop its waterfront, or the loading of ships not resulted in the release of VOCs and HAPs, the ordinance would likely have been found invalid. Had the ordinance specifically prohibited Canadian crude oil, it would likely have been found to violate the Constitution. However, the narrow wording of the ordinance focused its intent on the local public health, safety, and general welfare of the people of South Portland, and as such, did not represent a constitutional violation. A lesson learned from this case is that it may be necessary to reduce planning time as much as possible, as the delays and reconsiderations in this project allowed significant time for opposition to mount, organize, and execute policies designed to stop the pipeline.

C. C. Rail

1. Tower 55

In 2014, the BNSF Railway and UP Railroad, in conjunction with the federal Department of Transportation and Texas Department of Transportation and other public partners, completed a project just south of downtown Fort Worth, Texas. The rail interchange, nicknamed "Tower 55" is one of the busiest in North America, with over 100 trains crossing daily, including those from two Class 1 railroads and Amtrak. The project involved adding a mainline and several switches and sidings. It also involved closing a crossing, improving several at-grade crossings, and replacing a number of bridges. The total cost of the public-private partnership was approximately $110 million.

Although the scope of the project was large, the Federal Railroad Administration saw that any and all impacts of the project were positive. Although the FRA could have fallen back on the logic that says any large project must be approved using an EA or EIS, instead, the FRA used categorical exclusions for each facet of the project. Because the FRA was willing to use NEPA as intended, and took seriously the requirement that the least onerous process possible be used to evaluate a project, the railroads were able to build a project quickly that has reduced pedestrian and motorist delays by 100,000 hours annually, will eliminate 165 million gallons of fuel use over 20 years, reduced greenhouse gas emissions by 93,000 tons annually, and improved safety by the installation of Positive Train Control and by improving pedestrian access under the railroad tracks for students who had to cross to get to school every day.