CLEAN LINE
ENERGY PARTNERS

October 20, 2014

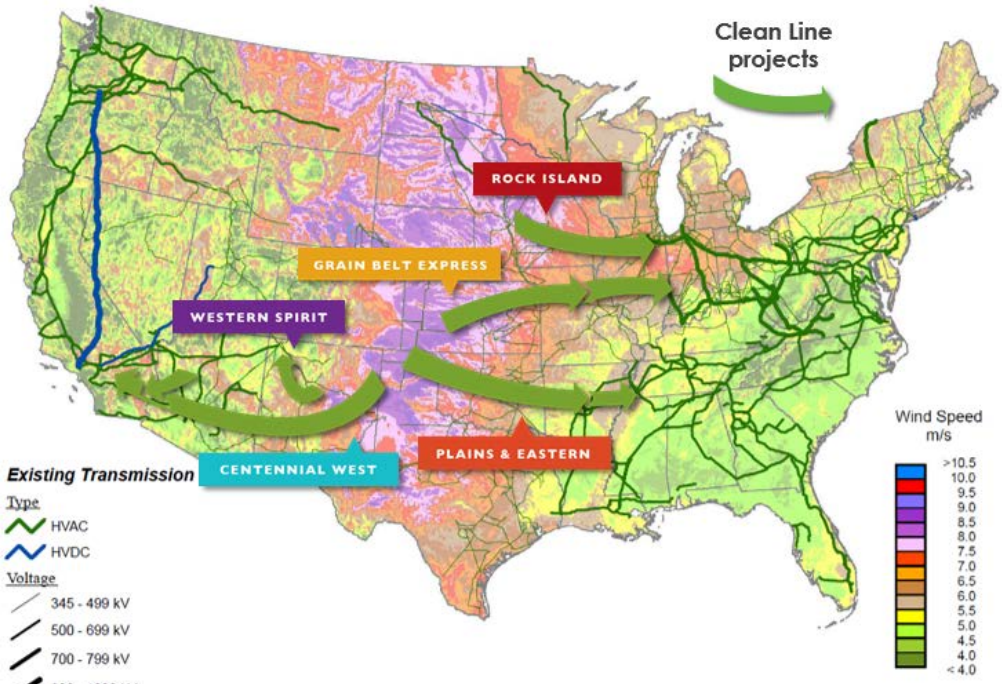
Mr. David Meyer
Office of Electricity Delivery and Energy Reliability (OE), U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585
Re: Comments on draft *National Electric Transmission Congestion Study*

Dear Mr. Meyer:

Clean Line Energy Partners LLC ("Clean Line") appreciates the opportunity to provide comments on the draft *National Electric Transmission Congestion Study* ("Draft Study"), published by the U.S. Department of Energy ("DOE") in August 2014.

Clean Line is developing long-distance, merchant transmission lines to connect the nation's most affordable renewable energy resources with larger population centers. By connecting high capacity factor wind resources with stronger points on the existing transmission grid, as illustrated in Figure 1, Clean Line's projects will unlock construction of thousands of megawatts ("MW") of new wind power, benefit consumers with low-cost, predictably-priced renewable energy, and significantly reduce polluting emissions, as envisioned by President Obama's Clean Power Plan.

Figure 1: Clean Line projects will connect low-cost wind power to larger markets



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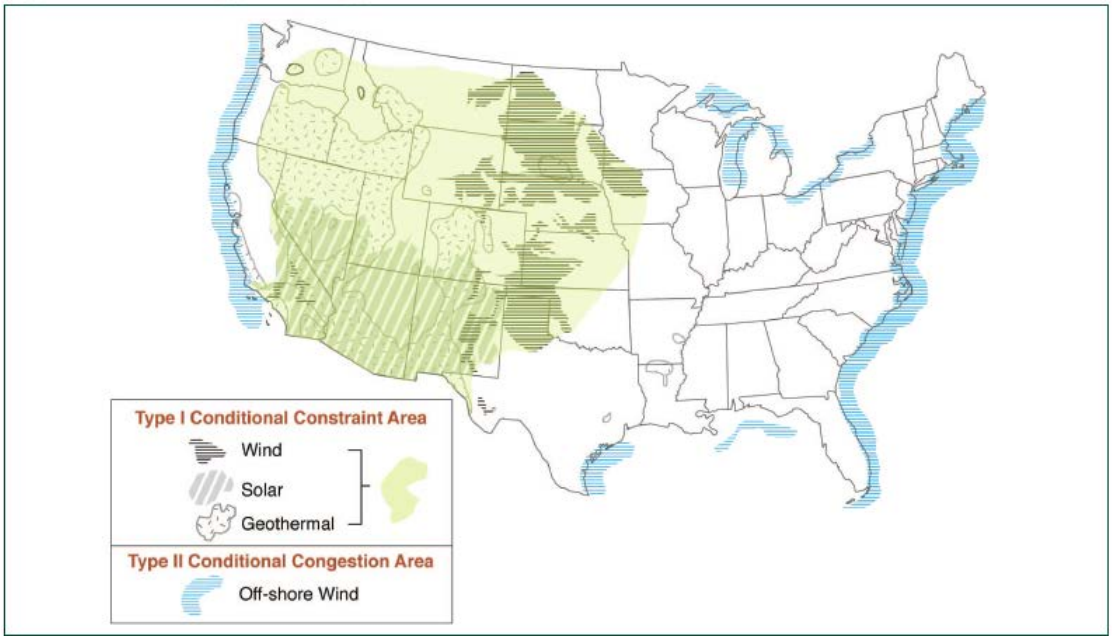
All of Clean Line's projects originate in a Type I Conditional Constraint Area, identified by DOE in the 2009 *National Electric Transmission Congestion Study* ("2009 Congestion Study") and illustrated in Figure 2. The 2009 Congestion Study defined a Type I Conditional Constraint Area as, "an area where large quantities of renewable resources could be developed economically using existing technology with known cost and performance characteristics – if transmission were available to serve them."[1] The 2009 Congestion Study also noted, "Construction of major new transmission projects would enable development of thousands of MW of new renewable generation"[2] within these areas.

Figure 2: Type I and Type II Conditional Constraint Areas in 2009 Congestion Study[3]



Unlocking constrained resource areas and facilitating thousands of megawatts of new wind development is precisely the challenge that Clean Line set out to address when it began developing transmission projects in 2009. Thus, Clean Line greatly appreciates DOE's acknowledgement of some of its projects in the 2014 Draft Study. However, Clean Line respectfully requests updates to the project descriptions to reflect changes implemented since 2012. Namely, Plains & Eastern Clean Line is no longer under development as the two-phase 7,000 MW project originally envisioned, and Grain Belt Express Clean Line was extended 200

[1] U.S. Department of Energy. *National Electric Transmission Congestion Study.* December 2009. VIII.
[2] Ibid. 22.
[3] Ibid. 23.

miles to reach a stronger point of interconnection in Indiana also while maintaining an interconnection in Missouri.

The language below reflects these updates:

- The Plains & Eastern Clean Line is an approximately 700-mile, direct current line planned by merchant transmission developer, Clean Line Energy, with a target in-service date of 2018. The line will originate in the Oklahoma Panhandle and will be capable of delivering 3,500 MW of wind power to an interconnection point in Tennessee and 500 MW to an interconnection point in Arkansas.
- Another Clean Line Energy project, the Grain Belt Express Clean Line, is an approximately 750-mile line from western Kansas to Indiana with a target in-service date of 2018. The line will be capable of delivering 500 MW of wind power to an interconnection point in Missouri and 3,500 MW to an interconnection point near the Illinois-Indiana border.

Clean Line has engaged with thousands of local stakeholders in eleven states, where its five projects are actively under development. To avoid any confusion among stakeholders, Clean Line would further appreciate the final report's inclusion of its other projects, which have the same rationale of unlocking wind in otherwise constrained areas. Below are two additional bullets to consider including:

- Rock Island Clean Line is an approximately 3,500 MW capacity, 500-mile line, planned to originate in northwest Iowa and terminate in northern Illinois.
- Clean Line is also developing two transmission projects to unlock thousands of MW of new wind development in New Mexico for delivery to states farther east, including California.

Active wind development in Type I Conditionally Constrained Areas remains limited by transmission, and potential generation far exceeds the capacity of Clean Line's projects. Continued emphasis on these constrained areas in the congestion study could help transmission developers identify opportunities.

As Clean Line's projects have progressed through interconnection studies and regulatory permitting, discussions with potential transmission service customers have also advanced. Consistent with its negotiated rate authority granted by the Federal Energy Regulatory Commission ("FERC"), Plains & Eastern Clean Line conducted an open solicitation and received transmission service requests from developers of wind projects with total capacity far exceeding the capacity of the transmission line. In advance of the solicitation, developers of over 16,000 MW of wind projects in the Oklahoma Panhandle region responded to a request for information ("RFI") regarding the need for transmission service. Grain Belt Express Clean Line completed a similar RFI for the western Kansas region, and developers of over 13,500 MW of wind projects responded, again far exceeding the delivery capacity of the line.

The strong responses to Clean Line's open solicitation and RFIs confirm an abundance of low-cost wind energy projects ready for construction – if provided a transmission path to market, as reported in the 2009 Congestion Study. These are real projects, many of which have land leased for wind turbines from

farmers seeking new sources of income, as drought has made traditional farming livelihoods uncertain. Wind power represents new hope for drought-resistant income and economic development in regions of the country otherwise struggling with diminishing populations.

For load serving entities and consumers in distant markets, wind projects constrained by transmission represent a stranded opportunity to save money,[4] increase fuel diversity, and benefit from a valuable hedge against more naturally volatile fossil fuel.[5] With continued advancements in wind turbine technology, the cost of wind energy has dropped by 58% in the past 5 years, and by 15% in the last year alone,[6] and wind power purchase agreements are at historically low levels.[7]

In fact, wind power prices have become so competitive, Lazard found that wind is not only a low-cost way to reduce carbon emissions, but it can actually *save* money for consumers, while reducing carbon emissions.[8]

By coupling these advancements in wind power with highly efficient high voltage direct current ("HVDC") transmission, Clean Line's projects can deliver wind energy to markets over 500 miles away with a total delivered cost of energy that competes with any other source of new, local generation – below 5 cents per kilowatt-hour, fixed for 20-25 years.[9]

While Clean Line's projects can serve a portion of the large and growing demand for renewable energy, the nation's abundant renewable resources hold enormous opportunities, and the need for transmission to unlock these benefits should be emphasized. Clean Line respectfully suggests that DOE continue to identify Type I Conditionally Constrained Areas in its congestion study.

DOE's triennial congestion study remains useful, relevant and necessary, and DOE should seek to obtain additional data to thoroughly perform the study and inform transmission investment and policy decisions.

Clean Line fully supports DOE's sustained efforts in completing the triennial transmission congestion study and believes these efforts remain critically important, relevant, and necessary. Electricity is the lifeblood of our modern economy, and robust electric infrastructure is critical to our global competitiveness and daily well-being. The need remains for a periodic and thorough examination of our nation's electric infrastructure, and DOE is the right entity to conduct the study on a national scale.

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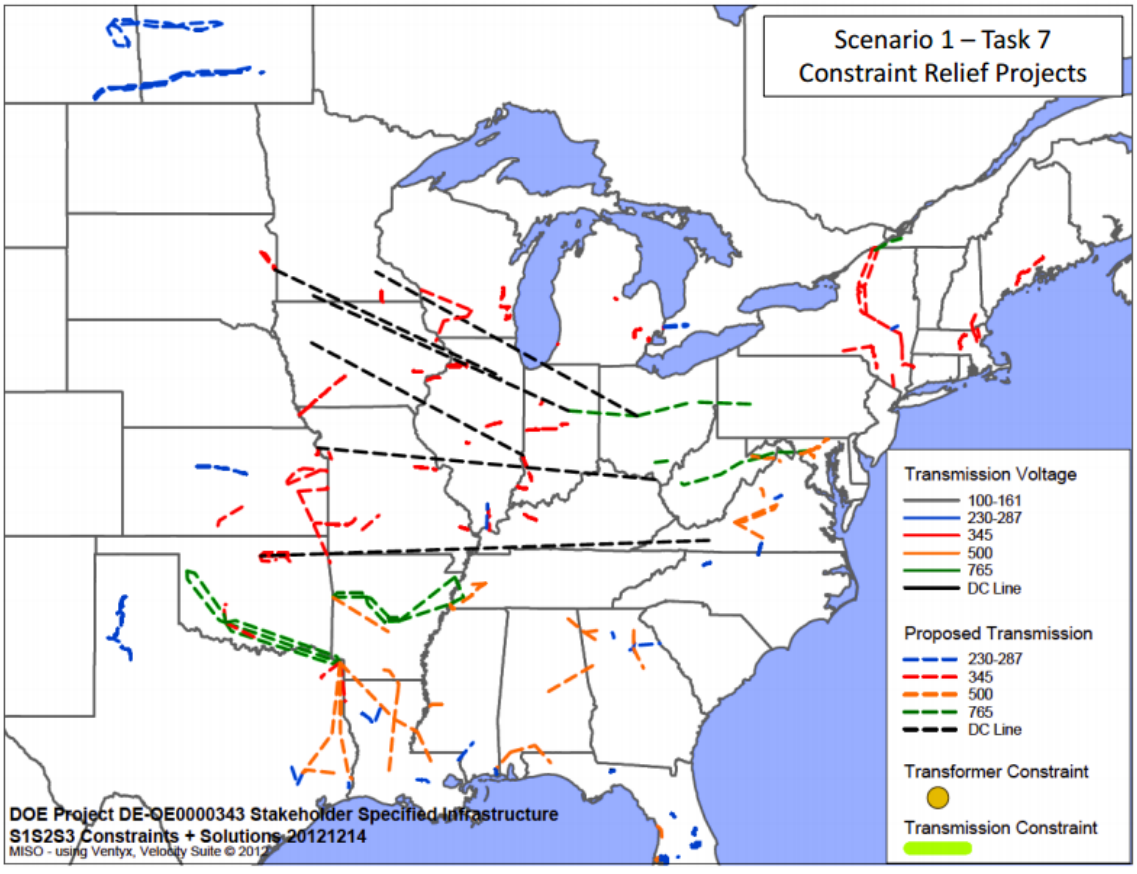
[4] American Wind Energy Association. "*Wind Power's Consumer Benefits*." http://awea.files.cms-plus.com/AWEA%20White%20Paper-Consumer%20Benefits%20final.pdf. 1-5.
[5] U.S. DOE. *2013 Wind Technologies Market Report*. August 2014. 61-62.
[6] Lazard. *Lazard's Levelized Cost of Energy Analysis – Version 8.0*. September 2014. 9.
[7] U.S. DOE. *2013 Wind Technologies Market Report*. August 2014. 57-60.
[8] Lazard. *Lazard's Levelized Cost of Energy Analysis – Version 8.0*. September 2014. 5.
[9] Indicative cost for Plains & Eastern Clean Line delivered wind, including the Production Tax Credit.

While Order 1000 calls for interregional coordination on transmission planning, this coordination is only occurring between neighboring planning regions, such as MISO and PJM. Transmission needs that span multiple regions could be overlooked without a national study. For example, the DOE-funded Eastern Interconnection Planning Collaborative ("EIPC") identified HVDC transmission projects spanning more than two regions as required solutions in the low-carbon scenario, which had a carbon reduction goal just 12% higher than the rule proposed by EPA under Section 111(d) of the Clean Air Act. The model output of the low-carbon scenario necessitated significant wind generation capacity additions in MISO and SPP, which ultimately required six HVDC lines, each capable of carrying 3,500 MW, to reliably alleviate all transmission system constraints.[10] As illustrated in Figure 3, some of the HVDC projects identified by EIPC spanned three planning regions, such as the two southern-most HVDC lines.

Two of Clean Line's projects provide comparable examples of HVDC transmission projects that span three planning regions. The Plains & Eastern Clean Line will span SPP, MISO and TVA, and the Grain Belt Express Clean Line will interconnect with SPP, MISO and PJM.

Figure 3: EIPC Scenario 1 Task 7: Constraint Relief required 3,500 MW HVDC lines



[10] U.S. DOE, Phase 2 Report: Interregional Transmission Development and Analysis for Three Stakeholder Selected Scenarios, Draft - December 22, 2012. 21. www.eipconline.com/uploads/20130103_Phase2Report_Part2_Final.pdf

Interregional transmission is needed to meet national energy policy goals and to cost-effectively achieve compliance with pending carbon regulations. DOE is the appropriate agency to examine national infrastructure needs and identify opportunities to advance a cleaner and more cost-effective energy future for Americans.

Clean Line acknowledges the difficulty or impossibility of accessing uniform data across the country and supports efforts to improve data quality and availability in the future. The issue of data access requires serious examination, and DOE may wish to consider using data that is not publicly available. Making data publicly available may discourage sharing of competitively sensitive information that could prove helpful in thoroughly studying congestion on the bulk electric system.

In the meantime, DOE should continue to conduct the triennial congestion study, as ceasing to do so would result in even less information for industry participants to rely on in identifying development and investment opportunities. Transmission planning and sound public policy rely on adequate and timely information, and DOE remains an important and authoritative source of information on our nation's high voltage transmission grid.

Respectfully submitted,

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Director, Market Development & Regulatory Affairs
Clean Line Energy Partners