



Breaking the Deadlock: Expediting Interstate Transmission Siting

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Preface

About the Author

Levi is a rising senior majoring in electrical engineering and minoring in business. His long-term goals include a future involving power engineering and public policy, more specifically working in areas discussed in this paper. In the summer of 2009, he interned with the United States Army Corps of Engineers. During this internship he was able to work with leaders in the hydropower industry and saw the direct impact of public policy on generation and transmission of electricity. This led him to apply for the WISE program in hopes of learning more about the effects of public policy in the context of science.

Levi has learned the value of teamwork while serving as chairman of University of Kansas student branch of the IEEE. As an engineering ambassador, he helps recruit students to KU's engineering program. Levi is also a member of Tau Beta Pi and Eta Kappa Nu engineering honor societies and has volunteered in Big Brothers Big Sisters over the last three years.

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1. Introduction

The Department of Energy predicts that by 2030, America's demand for electricity will increase by 30 percent. Yet, over the last decade, only 748 miles of interstate transmission has been put into service. To put this into perspective, during this same time, 13,000 miles of interstate natural gas line have been commissioned. As our nation's demand for electricity continues to grow, a robust interstate transmission network will be needed to keep the lights on for millions of Americans. Interstate transmission will also play a vital role as we look towards harnessing the power of the wind and solar energy in the location-constrained regions of the Midwest.

The underdevelopment of our country's interstate transmission infrastructure is largely due to the siting process, or the process of determining the paths of the transmission lines. Historically, states have held all transmission siting authority, including the authority to site interstate transmission projects crossing through their state. By holding this authority, state and local officials make policy decisions that have impacts beyond their borders. In response, Congress enacted The Energy Policy Act of 2005. This was the limited introduction of the federal government into transmission line siting. During the 111th Session of Congress, several pieces of legislation have been introduced that would expand the scope granted in 2005. This paper seeks to develop policy criteria that should be considered in order to balance state and federal needs.

2. The Important Role of Interstate Transmission

In 1896, George Westinghouse developed hydroelectricity at Niagara Falls and began to send power along transmission lines 20 miles away to Buffalo, New York. This marked the first time in history that an electrical generation station was placed far from where the electricity it produced was consumed. Nearly a century later, the electrical grid has become the underpinning infrastructure of our modern society and is often referred to as “the world’s largest machine.”¹ Today, transmission lines cross county and state borders to deliver reliable electricity to demand centers no different than in the days of Westinghouse.

As our nation’s thirst for electricity continues to grow, new high-voltage interstate transmission infrastructure to transport electricity from areas rich in energy must be constructed. Appendix A demonstrates how regions within the United States already depend upon interstate transmission to import power from regions with abundant resources. For example, California and parts of New England take advantage of the vast hydroelectric resources located in the Pacific Northwest and Eastern Canada. Transmission lines feeding California and New England with power are being pushed to its operating capacity and as demand for electricity increases in these regions, more interstate transmission lines will need to be constructed to supply power. As America looks forward to greener future, harvesting the power of the wind and other renewable energy located deep in our country’s interior will only be possible through interstate transmission lines.

¹ http://www.oe.energy.gov/information_center/faq.htm.

President Obama recently set forth a national goal to attain 20 percent of our total electric power generated by renewable resources by 2030. In his address to Congress on February 24, 2009, the President promised to “lay down thousands of miles of power lines that can carry new energy to cities and country,” and declared that renewable energy can “protect [our national] security, and save [our] planet from the ravages of climate change.”² When comparing Figure 1 and Figure 2 below, it is apparent the great distances wind-generated electricity must travel to reach the renewable energy goals set out by the President.

A majority of the favorable wind energy emanates from states located in the Midwest; whereas the major consumption centers are located hundreds of miles away along both coastlines. These states that contain large amounts of wind potential have many proposals to commercially develop wind generation, but lack the transmission infrastructure to do so.³ To harvest the wind energy of our Great Plains, interstate transmission facilities will again need to be erected to transfer wind-generated electricity to the distant demand centers.

As of 2009, 28 states had adopted Renewable Portfolio Standards (“RPS”)⁴ which mandate state utility companies to provide a minimum percentage of their total electricity from renewable generated resources by a certain time. Kurt E. Yeager, former president of the Electric Power Research Institute, said it best when he noted that “RPS aren’t worth the paper they’re written on until we have a power

² President Barack Obama, Address to Joint Session of Congress (Feb. 24, 2009), http://www.whitehouse.gov/the_press_office/Remarks-of-President-Barack-Obama-Address-to-Joint-Session-of-Congress/.

³ <http://www.awea.org/policy/rpsbrief.html>.

⁴ http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm.

system, a grid, that is capable of assimilating that intermittent energy.” Figure 3 below displays states that have adopted RPS.

In a future in which our demand for electricity will only grow, it is certain that the construction of new interstate transmission will be important to delivering power from distant energy sources, therefore aiding in maintaining the reliability of our electric grid. Furthermore, as America moves away from carbon-generated electricity toward a greener future, our state and national energy goals will only be achieved if a robust interstate transmission network exists.

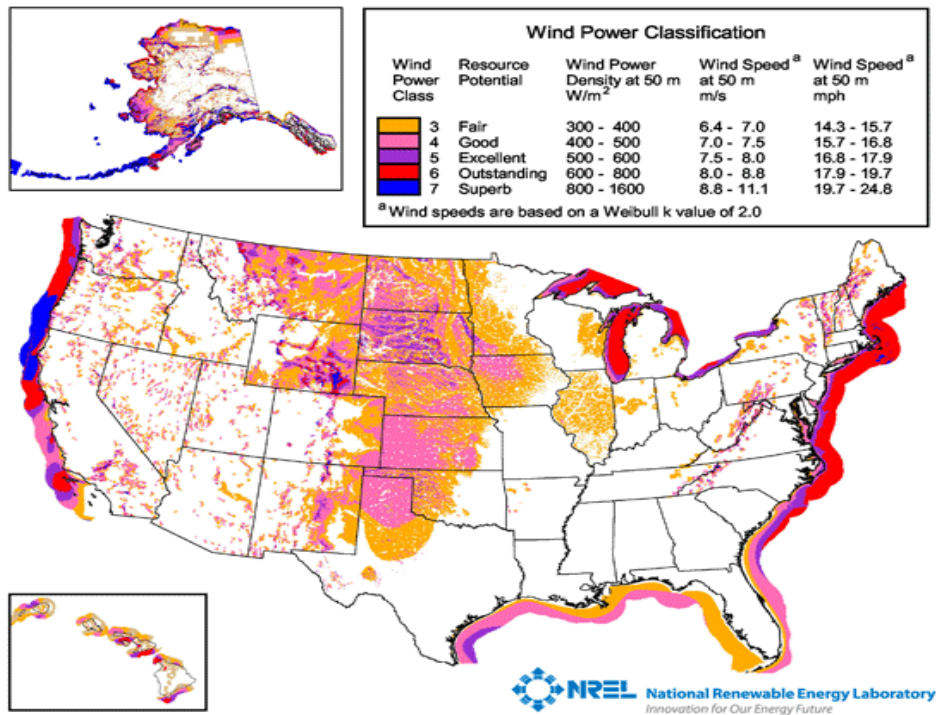


Figure 1 – National Renewable Energy Lab Wind Potential Study

3. Barriers to Interstate Transmission Development

Jon Wellinghoff, the Chairman of the Federal Energy Regulatory Commission, recently testified to Congress, “since 2001, only 748 miles of high voltage interstate transmission lines have been put into service.”⁵ This is a sharp contrast to the 13,000 miles of interstate natural gas pipeline was added during this time frame.⁶ This underdevelopment of our nation’s interstate transmission infrastructure “now threatens to impair the reliability of [the electric grid] and cause billions of dollars in congestion costs.”⁷ One of the main barriers hindering interstate transmission expansion is siting or selecting the physical location of a transmission route.

Prior to 1935, utilities constructed transmission facilities laissez faire. Often times utilities chose transmission routes in the most cost effective manner possible; typically a straight line from point a to point b. Although cost effective, this method of siting transmission is usually insensitive to its impact on the surrounding region. With the best interests of the states in mind, The Public Utility Act of 1935 (“Federal Power Act”)⁸ conferred upon the individual states the authority to site transmission infrastructure. This would allow state public utility commissions (“PUCs”)⁹ to

⁵ See Hearing before the House Energy and Commerce Subcommittee on Energy and Air Quality, 110th Cong. 2007 (testimony of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission); May 3, 2007, www.ferc.gov/.../Files/20070503100145-wellinghoff-5-3-7-testimony.pdf.

⁶ See supra note 5.

⁷ See Oversight Hearing before the House Energy and Commerce Subcommittee on Energy and Air Quality, 111th Cong. 2009 (testimony of Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission); March 23, 2010; energycommerce.house.gov/Press_111/.../Wellinghoff-Testimony-.pdf.

⁸ Prior The Public Utility Act of 1935 (Federal Power Act), utilities ran laissez faire. This Act established state utility regulators to protect its residents from the highly-monopolized utilities.

⁹ State Public Utility Commissions (“PUCs”) since the enactment of ch. 687, 49 Stat. 803 of The Public Utility Act of 1935 (Federal Power Act), have been the authoritative body regulating the issuance of transmission siting permits. Prior to FPA, utilities ran laissez faire

develop a siting process that would ensure that the actual need for the line existed and that the transmission route had a minimal effect on the state’s “environmental, cultural, and socioeconomic resources.”¹⁰

Although each state’s siting process has developed independently, nearly all states require transmission developers to incorporate siting constraints into the project’s route before the PUC can issue construction permits. The table below lists examples of impacts transmission developers must take into consideration as siting constraints.

<u>Environmental</u>	<u>Cultural</u>	<u>Socioeconomic</u>
Endangered Species	Historic Sites	Loss of Land
Wetlands & Forests	Archeological Sites	Competing Uses of Land
Visual Aesthetics	Cemeteries	Property Values
Electro-Magnetic Fields	Traditional Cultural Lands	Economic Growth

Table 1- Examples of Transmission Siting Constraints

PUCs often employ a bottom-up strategy in identifying siting constraints by requiring transmission developers to conduct a formal hearing process. Typically, this state mandated process requires transmission developers to circulate the proposed route in a local newspaper, provide a written notice to the governing body of each county and municipality, and more importantly, send a first class letters to

¹⁰ See presentation, Sarah Ball, Edison Electric Institute; <http://www.ncsl.org/?tabid=20689>.

all owners of property along the route.¹¹ From here, the next stage is to hold public meetings for all affected stakeholders. These meetings are often very contentious due to NIMBYism¹² while their nature and extent depend on how controversial or environmentally sensitive a line is likely to be.¹³ Although this stage greatly extends the time to complete a transmission project, it gives states the ability to protect their most valued resources and make a decision that benefits their residents.

For these reasons, siting can be exceedingly difficult in one state alone, nonetheless interstate transmission projects which must obtain siting permits from every state through which the line transverses. Herein lies the main reason as to why only 748 miles of interstate transmission have been put into service over the last decade. States that disapprove siting permits can cause significant delays to reroute the entire project, or worse, lead to its termination. Unfortunately, interstate transmission lines often pass through states without directly supplying that state with power; leaving Public Utility Commissions with no other choice but to deny the permit as the line does not directly benefit the state's residents.¹⁴

In the case of interstate transmission, states essentially make policy decisions that may have impacts beyond their borders by wielding the authority to approve or deny projects. Responding to this, Congress under the Energy Policy Act

¹¹ This is the formal hearing process mandated by the Virginia Corporation Commission outlined in VA Code §56-46.1.

¹² ("NIMBY") – Not-In-My-Backyard. The general sentiment of citizens vehemently opposed to the construction of a facility in their residential area..

¹³ Harold Adams, Dominion Power.

¹⁴ State statutes require there be a direct benefit of the transmission facility to its residents. For example, VA code Article 3 of Chapter 22 of Title 15.2. states, the Commission (i) shall consider the effect of the proposed facility on economic development within the Commonwealth and (ii) shall consider any improvements in service reliability that may result from the construction of such facility.

of 2005 granted the federal government a limited authority in siting transmission projects that if delayed or terminated by states, could have regional impacts.

4. The Energy Policy Act of 2005: An Introduction to Federal Transmission Siting

The Northeast Blackout of 2003 was the second largest power outage in history. Massive, widespread power outages swept across New England, parts of the Midwest, and stretched into Canada. In the end, 50 million people lost power for up to 24 hours and resulted in 11 deaths with an estimated economic cost of \$7 billion.¹⁵ This crisis drove Congress to enact the Energy Policy Act of 2005 (“EPAAct 2005”). EPAAct 2005 focused on maintaining the reliability of the electric grid to safeguard against future similar catastrophes.

The EPAAct 2005 amended Section 216 of the Federal Power Act (“FPA”), conferring upon the Federal Energy Regulatory Commission (“FERC”) “backstop” authority.¹⁶ Backstop gives FERC the limited authority to site transmission that meets the following criteria:¹⁷

- (1)(A) a State in which such facilities are located does not have the authority to -
- (i) approve the siting of the facilities; or
 - (ii) to consider the interstate benefits expected to be achieved by the construction or modification of the facilities;

¹⁵ www.solarstorms.org/ICFBlackout2003.pdf.

¹⁶ See H.R. 6, The Energy Policy Act of 2005, §1221.

¹⁷ See H.R. 6, The Energy Policy Act of 2005, § 1221, 199 Stat. 594.

- (B) the applicant is a transmitting utility but does not qualify to apply for siting approval in the State because the applicant does not serve end-use customers in the State; and
- (C) a State commission or other entity that has authority to approve the siting of the facilities has –
 - (i) withheld approval for more than 1 year after the filing of an application seeking approval pursuant to applicable law or 1 year after the designation of the relevant national interest electric transmission corridor, whichever is later; or
 - (ii) conditioned its approval in such a manner that the proposed construction or modification will not significantly reduce transmission congestion in interstate commerce or is not economically feasible...

In regards to electric transmission, FERC has historically maintained authority over transmission access, transmission rates in wholesale markets, mandatory reliability standards, but has generally lacked jurisdiction on transmission siting.¹⁸ Although FERC is well versed in siting other critical infrastructure, namely natural gas pipelines, as their oversight has led to the siting of nearly 215,000 miles of interstate natural gas pipelines. FERC's experience and capacity to site large-scale interstate natural gas project best equips them to site interstate transmission infrastructure.

¹⁸ See supra note 13.

Looking more in depth at Section 216 reveals several important characteristics of FERC's backstop authority. Firstly, FERC's ability to site transmission is limited to transmission projects blocked by states only within national interest electric transmission corridors ("NIETCs"). NIETCs are geographic areas¹⁹ that experience electric transmission capacity constraints or congestion that adversely affects consumers.²⁰ Therefore, the NIETC mechanisms allow the federal government to site transmission intended to relieve electrical congestion. By having the authority to do so, the federal government can ensure that critical transmission is put into service that "is perceived to be best for a region as a whole versus what is perceived to be best for an individual State..."²¹

Secondly, Congress, under Section 216 left states the right to retain siting authority for up to one year before the federal jurisdiction is invoked. This is an attempt by Congress to balance federal and state needs. States would rather transmission siting remain within their jurisdiction, as they believe they can make siting decisions in the best interests of their state's resources and residents. Yet Congress would enjoy safeguarding the interests of the region as a whole by seeing to it that transmission falling within a NIETC is constructed in a timely fashion. Section 216 balances state needs by allowing them to retain their siting authority

¹⁹ In 2007, the Department of Energy ("DOE") completed its first NIETC study and affirmed two NIETC designations - the Mid-Atlantic Area National Interest Electric Transmission Corridor and the Southwest Area National Interest Electric Transmission Corridor, on March 10, 2008. Both designations of NIETCs are pending appeals from states and environmental groups in a number of federal district and appellate courts.

²⁰ See FPA Section 216(a)(2).

²¹ See *Piedmont Environmental v. FERC*, www.ferc.gov/legal/.../Piedmont%20Rehearing%20Petition%20Final.pdf.

for up to one-year full year before backstop authority can commence. Therefore states can decide upon the route of transmission that is appealing to the residents and is environmentally sensitive to the state's resources. At the same time, Section 216 balances federal needs by guaranteeing the timely construction of transmission that is critical to keeping the lights on for Americans.

Lastly, Section 216 gave FERC the authority to site interstate transmission which does not serve the residents of the state through which it passes. This is often the case for the denial of interstate transmission. This provision indicates Congress's belief that the benefit of easing electrical congestion within a region outweighs the benefit of the residents of a state through which a transmission line simply passes through. This again demonstrates that interstate transmission "is perceived to be best for a region as a whole versus what is perceived to be best for an individual State..."²²

Since the enactment of EAct '05, the Fourth Circuit Court of Appeals ruling in the Piedmont case has restrained FERC's ability to site transmission under this piece of legislation. In the Piedmont case²³, the Fourth Circuit Court of Appeals ruled that FERC had overstepped its authority in implementing the backstop process. FERC had interpreted the law to mean that the backstop process could be used if a state has not acted within a year or if the state has affirmatively decided to

²² See supra note 21.

²³ New York Regional Interconnects' ("NYRI") proposed to build a 190-mile line within the State of New York within Mid-Atlantic Area National Interest Electric Transmission Corridor. NYRI applied for siting permits from the New York State Commission (PSC) and was denied on grounds that the line was too environmentally insensitive.

reject the project.²⁴ However, the court ruled that a state's decision to reject a project could not be appealed to FERC. FERC asked the Fourth Circuit to reconsider its decision and so far, no movement by the Fourth Circuit has been made.

FERC Chairman Wellinghoff stated that the Fourth Circuit's decision "limited [the] authority granted by Congress to the Commission to review and site facilities...regardless of how important the project may be in relieving congestion on the interstate grid."²⁵ The Piedmont decision upheld a state's right to reject a transmission project within a National Interest Electric Transmission Corridor ("NIETC") without Federal jurisdiction preempting a state's decision. By doing so, the Fourth Circuit Court has put states' rights in front of reliability interests.

²⁴ See supra note 22.

²⁵ See supra note 19.

5. Balancing State and Federal Needs

Two notable energy bills have been put before the 111th Session of Congress that would increase FERC's authority in the siting of interstate transmission lines; namely The Clean Renewable Energy and Development Act (S. 539) and The American Clean Energy Act of 2009 (S. 1462). These bills vision a different federal "backstop" granting FERC the authority to site across varying end-use transmission projects. The following policy criteria should be taken into account when considering legislation that extends the reach of the federal government into the states' highly guarded siting process. If considered, these criteria will help balance state and federal needs to reduce political backstop and expedite the interstate transmission process.

5.1. Incorporating Public Comment and Siting Constraints

The transmission bills introduced during this session of Congress propose an expansion of federal backstop authority to encompass more end-purpose transmission than covered under Section 216 of the EPAct 2005. When Congress considered the language that became Section 216, states were concerned that federal siting would enable the federal government to "overrule legitimate state agency concerns and laws with regard to how a State ruled on a transmission project."²⁶ In short, states feared the federal government would trample their rights

²⁶ See Hearing on Transmission before the Committee on Energy and Natural Resources, 111th Cong. 2009 (testimony of Tony Clark, Commissioner, National Association of Regulatory Utility Commissioners and the North Dakota Public Service Commission); Mar. 12, 2009, http://energy.senate.gov/public/index.cfm?FuseAction=Hearings.Testimony&Hearing_ID=b9e47ea9-c62b-23fc-33ff-30fda7b3a744&Witness_ID=cb8b23d0-b37e-4550-a001-d29ebb50fb5c.

and the rights of their residents. Therefore, where federal backstop is warranted and invoked, the federal government must be sensitive to these needs of the state and their residents.

Since the adoption of the Public Utility Act of 1935, states have established a siting process which hinges largely upon public comment. Tony Clark, Vice President of the National Association of Regulatory Utility Commissioners correctly stated that, “siting...issues are often controversial because in most situations someone’s gain comes at someone else’s expense.”²⁷ From the state’s perspective, the cost of siting is in terms of the impacts to the state’s environmental, socioeconomic, and cultural resources. The best and most effective way for states to minimize these costs is by conducting public hearings, which can identify siting constraints such as wetlands, view-shed impacts, and help ease the loss of property value. By requiring transmission developers to incorporate these constraints into the transmission siting, the optimal route can be selected in the best interests of the states’ residents.

If warranted federal backstop is invoked under the proposed legislation, how well the backstop mechanism incorporates public hearings and siting constraints into the siting process must be the primary criteria in balancing the needs of the states. The next question then becomes: what transmission project warrants federal backstop authority?

²⁷ See supra note 27.

5.2. Maintaining Reliability

The reliability of the electric grid is a primary federal need as evidenced in the Northeast Blackout of 2003. This warrants the use of federal backstop siting if the project serves the purpose of maintaining reliability and is blocked by the states. In highly congested regions, interstate transmission can play a vital role in delivering electricity generated from distant states to meet the demand and prevent blackouts and brownouts from impairing the region. This purpose transmission is “perceived to be best for a region as a whole versus what is perceived to be best for an individual state.” The primary policy criterion that must be considered to balance federal needs is how apt the legislation is to maintaining electrical reliability.

5.3. Integrating Renewable Energy

As of 2009, 28 states including the District of Columbia adopt renewable portfolio standards. Additionally, President Barack Obama has vowed to set America on a path to a greener future by declaring that 20 percent of our total electricity production should come from renewable energy sources by 2030.²⁸ Achieving these state and federal goals will help to improve our national security as well as to combat climate change. Therefore, interstate transmission that integrates renewable energy onto the electric grid should be within the scope of federal backstop authority. A bills ability to do so will help to fulfill both state and federal needs.

²⁸ See supra note 2.

6. Current Legislative Proposals to Expand the Federal Role in Interstate Transmission

Several bills have been introduced before the 111th Session of Congress that propose an expansion of the federal authority over transmission line siting. The next section analyzes two transmission-siting bills²⁹ introduced by key members of the Democratic Party and weighs the pros and cons of each piece of legislation against the policy goals outlined above. From this analysis, an optimal policy solution can be recommended to help expedite the interstate transmission siting process.

S. 539 – The Clean Renewable Energy and Development Act (“CREDA”)

Senate Majority Leader Harry Reid submitted The Clean Renewable Energy and Development Act pertaining to federal transmission siting. Senator Reid’s bill amends the Federal Power Act giving the President authority to designate National Renewable Energy Zones (“NREZs”).³⁰ NREZs are geographical areas that: (1) have the potential to generate one gigawatt of renewable energy; (2) have an insufficient level of electric transmission capacity to achieve the potential; and (3) contain additional renewable energy generating facilities that could supply multiple areas if the transmission capacity existed.³¹

Section 404 of CREDA limits FERC’s backstop authority to transmission projects within NREZs that bring renewable energy to market and that: (1) are

²⁹ See ACELA, S. 1462, 111th Cong. Sec. 101(a) (2009); CREDA, S. 539, 111th Cong. Sec. 3(a).

³⁰ See CREDA, S. 539, 111th Cong. (2009), § 402.

³¹ See § 402(a).

included in an interconnection-wide plan or a project in which a developer assumes all of the risk and cost of the proposed facilities; (2) optimize transmission capability, project economics, land use limitations, and potential renewable generation; and (3) include project owners who have failed to make reasonable progress in getting state siting approval.³² In addition to meeting these criteria, CREDA would limit FERC to issuing siting permits for projects that dedicate 75 percent of the transmission lines' capacity to renewable resources.³³

If the federal siting process is invoked under the Reid bill, FERC would designate one state agency to identify siting constraints and mitigation techniques, based on habitat protection, environmental considerations, and cultural site protection.³⁴ After constraints identified by the state agency, FERC must either (1) incorporate the concerns into the construction permit or (2) seek to resolve the issue and incorporate "appropriate" constraints.³⁵ If FERC shall reject any state's suggestion, FERC must publish a public statement of why the recommendation was infeasible, uneconomical, or inconsistent with other law.³⁶

CREDA Section 405 also compensates States that do not benefit from the line passing through with grants from: (1) the American Recovery and Reinvestment Act of 2009; or (2) the sale of carbon allowances in a law enacted after the date of enactment of this CREDA that imposes a limitation on greenhouse gas emissions.³⁷

³² See § 404(a).

³³ See § 404(k)(1).

³⁴ See § 404(h)(1).

³⁵ See § 404(h)(1).

³⁶ See § 403(g)(2).

³⁷ See § 405(b).

Pros:

CREDA takes a similar renewable planning approach as initiated by Texas in 2005. In 2005, the Texas Public Utility Commission developed Competitive Renewable Energy Zones (“CREZs”) which identified areas of prime wind potential where electric transmission infrastructure needed to be constructed to harness wind energy from those zones.³⁸ After the Texas PUC pinpointed CREZs, transmission plans were developed to construct facilities that could harvest the plentiful energy that existed within CREZs.³⁹ Since adopting this renewable energy development strategy, Texas has been able to successfully build transmission facilities to deliver 7,408 megawatts of wind-generated electricity onto the grid.⁴⁰ In a similar manner, CREDA calls for the development of National Renewable Energy Zones, which result in the same success as Texas, leading to the full development of our nation’s renewable energy resources.

If enacted, CREDA leaves intact the Section 1221 backstop mechanism, allowing for states to retain their siting authority for up to one year. Allowing states weigh in on siting decisions while not “trampling... states’ rights”⁴¹ is a critical component in striking a balance between state and federal need. This one-year time frame provides states a sufficient period of time to site transmission aligned with national interests before resorting to federal authority.

³⁸ See 2005 Tex. Gen. Laws 1, SB-20.

³⁹ http://www.seco.cpa.state.tx.us/re_wind-transmission.htm.

⁴⁰ <http://www.eia.doe.gov/cneaf/solar.renewables/page/trends/rentrends.html>.

⁴¹ OnPoint, Jon Wellinghoff, Acting Chairman, Federal Energy Regulatory Commission, (Mar. 17, 2009), <http://www.ferc.gov/media/videos/wellinghoff/2009/03-17-09-wellinghoff-transcript.pdf>.

This bill initiates a bottom-up strategy in minimizing the transmission's impact by designating a lead state agency to identify local constraints and ensuring that these constraints are incorporated into the final route.⁴² This ensures that if federal backstop is invoked, the federal government is sensitive to local needs. In the case that FERC outright rejects a state siting recommendation, this piece of legislation safeguards states by requiring FERC to publish its reasoning publicly, enforcing federal government accountability through transparency.

In addition, states in which interstate transmission passes through without serving their residents are eligible to receive funding in compensation their losses.⁴³

Cons:

The CREDA bill implements a tried-and-true mechanism⁴⁴ for identifying and integrating renewable energy aligned with our national energy goals, this transmission bill completely disregards new transmission infrastructure intended to relieve electrical congestion under its amendment of the current backstop authority. At a minimum, federal backstop authority must be preserved giving the government the jurisdiction to site transmission within regions of severe congestion to help maintain reliability. By withdrawing backstop provisions enacted under EPAct 2005, the effectiveness of Senator Reid's bill is greatly impaired.

⁴² See § 404(h)(1).

⁴³ See § 405(b).

⁴⁴ By creating Competitive Renewable Energy Zones ("CREZ") similar to the Texas Public Utility Commission which adopted a CREZ strategy in 2005 and has since successfully interconnected vast amounts of wind energy onto the electric grid.

The implementation of NREZs similar to CREZs might be an ineffective tool in identifying and harvesting renewable energy on a national level. As of 2009, 28 states plus the District of Columbia have adopted Renewable Portfolio Standards (“RPS”)⁴⁵ which requirement utilities to provide a certain percentage of their electrical generation to come from renewable energy sources. This number is slightly greater than half the total number of states, but nowhere near full consensus. The adoption of a National Renewable Portfolio Standard (“NRPS”) may be needed to align state and federal interests in reaching renewable energy goals via NREZ transmission planning.⁴⁶

Another shortcoming of CREDA is its requirement that transmission projects eligible for federal siting must dedicate 75 percent of the line’s capacity to renewable energy generation.⁴⁷ Studies show wind energy has a typical capacity factor between 20 and 40 percent due to the intermittent nature of wind.⁴⁸ Contrasted with the 70 to 90 percent capacity factor for traditional coal-fired power plants⁴⁹, it is evident that transmission sited underneath CREDA would be highly inefficient, as intermittent periods of wind would result in backstop sited transmission lines not operating at full capacity.

⁴⁵ http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm.

⁴⁶ The Secretary of Energy’s designation of the two existing National Interest Electric Transmission Corridors (“NIETCs”) are under appeal as states contest the appropriateness of NIETCs out of fear of the federal government gaining siting jurisdiction within their state. The federal designation of Nation Renewable Energy Zones (“NREZs”) could escape some litigation if a National Renewable Portfolio Standard is enacted to align state and federal interests.

⁴⁷ See § 404(k)(1).

⁴⁸ http://www.ceere.org/rerl/about_wind/RERL_Fact_Sheet_2a_Capacity_Factor.pdf.

⁴⁹ See supra note 33.

By declaring one state lead agency to identify siting constraints, CREDA undermines the public hearing process that is highly valued to state public utility commissions. The Honorable Tony Clark, Commissioner of the North Dakota Public Service Commission, testified before the Senate Committee on Energy and Natural Resources that:

“Section 404 (g) provisions providing for State consultation allow the States to offer recommendations in only a very limited number of areas and allow the Commission to easily override the States recommendations. These provisions should be changed to strengthen the States’ role in identifying siting constraints and mitigation measures.”

Public comment is arguably the best approach to identifying siting constraints and including constraints into the final route that will minimize the transmission line’s impact the their environmental, socioeconomic, and cultural resources. Congress should consider Tony Clark’s recommendation to strengthen the State’s role in identifying siting constraints under CREDA.

S. 1462 – The American Clean Energy Leadership Act of 2009 (“ACELA”)

Senator Jeff Bingaman, Chairman of the Senate Committee on Energy and Natural Resources, proposed an energy bill to overhaul FERC’s backstop authority. This bill would eliminate the backstop in National Interest Electric Transmission Corridors under Section 216 of the Federal Power Act and instead would grant FERC exclusive authority to site projects declared High-Priority National Transmission Projects (“HPNTP”).⁵⁰ HPNTPs would be defined as transmission infrastructure meeting the high-voltage specifications of: (1) being 345 kilovolt alternating current (AC); (2) 400 kilovolt direct current (DC); or (3) 100 kilovolt renewable feeder lines designed to bring renewable energy onto the grid.⁵¹

Section 216 of ACELA rescinds the Piedmont ruling limiting FERC’s ability in the case of a state’s outright denial of an application by giving FERC the authority to site HPNTPs that: (1) do not act on the project within one year; (2) reject the project; or (3) impose unreasonable conditions that interfere with the projects development.⁵² In addition, ACELA requires transmission developers to seek a certificate of public convenience and necessity before being eligible to apply for federal siting authority.⁵³ Certificates of public convenience and necessity ensure the transmission project is: (1) consistent with interconnection-wide plans; and (2)

⁵⁰ See ACELA, S. 1462, 111th Cong. (2009), § 216.

⁵¹ See § 216(b)(1).

⁵² See § 216(b)(3)(B).

⁵³ See § 216(e)(1).

in the interests of the public.⁵⁴ FERC must also hold public hearings for any interested persons.⁵⁵

ACELA also requires the Department of Energy to continue conducting its triennial electric congestion studies.⁵⁶

Pros:

The ACELA bill's vague definition of what constitutes as a high-priority national transmission project allows for an extension of Section 216 of the Federal Power Act to encompass the siting of interstate transmission projects intended for both maintaining reliability and integrating location-constrained renewable energy. From a technical standpoint, high-voltage transmission lines 300 kilovolts and larger are primarily used to transfer considerable amounts electricity with the lowest loss of power possible.⁵⁷ Therefore ACELA's broadened backstop will only be applied to efficient transmission lines that have the capacity to move vast quantities of energy. High-voltage transmission backstop will equip ACELA to accomplish both national energy goals setting this transmission bill apart from CREDA.

If passed by Congress, ACELA's statutory language clearly outlines FERC's backstop authority in the case of a state's outright denial of an application. The ruling of the Fourth Circuit Court of Appeals that FERC cannot act in the denial of a siting application has put states interests ahead of reliability interests. ACELA could

⁵⁴ See § 216(e)(2)(E).

⁵⁵ See § 216(e)(1)(C).

⁵⁶ See § 216(m).

⁵⁷ Power losses are proportional to twice the electric current traveling through the transmission line; therefore by requiring transmission lines to be high-voltage, power losses are minimized.

restore the backstop mechanism, once again putting the interests of the region as a whole before the interests of the states.⁵⁸ By mending the current backstop provisions, the Bingaman bill once again helps secure the reliability of our America's electric grid.

Another favorable attribute of this bill is the requirement that transmission developers to seek certificates of public convenience and necessity by conducting public hearings.⁵⁹ In the eyes of the state governments, this is a critical feature to balancing the needs of their residents and making the federal siting process more appealing to the states. Furthermore, requiring backstop transmission to be consistent with regional plans and of public interest⁶⁰ again reduces tension and the potential backlash from effected states.

Cons:

The vague language contained within ACELA might avail this bill to intense litigation; leaving the courts to decide what constitutes as being a High-Priority National Transmission Project (“HPNTP”). In fact, Senators on the Senate Energy and Natural Resource Committee questioned the “vagueness” of the definitions contained in this bill during a “walk through hearing” in April.⁶¹ If the definition of a HPNTP is contested in a court of law, the time needed for a court to make a ruling

⁵⁸ See *Piedmont Environmental Council v. Federal Energy Regulatory Commission*, 558 F.3d 304.

⁵⁹ See § 216(e)(1).

⁶⁰ See ACELA S. 1462, 111th Cong. (2009), § 216(e)(2)(E).

⁶¹ Katherine Ling, *Electricity: Senators Cautious About ‘Vague’ Definitions in Transmission Siting Draft*, E&E DAILY, May 1, 2009, <http://www.eenews.net/public/EEDaily/2009/05/01/2>.

will delay the siting process, defeating the original intended purpose of the legislation.

Another downside to the Bingaman bill is its inability to compensate states that do not directly benefit from the line passing through. Senator Reid's bill compensates states that do not benefit with funding from the American Recovery and Reinvestment Act of 2009 or through the sale of carbon credits.⁶² Even though the Bingaman bill does not contain a carbon trading system similar to the Reid bill, ACELA should incorporate reparations to soothe concerns of states that are not directly advantaged by the transmission.

⁶² See ACELA S. 539, 111th Cong. (2009), § 405(b).

7. Recommendations for an Alternative Approach

The preceding analysis of S. 539 – The Clean Renewable Energy and Development Act, and S. 1462 – The American Clean Energy Leadership Act of 2009, exposed the pros and cons of these two transmission bills in respect to the policy criteria developed in this paper. In hopes of expediting the interstate siting process, this next section will construct a robust backstop authority by combining the 2005 backstop with the favorable attributes of the two transmission bills to strike a balance between state and federal needs.

The best policy solution leaves all of Section 216 of EAct 2005 intact. The current backstop is a favorable policy mechanism as it balances state and federal needs by giving states the first opportunity to site transmission before siting can recourse to federal jurisdiction. Also, the Department of Energy will still be required to designate National Interest Electric Transmission Corridors (“NIETCs”) to help identify geographic areas under severe electrical congestion. From here, an ideal policy solution will adopt Section § 216(b)(3)(B) of S. 1462.⁶³ This section contains the provision explicitly giving FERC the ability to commence backstop when a state denies an eligible transmission project. By amending Section 216 with this Bingaman bill’ provision, the Piedmont ruling can be bypassed giving FERC the full ability to act in the case of any negative decision by a state.

Next, the backstop should be extended to encompass new interstate transmission infrastructure that integrates renewable electricity onto the national

⁶³ ACELA S. 1462, 111th Cong. (2009), § 216(b)(3)(B) gives the Federal Energy Regulatory Commission the authority to site if a state (1) does not act on the project within one year; (2) rejects the project; or (3) impose unreasonable conditions that interfere with the projects development.

grid. The Reid bill contains a tried-and-true method for the development of renewables, although its ability to actually integrate renewable electricity on a national scale may be severed by the lack of a National Renewable Portfolio Standard (“NRPS”). To overcome this obstacle, a NRPS must be enacted coincidentally with Section § 402(a) of S. 539⁶⁴ to spur green energy development within National Renewable Energy Zones (“NREZs”). Similarly to NIETCs, NREZs will also serve as geographic regions where federal backstop authority can be applied to transmission projects that meet Section § 216(b)(3)(B) of S. 1462.⁶⁵

S. 1462 - The American Clean Energy Leadership Act of 2009 qualifies transmission projects for backstop if they meet the technical specs of: (1) being 345 kilovolt alternating current (AC); (2) 400 kilovolt direct current (DC); or (3) 100 kilovolt renewable feeder lines designed to bring renewable energy onto the grid.⁶⁶ In crafting a new robust backstop, requiring eligible transmission lines to be high-voltage as under Section § 405(b) of S. 1462, will result in the construction of a new interstate transmission network that would efficiently transfer large amounts of electricity to where it can be consumed.

In the case that the new federal backstop developed above is resorted to, legislation must mandate FERC to incorporate a bottom-up strategy in identifying

⁶⁴ CREDA S. 539, 111th Cong. (2009), § 402(a) designates National Renewable Energy Zones (“NREZs”) as geographical areas that: (1) have the potential to generate one gigawatt of renewable energy; (2) have an insufficient level of electric transmission capacity to achieve the potential; and (3) contain additional renewable energy electric generating facilities that could be consumed by many areas if a sufficient level of transmission capacity existed.

⁶⁵ See Supra note 53.

⁶⁶ See Supra note 41.

state-level siting constraints into the final route. Section § 216(e) of S. 1426⁶⁷ should be adopted in preference to Section § 403(g) of S. 539⁶⁸, as Section § 216(e) forces transmission developers to seek certificates of public convenience and necessity through conducting a formal hearing process for all effected parties. This is a far more pleasing to the states as it parallels their traditional siting processes.

These amendments to Section 216 of the EAct 2005 can guide federal legislatures to crafting a robust backstop mechanism that continues to maintain electrical reliability while integrating vast amounts of renewable energy. Moreover, by allowing states to retain their siting authority even for transmission projects aligned with national interests, a balance between state and federal needs can be achieved.

⁶⁷ ACELA S. 1462, 111th Cong. (2009), § 216(e) requires transmission developers to obtain certificates of public convenience and necessity ensure the transmission project is: (1) consistent with Interconnection-wide plans; and (2) in the interests of the public.

⁶⁸ CREDA S. 539, 111th Cong. (2009), § 403(g) identifies a state agency to identify siting constrains and (1) incorporate the concerns into the construction permit or (2) seek to resolve the issue and incorporate “appropriate” constraints.

8. Conclusion

The rising demand for electricity coupled with the movement toward renewable energy is driving the need for a robust national interstate transmission infrastructure. In order to facilitate development, Congress is considering expanding the federal role in interstate transmission beyond that granted under the Energy Policy Act of 2005. In evaluating these proposals, several shortcomings have been identified in regards to their ability to incorporate public comment, maintain reliability, or lead to the integration of renewable energy. Neither of these bills offers an optimal solution. The best solution combines all three in order to balance state and federal needs in hopes expediting the siting of interstate transmission.

9. Appendix A

Power Import/Export Data by Regions and States			
California - Hourly Net Exchange			
	Max Exports Megawatts	Max Imports Megawatts	Average Net Exports (Imports) Megawatts
Arizona	1,830	6,754	(3,765)
Imperial Valley	365	597	(331)
Los Angeles	1,176	1,626	(135)
Mexico	270	515	(125)
Nevada/Utah	335	1,196	(569)
Northwest	1,900	5,867	(2,457)
Sacramento	1,973	430	795
New England - Hourly Net Exchange			
Hydro Quebec	789	1861	(423)
New Brunswick	300	678	(151)
New York	1549	1098	19
New York - Hourly Net Exchange			
Hydro Quebec	1,001	1,325	(97)
New England	1,030	1,219	54
Ontario	1,731	2,400	(798)
PJM	2,656	2,807	(856)

Source: Federal Energy Regulatory Commission("FERC") State of the Markets Report, 2005.