CLEAN LINE ENERGY PARTNERS

PLAINS & EASTERN CLEAN LINE

1222 PROGRAM – PART 2 APPLICATION

INFORMATION REQUESTED FOR PROPOSED
PLAINS & EASTERN CLEAN LINE PROJECT

JANUARY 2015

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Key Abbreviations and Acronyms

AC	Alternating Current
CREZ	Competitive Renewable Energy Zones
DOE	United States Department of Energy
EWITS	Eastern Wind Integration and Transmission Study
FERC	Federal Energy Regulatory Commission
GW	Gigawatt (one billion or 10^9 watts)
HVDC	High Voltage Direct Current
ISO	Independent System Operator
JCSP	Joint Coordinated System Plan
MISO	Midwest Independent Service Operator
MW	Megawatt (one million or 10^6 watts)
MWh	Megawatt-hours (one million or 10^6 watt-hours)
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NREL	National Renewable Energy Laboratory
OATT	Open Access Transmission Tariff
PJM	PJM Regional Transmission Organization
PMA	Power Marketing Administration
RES	Renewable Electricity Standard
RPS	Renewable Portfolio Standard
RTO	Regional Transmission Operator
SERC	Southeast Reliability Corporation
SPP	Southwest Power Pool
SPS	Southwestern Public Service
TVA	Tennessee Valley Authority

Introduction

Section 1222(b) of the Energy Policy Act of 2005 provides that the Secretary of Energy, acting through the Western Area Power Administration or Southwestern Power Administration, has the authority to design, develop, construct, operate, own or participate with other entities in designing, developing, constructing, operating, maintaining or owning new electric power transmission facilities and related facilities within any state in which Southwestern or Western operates. In response to a Request for Proposals ("RFP") issued by the Department of Energy ("DOE") for new or upgraded transmission line projects under Section 1222 of the Energy Policy Act of 2005, Clean Line Energy Partners LLC, on behalf of itself and certain of its affiliated companies, submitted a proposal to DOE in July 2010 ("July 2010 Proposal"). The July 2010 Proposal provided a description of the proposed project as well as other information responsive to the RFP.

In a letter dated December 1, 2014, DOE requested additional information about the Plains & Eastern Clean Line transmission project (the "Project" or the "Plains & Eastern Project"). Clean Line Energy Partners LLC, on behalf of its subsidiaries Plains and Eastern Clean Line LLC and Plains and Eastern Oklahoma LLC, which entities are collectively developing the Plains & Eastern Clean Line Project, (unless otherwise defined, such entities collectively referred to herein as "Clean Line") now submit this Part 2 Application (the "Part 2 Application") to DOE and Southwestern.

This Part 2 Application provides additional detail and information regarding the Project as requested by DOE and follows the order of requested information set forth in the December 1, 2014 letter. Certain appendices provided in this Part 2 Application contain confidential information and are provided under separate cover in a Confidential Exhibit.

To the extent any information provided in this Part 2 Application conflicts with information provided in the July 2010 Proposal, the information provided in this Part 2 Application controls.

1 Updated Project Description

The Plains & Eastern Project is an approximately 720-mile, ±600 kilovolt ("kV") overhead, high voltage direct current ("HVDC") electric transmission line and associated facilities. The Project has the capacity to deliver approximately 3,500 megawatts ("MW") primarily from renewable energy generation facilities in the Oklahoma and Texas Panhandle regions to the Tennessee Valley Authority ("TVA") in Tennessee and to other load serving entities in the Mid-South and southeastern United States via an interconnection with TVA. The facilities associated with the HVDC electric transmission line include alternating current ("AC")/ direct current ("DC") converter stations located southeast of Guymon in Texas County, Oklahoma, and northeast of Memphis in Shelby County, Tennessee, as well as an AC collection system located in the Oklahoma and Texas Panhandle regions. An intermediate converter station located in Pope County or Conway County, Arkansas, with the capacity to deliver an additional 500 MW via an interconnection with MISO in Arkansas, is also under consideration by DOE as part of its review of the Project pursuant to the National Environmental Policy Act ("NEPA"). Clean Line strongly supports the inclusion of the Arkansas converter station in the Project and intends to build the Arkansas converter station in parallel with the other Project facilities. In addition to being responsive to scoping comments received from Arkansas stakeholders, Clean Line believes that inclusion of the Arkansas converter station adds flexibility in the delivery of wind energy and increases the benefits of the Project to Arkansas. A high-level overview map of the Project is shown below.

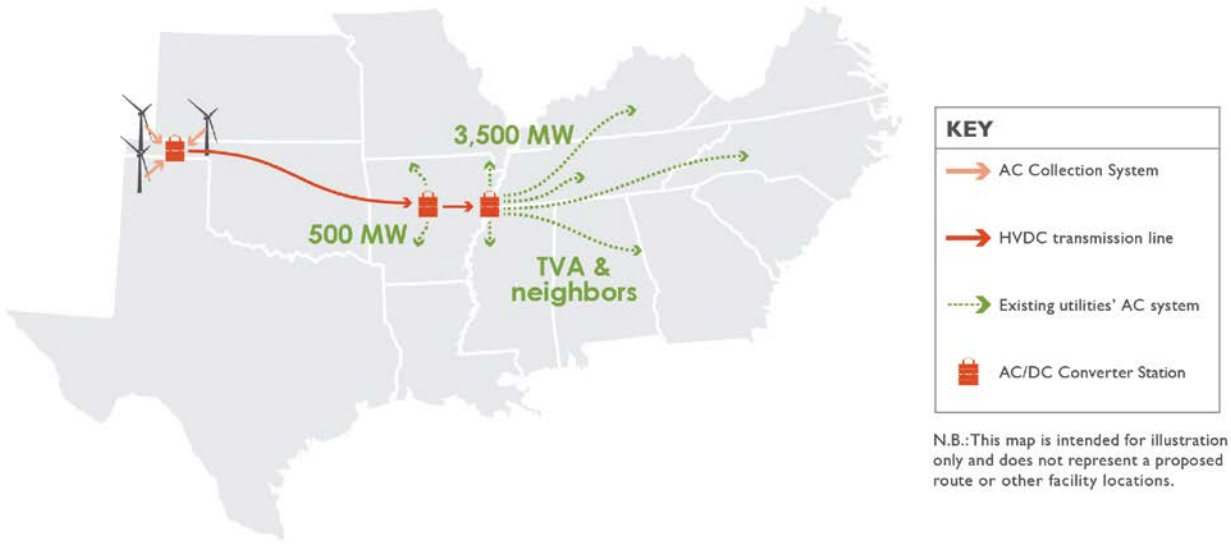

Figure 1: Project Overview Map

In December 2014 DOE issued its Draft *Environmental Impact Statement for the Plains & Eastern Clean Line Transmission Project* ("Draft EIS"). The Project is described in detail in Chapter 2 and Appendices A and F of the Draft EIS.[1] The project description in this section of the Part 2

[1] U.S. Department of Energy, Draft *Environmental Impact Statement for the Plains & Eastern Clean Line Transmission Line Project* (December 2014), Chapter 2. Chapter 2 outlines the major Project facilities and alternatives under consideration by the DOE in its NEPA analysis. Appendix A of the Draft EIS provides figures to support the

Application is consistent with that description in the Draft EIS; in a few circumstances, Clean Line has provided further detail for DOE's review and to be responsive to information requested for the Part 2 Application.

1.1 Proposed HVDC Transmission Line

The Project will transmit energy from the Oklahoma and Texas Panhandle regions via a ±600 kV HVDC overhead electric transmission line to the Mid-South and Southeast. HVDC transmission technology includes the ability for bi-directional power flow, or the flow of power in either direction through the converters. Under normal operating conditions for the Project, power will flow from the wind farms (directly connected to the Oklahoma converter station via the AC collection system) in an eastward direction with deliveries of energy into Arkansas (an alternative under consideration by DOE) and Tennessee.

The Project includes interconnections with the electric grids operated by the Southwest Power Pool ("SPP"), Midcontinent Independent System Operator ("MISO") and TVA. The predominant flow of power will be eastward from SPP in western Oklahoma to MISO in Arkansas and TVA in Tennessee. Because of its unique characteristics as a direct current transmission line, the Project also can be utilized to help stabilize the regional electric grids by coordinating with neighboring control areas to change the direction of power flow in sub-second intervals, if necessary. In these rare conditions, power could be allowed to flow from the Project into the SPP electric grid located in western Oklahoma. This temporary power flow into the electric grid in Oklahoma could come from various sources, including: (1) power generated from the wind farms connected through the AC collection system, or (2) power flowing temporarily from Arkansas or Tennessee westward into Oklahoma.

1.2 Applicant-Proposed and Alternative HVDC Transmission Line Routes under Consideration

Clean Line submitted a proposed route and reasonable alternative routes for the HVDC transmission line to DOE for their analysis as part of the NEPA review. These are described in the Draft EIS, Section 2.4.

1.3 HVDC Transmission Line Facilities

HVDC transmission components include a right-of-way for the transmission line, tubular and lattice steel structures used to support the transmission line, electrical conductor (transmission line) and metallic return, communications/control and protection facilities (optical ground wire and fiber optic regeneration sites), and access roads for construction, operations and maintenance of the transmission line.

Construction and operations of the HVDC transmission line will require right-of-way, which will typically be 150 to 200 feet wide. The width of the right-of-way is related to the required clearance distances for the conductors. These distances are dictated by the National Electrical

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description of the Project. Further information for each of the Project's major facilities, construction procedures, and environmental protection measures are included in the *Project Description* that Clean Line submitted to the Department of Energy in May 2014, which is attached as Appendix F to the Draft EIS.

Safety Code ("NESC") and are directly related to the structure height, span width, and terrain. The width of an easement will be wider than typical where tall structures, wider spans, or terrain demands greater horizontal clearance to maintain safe clearances.

The typical structures used to support the HVDC transmission line will be constructed using a mix of tubular (monopole) and lattice steel and will typically range in height from 120 to 200 feet. Structure heights, span lengths, and vertical clearance will be determined in accordance with the NESC, Clean Line's design criteria, and applicable standards and laws. Clean Line may use taller structures in circumstances where additional clearances and/or longer spans are required. The dimensions and land requirements of typical lattice and monopole structures are summarized in Table 2.1-4 and depicted in Figures 2.1-19 through 2.1-21 of the Draft EIS.

In addition to typical structures, Clean Line anticipates limited use of lattice crossing and/or guyed structures. The dimensions and land requirements for those structures can be found in Table 2.1-4 of the Draft EIS. A lattice crossing structure is shown in Figure 2.1-25 of the Draft EIS. Drawings of the guyed structures are included in Figures 2.1-22 through 2.1-24 of the Draft EIS.

The following criteria will influence which type of structure is used along specific stretches of the Project: existing land use, engineering efficiency, and existing facilities. Generally, Clean Line expects to use lattice structures for longer spans in open and wooded terrain and tubular (monopole) steel structures for spans that are shorter in length. Clean Line presently plans to use lattice crossing structures only for major river crossings and anticipates potentially using guyed structures only in open grass or shrub terrain, where it is compatible with existing land use. Final design for the HVDC transmission line will be completed after a final route has been determined.

Further information and details regarding the HVDC transmission line including conductor types, metallic return, optical ground wire, communication facilities, fiber optic regeneration sites, and access roads are included in Appendix F of the Draft EIS.

1.4 Converter Stations

The Project proposal includes a converter station located southeast of Guymon in Texas County, Oklahoma. This converter station will primarily will convert from AC to DC the energy collected from generation sources by the AC Collection System. Energy will be transmitted over the HVDC line to converter stations in Tennessee and Arkansas.

Each converter station will be similar to a typical AC substation, but with additional equipment to convert between AC and DC. Ancillary facilities such as communications equipment and cooling equipment will be required at each converter station. Each converter station will include a DC switchyard, DC smoothing reactors, DC filters, valve halls (which contain the power electronics for converting AC to DC and vice versa), AC switchyard, AC filter banks, AC circuit breakers and disconnect switches, and transformers. In addition, AC transmission lines will connect each converter station to the existing grid. Based on interconnection studies performed to date, the interconnection with the electric grid in Oklahoma will be at 345 kV, and the interconnection with the electric grids in Arkansas and Tennessee will be at 500 kV.

A typical converter station may require 45 to 60 acres. The AC switchyard will occupy the largest area of the electrical facility within the converter station footprint. There could be up to two buildings (valve halls) to house the power electronic equipment used in AC/DC conversion, each approximately 200 feet long by 75 feet wide. The valve halls could be 60 to 85 feet tall. Additional smaller buildings will house the control room, control and protection equipment, auxiliaries, and cooling equipment. Other electrical equipment may be required within the AC portion of the switchyard. Clean Line will utilize a 10- to 20-acre laydown area during construction and after construction as parking and for locating warehousing facilities within the fenced converter station if needed. Figure 2.1-1 in to the Draft EIS shows a typical converter station layout. Tables 2.1-1, 2.1-2 and 2.4-2 in the Draft EIS provide the typical facility dimensions and anticipated land requirements for the Oklahoma, Tennessee and Arkansas converter stations, respectively, during construction and operations.

Figure 2.1-2 to the Draft EIS depicts the potential siting areas under consideration for the converter stations and interconnection facilities for the Project. Draft EIS Figures 2.1-3, 2.1-4 and 2.1-17e depict the converter station siting area locations in Oklahoma, Tennessee and Arkansas, respectively.

Typical structures for AC interconnection with the converter stations include both 345 kV and 500 kV lattice structures and tubular pole structures. The dimensions of these respective structures are summarized in Tables 2.1-1, 2.1-2 and 2.4-2 of the Draft EIS. The typical structures for AC interconnection are depicted in Draft EIS Figures 2.1-5 through 2.1-16.

1.4.1 Oklahoma Converter Station

The western terminus of the Project will interconnect to the existing transmission system operated by SPP, southeast of Guymon in Texas County, Oklahoma. To facilitate this interconnection, Xcel Energy/Southwestern Public Service Company will construct a new 345 kV substation called Optima. A double-circuit 345 kV transmission line up to 3 miles in length will interconnect the proposed converter station with the Optima Substation. Those interconnection facilities are described in more detail in Section 2.5.2 of the Draft EIS.

1.4.2 Tennessee Converter Station

The proposed eastern converter station will interconnect to the existing transmission system operated by TVA at the existing Shelby Substation, located in Shelby County, Tennessee. In addition to interconnection facilities, TVA's final Interconnection System Impact Study ("SIS"), identified substation and transmission upgrades to existing TVA system facilities to accommodate interconnection of the Project to the transmission system in Tennessee. The upgrades to the TVA transmission system are described in more detail in Section 2.5.2 of the Draft EIS.

Clean Line anticipates that the AC interconnection facilities will be contained wholly within the Tennessee converter station siting area, which is shown in Figure 2.1-4 of the Draft EIS. The interconnection to the TVA transmission system will consist of 500 kV AC transmission lines up to a mile long and/or associated new electrical hardware.

1.4.3 Arkansas Converter Station

The Arkansas converter station is discussed in Section 2.4.3.1 of the Draft EIS.

During the NEPA scoping period, DOE received comments expressing concern that Arkansas will not have an interconnection to the Project. Based on these comments, DOE requested that Clean Line evaluate the feasibility of an additional converter station in Arkansas. The Arkansas converter station would be an intermediate converter station and will not replace the Oklahoma or Tennessee converter stations. Based on Clean Line's feasibility evaluation, the Arkansas converter station would be sited in either Pope County or Conway County, Arkansas. Clean Line's preliminary design and environmental studies support the location of the Arkansas converter station in Pope County.

The Arkansas converter station would have a capacity of 500 MW and have land requirements similar to the Oklahoma and Tennessee converter stations. With the implementation of this alternative, the delivery capability of the Project would be increased to 4,000 MW.

The interconnection between the converter station and the MISO system in Arkansas would include a 500 kV AC transmission line approximately 6 miles long to an interconnection point along the existing Arkansas Nuclear One-Pleasant Hill 500 kV AC transmission line by way of a direct tap or small switchyard. The interconnection facilities would be located within a small switching/tap station of approximately 5 acres in size.

1.5 AC Collection System

In addition to the HVDC transmission line, the Project will include an AC collection system. The collection system will consist of between four and six AC transmission lines with voltages of up to 345 kV and will connect the Oklahoma converter station to wind energy facilities in the Oklahoma and Texas Panhandle region. The AC collection system includes right-of-way for the transmission lines, tubular or lattice steel structures used to support the transmission line, electrical conductor, communications/control and protection facilities (optical ground wire and fiber optic regeneration sites), and access roads for construction, operations and maintenance of the transmission line.

Clean Line anticipates that the AC collection system lines will be located within a radius approximately 40 miles from the Oklahoma converter station. Clean Line based the 40-mile radius on preliminary studies of engineering constraints and wind resource data, industry knowledge, and economic feasibility. Wind farms will connect to the AC collection system by way of a direct tap, a bus ring, or a small substation (about 2 to 5 acres in size) with transformer and switching equipment.

Figures 2.1-26 to the Draft EIS depicts the siting area for the AC collection system in the Oklahoma and Texas Panhandle regions. The Draft EIS refers to possible locations of the AC collector lines as the AC collection system routes. These AC collection system routes are two-mile-wide corridors. The final right-of-way required for the AC transmission lines will be approximately 150 to 200-feet wide.

The locations of wind farms that need to connect to the Project will determine development of

the AC lines within the AC collection system corridors. Of the 13 possible routes identified in the Draft EIS, Clean Line anticipates that only four to six of these routes will be developed and constructed.

2 Statutory Authority under Section 1222

2.1 The proposed Project must be either: (A) Located in an area designated under section 216(a) of the Federal Power Act (16 U.S.C. 824p(a)) and will reduce congestion of electric transmission interstate commerce; or (B) Necessary to accommodate an actual or projected increase in demand for electric transmission capacity.

The Plains & Eastern Project accommodates the increasing demand for interregional transmission capacity to move power from the wind-rich central United States to load centers in the Mid-South and Southeast. Historically, the country's existing electrical transmission system evolved primarily to deliver electric energy to serve loads within the boundaries of a single utility's service territory or, at most, among a regional group of utilities. Today, however, users of the grid increasingly demand transmission capacity to move wind energy in large volumes across multiple states and regions. Wind energy companies are developing thousands of megawatts of projects in windy areas that can generate energy at very low-cost. To build their projects, these companies need transmission capacity to reach utility customers, often located several states away, who have purchased and will continue to purchase wind energy. Similarly, utilities need transmission capacity to be able to buy wind energy from the most affordable sources and deliver it to their home service territories.

As of 2008, no electric utility serving load in Arkansas, Tennessee, Mississippi, Alabama or Georgia had purchased wind power from the central United States, which has the windiest sites in the country and therefore the capability to generate wind energy at the lowest cost. By the end of 2014, utilities in these states had entered into power purchase agreements for over 3,600 MW from wind generators in the central United States. These purchases included over 1,200 MW of wind power from Oklahoma, where the Project originates, and over 1,200 MW from the adjacent states of Kansas and Texas.[1]

Simple economics underlie this changing pattern of grid usage. Higher wind speeds lead to more output from the same turbine, and therefore a lower cost to produce wind energy. Due to much higher wind speeds and more plentiful sites, wind energy can be produced at a much lower cost in the Oklahoma Panhandle region than in the Mid-South or Southeast. In recent years, wind energy companies have been able to produce wind energy in the Oklahoma Panhandle region at a cost under three cents per kilowatt-hour ("kWh"). This is less than half of the cost to produce wind energy in the Southeast United States and is very competitive with fossil-fueled generation.[2]

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[1] A list of the Mid-South and Southeast Wind Power Purchase Agreements is attached as Appendix 2-A to the Part 2 Application.

[2] The cheapest 4,000 MW of responses to Clean Line's RFI (as further described in Section 2.1.2) reported an average price of only 2.4 cents per kWh, flat and without escalation. According to the 2012 Wind Technologies Market Report prepared by Lawrence Berkeley National Laboratory, power purchase agreement ("PPA") prices for wind farms in the "Interior" region, including the Oklahoma Panhandle region as well as other areas, averaged 3.2 cents per kWh in 2011-2012. The equivalent range for wind projects located in the Southeastern United States is 6.0-8.0 cents per kWh, though the report notes the data are limited due to the scarcity of projects built. Available at: http://emp.lbl.gov/sites/all/files/lbnl-6356e.pdf (last accessed January 7, 2015).

The increased demand for transmission capacity on the Project proposed by Clean Line is unquestionable. Clean Line recently conducted an open solicitation for transmission service requests over the Project. Clean Line received 29 requests from 15 different transmission customers. Together, these customers requested 17,091 MW of transmission service, or 392% of the Project's total 4,355 MW of West-East transfer capacity. The increased demand for interregional capacity to connect wind-rich zones with load-centers exists today.

In addition to the strong results from the Project's capacity solicitation, there is a broad record of support demonstrating that the Project is necessary to accommodate increased demand for interregional transmission capacity. As discussed in further detail below:

- Wind energy companies have an increasing need for new transmission capacity to support development of new wind farms. These companies are active in the Oklahoma Panhandle region, and they demand transmission capacity because of the strong business case to ship wind energy to the Mid-South and Southeast and because of the limitations of the existing grid. Clean Line conducted a Request for Information ("RFI") to which 29 projects responded. As discussed in the Draft EIS for the Project, there is over 8,000 MW of wind potential in suitable areas of wind development within 40 miles of the proposed western converter location. (Section 2.1.2)
- Load-serving entities have expressed specific interest in, and demand for, additional electric transmission capacity from the Project to provide access to low-cost, clean power to their customers. TVA recently sent a Letter of Interest to Clean Line, and the East Texas Electric Cooperatives entered into a Letter of Intent to participate in the Project.[3] These load serving entities, and others, recognize the potential for low-cost wind energy to provide substantial benefit to their customers. (Section 2.1.3)
- There are recognized limitations to the existing transmission system's ability to support wind energy development and interregional deliveries of such low-cost wind energy to the Mid-South and Southeast. Existing transmission lines and transmission planning processes cannot accommodate the demonstrated demand for interregional transmission capacity between the Oklahoma Panhandle region and the Mid-South and Southeast. (Section 2.1.4)

All of these factors reinforce and confirm that the Project is necessary to accommodate the increasing demand for interregional transmission capacity to facilitate the further development and delivery of low-cost wind energy.

2.1.1 The Results of the Project's Capacity Solicitation Confirm it is Needed to Accommodate the Actual and Projected Increase in Demand for Interregional Electric Transmission Capacity

The results of Clean Line's capacity solicitation clearly demonstrate that there is an actual and projected increase in demand for new interregional transmission capacity from Oklahoma-

[3] The East Texas Electric Cooperative is a "super" generation and transmission cooperative comprised of three generation and transmission cooperatives, all of which are large customers of Southwestern Power Administration.

Arkansas and from Oklahoma-TVA, both of which the Project can accommodate.[4] From May 22 to July 25, 2014, Clean Line conducted an open solicitation for capacity on the Project pursuant to its negotiated rate authority. Clean Line received 29 requests from fifteen different transmission customers requesting 17,091 MW of transmission service, or 392% of the Project's total 4,355 MW of West-East transfer capacity. Both the Oklahoma-Tennessee and the Oklahoma-Arkansas transmission paths received strong interest. The Project received transmission service requests from Oklahoma to Tennessee from 15 customers, totaling over 15,000 MW. This is approximately four times the Project's total capacity to Tennessee. The Project also received transmission service requests from Oklahoma to the proposed converter station in Arkansas from seven customers, with the requests totaling over 1,900 MW, again, approximately four times the Project's capacity to deliver 500 MW of power to Arkansas.

Each transmission service request included a proposed start date and term (in years) for the requested service. All requests were for at least 20 years and proposed a start date for service of December 31, 2018, which is the Project's planned in-service date in its current development schedule.[5] The strong response to the capacity solicitation and demand for service starting in late 2018 shows that the Project is necessary, and that such need is immediate.

2.1.2 Wind Energy Development in Oklahoma is Driving an Actual and Projected Increase in Demand for Transmission Capacity to Export Power but Faces Limitations from the Existing Grid

The Oklahoma Panhandle region possesses tremendous wind resources and many wind projects under development, but only a limited amount of transmission capacity for the export of low-cost wind energy. This mismatch between the wind resource potential and existing system capabilities is driving increased demand for new transmission capacity. Attached as Appendix 2-B to this Part 2 Application are letters from ten wind generators in support of Clean Line's application to DOE under Section 1222. These letters detail the need for new transmission service to provide low-cost power to load-serving entities in the South as well as how the lack of transmission service on the existing system has inhibited additional sales of wind power. "The Southern Plains is one of the windiest parts of the nation," states MAP Royalty,[6] "yet cannot reach its full potential due to a lack of transmission infrastructure to effectively carry this energy to major load centers."

Wind generators' need for additional transmission capacity is substantial. In 2013, prior to the capacity solicitation discussed above, Clean Line conducted an RFI in order to gauge the transmission needs of wind generation companies active in the Oklahoma Panhandle region. The RFI asked respondents if there is an increasing demand for transmission service from the

[4] In Docket No. ER14-2070-000, the Federal Energy Regulatory Commission ("FERC") granted Clean Line the authority to subscribe up to 100% of the line's transmission capacity through direct negotiation of negotiated rates with transmission customers. Thus, Clean Line will recover its costs through negotiated rates with specific users of the line, allowing for the competitive solicitation for customers wishing to enter into long-term capacity contracts.
[5] Proposed construction schedule is attached as Appendix 10-K to this Part 2 Application.
[6] MAP Royalty is one of the most successful wind energy companies in Oklahoma. By the end of 2015 there will be more than 1,800 MW of wind projects operating in Oklahoma that MAP will have directly funded, with over 2,000 MW under development near the Project's Oklahoma converter station and another 1,800 MW elsewhere in Oklahoma.

wind resource area of the Oklahoma panhandle. All 12 wind generators who answered the question responded in the affirmative. The RFI also asked respondents for details about their projects under development. Seventeen wind generation companies reported 29 projects under development totaling 16,410 MW, of which 11,450 MW was located within 40 miles of the proposed converter site in Oklahoma and 6,850 MW within 20 miles. Respondents also reported that many of the projects already have reached significant development milestones, such as full site control and the collection of multiple years of wind data from monitoring towers. The RFI shows that wind energy companies are investing substantial time and money today in anticipation of the Project's transmission capacity.

The Draft EIS (Section 2.5.1) and supporting technical materials also document the strength and abundance of wind resources in the Oklahoma Panhandle. As detailed in the Wind Generation Technical Report submitted by Clean Line to DOE,[7] over one million acres of windy land suitable for wind turbines are located within a 40-mile radius of the proposed converter location, comprising over 8,000 MW of potential development. While this estimate, which focuses only on the windiest and most suitable sites, is somewhat less than the RFI's estimate of 11,450 MW within the same distance, both estimates are well in excess of the transmission capacity available over the existing SPP system in this area. As discussed further in Section 2.1.4, it is estimated that the existing transmission system in SPP can accommodate less than 600 MW of additional wind generation. This difference between the significant wind energy resource of over 8,000 MW and existing system capacities of approximately 600 MW highlights the need for new transmission capacity to support wind energy development in the Oklahoma Panhandle.

2.1.3 Mid-South and Southeast Load Serving Entities Are Increasingly Seeking Affordable Renewable Energy Sources and Need New Transmission Capacity to Import Low-Cost Wind Power

The Project Meets TVA's Need for Affordable Clean Energy

Load-serving entities are increasingly seeking additional supplies of wind energy, leading to an increase in the demand for new transmission capacity to deliver low-cost wind power. As noted in the introduction to this Section 2.1, load-serving entities in the Mid-South and Southeast have purchased over 3,600 MW of wind power from the central United States since 2009. TVA, which owns and operates the Shelby Substation where the Project will deliver 3,500 MW, has expressed specific interest in the Project and has articulated its need for additional low-cost, clean energy options. In a Letter of Interest dated November 3, 2014, William D. Johnson, TVA's President and CEO, described why transmission capacity provided by the Project could help TVA address its current and projected needs:

> Least-cost planning for electricity resources has become more challenging in recent years, given changes to the economy, customer usage patterns and preferences, technological change, and more stringent environmental requirements. The recent promulgation of the draft regulations implementing Clean Air Act Section 111(d) rule will add even greater complexity. One path for TVA to deal with this complexity is by

[7] *Wind Generation Technical Report for the Plains & Eastern Transmission Line Project* (March 2014). Prepared for the Department of Energy pursuant to 10 CFR 1021.215(b)(2). Available in reference CD.

> having options to draw from as we refine our resource planning and selection. Clean Line represents this type of optionality, and options are valuable to TVA. As you are aware, in our 2011 Integrated Resource Plan (IRP), we identified up to 2,500 megawatts of cost-effective renewable power as a resource option that could be beneficial across multiple future scenarios. To date, we have contracted for more than 1,500 megawatts of wind power delivered to the Tennessee Valley via the existing alternating current transmission system. Our current experience with wind purchases as well as the potential requirement for low-cost renewable energy under Section 111(d) leads us to believe that wind energy delivered by HVDC transmission to the TVA system could provide benefit to TVA and the areas that we serve.[8] (emphasis added)

TVA has made clear that it considers renewable energy to be an important part of its mix going forward. TVA's Board of Directors set a goal of obtaining 50% of its electricity from carbon-free sources by 2020.[9] In its 2011 Integrated Resource Plan ("2011 TVA IRP"), TVA stated that "[r]enewable generation above existing wind contracts plays a key role in future resource portfolios."[10] The 2011 IRP further stated that:

> the combination of TVA's renewed vision, the growth in customer demand for renewable energy, the increasing regulatory stringency related to coal burning sources of generation and the anticipation of future federal and state mandates is prompting TVA to move towards generation that reduces or eliminates emissions altogether. Renewable energy is a generation resource that meets many of these challenges. Renewables aid in the reduction of air emissions from electric generation activities and use readily available "fuel" sources that are easily replenished.[11]

The 2011 TVA IRP recommended that TVA increase its renewable energy capacity up to 1,500 to 2,500 MW by 2020.[12]

Several of TVA's local power companies[13] have supported increasing the amount of renewable energy in TVA's portfolio. The Board of Commissioners of Memphis Light Gas & Water ("MLGW") passed a resolution supporting the importation of low-cost wind energy to the Memphis area through HVDC transmission. MLGW is the largest local power company in TVA's service territory and serves Shelby County, the proposed location of the Project's converter station in Tennessee. The MLGW resolution is attached as Appendix 2-D to this Part 2 Application. In addition to MLGW, all three of the other largest load centers in the TVA

[8] William Johnson, Letter of Interest to Michael Skelly, November 3, 2014. The full text of this letter is included as Appendix 2-C to this Part 2 Application. William Johnson is the President and CEO of TVA.
[9] Tennessee Valley Authority, Budget Proposal and Management Agenda (Submitted to Congress February 2012), p. iii. Available at: http://www.tva.com/abouttva/pdf/budget_proposal_2013.pdf (last accessed on January 7, 2015).
[10] Available at: http://www.tva.com/environment/reports/irp/archive/pdf/Final_IRP_complete.pdf (last accessed on January 7, 2015), p 151.
[11] *Id*. Appendix D, p. D198.
[12] *Id*. p. 153-154. In connection with the 2011 IRP, TVA polled its stakeholders about which goals were most important to them. Reliability and affordability, not surprisingly, ranked very high (over 90% of responses). Reduction of air pollution (70%) and increase in renewable energy (42%) followed as key goals to meet future energy needs. (p. 51) The Plains & Eastern Project is consistent with all of these goals.
[13] Local power companies are municipal and rural utilities that purchase wholesale energy and transmission service from TVA in order to serve retail electric users in TVA's service territory.

system have supported additional renewable energy purchases. In its 2012 Energy and Sustainability Plan, the City of Knoxville stated the priority to "[g]row the proportion of clean, renewable energy powering the Tennessee Valley's electricity grid."[14] The Cities of Nashville and Chattanooga have also endorsed increasing the percentage of renewable energy in their portfolio.[15] TVA runs a Green Power Switch program that allows individual users to purchase wind, solar and other renewable energy. Over 120 of TVA's local power companies participate in this program.[16]

The Project Can Also Meet the Needs of Other Utilities in the Mid-South and Southeast

TVA is not the only load-serving utility to express interest in the Project's transmission capacity. On September 4, 2014, Clean Line entered into a Letter of Intent with the East Texas Electric Cooperative, Inc. This Letter of Intent contemplates that the Cooperative can, at a future date, invest in and own a portion of the Project's capacity and Oklahoma facilities. The East Texas Electric Cooperative is a "super" generation and transmission cooperative comprised of three generation and transmission cooperatives, all of which are large customers of Southwestern Power Administration ("Southwestern"). As described in the *Proposed Participation Agreement Term Sheet for the Plains & Eastern Clean Line* (Appendix 4-A), Clean Line will explore additional opportunities for Southwestern and its customers to participate further in the Project, through owning transmission capacity on the Project, receiving energy delivered by the Project, or otherwise.

Many other utilities in the Mid-South and Southeast also are potential customers for the energy delivered by the Project. The increasing demand for renewable energy and resulting need for new interregional transmission facilities extends beyond the TVA system. The Project will deliver wind energy to the TVA transmission system at the Shelby substation just north of Memphis, Tennessee. Any utility with a connection to TVA's transmission system is a natural customer for the energy delivered by the Project. These utilities include Southern Company (including its Mississippi Power, Alabama Power and Georgia Power operating companies), Duke Energy Carolinas, Entergy and several others, as shown below.

[14] Knoxville's Energy & Sustainability Work Plan (first release June 30, 2011; updated March 30, 2012), p. 5. Available at: http://www.cityofknoxville.org/sustainability/WorkPlan_03-30-12.pdf (last accessed on January 7, 2015).

[15] *See* Green Ribbon Committee on Environmental Sustainability, *Together Making Nashville Green*, (June 2009), p. 46. Available at: http://www.nashville.gov/Portals/0/SiteContent/Sustainability/GRC_Report_090701.pdf (last accessed on January 7, 2015); Chattanooga Green Committee, *The Chattanooga Climate Action Plan*, (adopted February 24, 2009), p. 28. Available at: http://www.chcrpa.org/Divisions_and_Functions/Design_Studio/Projects/Climate_Action_Plan/Final_CAP_adopted.pdf (last accessed January 7, 2014).

[16] *See* http://www.tva.com/greenpowerswitch/distributors (last accessed on January 7, 2015).

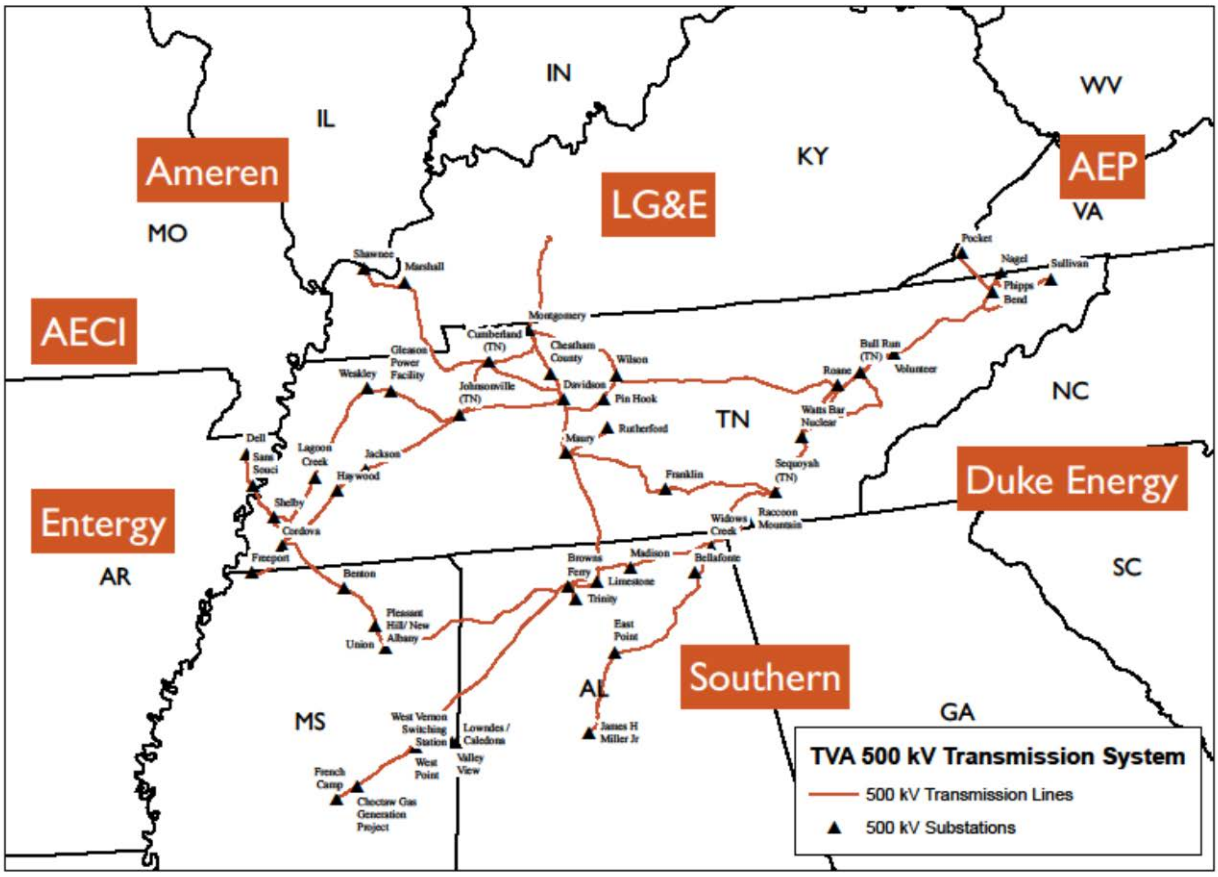

Figure 2: Utilities Connected to the TVA System in the Mid-South and Southeast

Utilities can purchase energy delivered to TVA's system by the Project by buying transmission service from TVA and moving the power to their home service territory. Alternatively, Entergy or other utilities in MISO South[17] can directly buy the energy delivered to the proposed Arkansas converter station. Other states and utilities in the region enjoy strong support for renewable energy purchases:

- Entergy Arkansas recently launched a Request for Proposal for renewable energy resources for delivery in the 2015-2020 timeframe.
- The mayor of North Little Rock, a municipality in Arkansas, stated in a letter to Clean Line that "[t]he Clean Line Energy proposal is of great interest to North Little Rock, given the municipal utility's expected needs over the coming years for competitively priced energy."[18]
- North Carolina requires utilities to source 12.5% of their electricity sales from

[17] MISO South was created as part of Entergy's integration into MISO in December 2013. The proposed Project will interconnect with the Entergy system, i.e., MISO South, at the proposed Arkansas converter station.
[18] Letter from Mayor Patrick Hays dated December 18, 2012. Attached as Appendix 2-E to this Part 2 Application.

renewable energy or energy efficiency beginning in 2020.[19]

- In November 2013, Duke Energy Carolinas filed with the North Carolina Utilities Commission a Green Source Rider that allows large industrial customers to elect to purchase renewable energy to meet their needs.[20]
- In Virginia, state legislation set a target for utilities to obtain 15% of their electricity from renewables by 2025.[21]
- In November 2014, Georgia Power, at the request of its Public Service Commission, announced a Request for Information (RFI) for "wind energy products in the marketplace that could provide benefits to our customers."

In each case, the Project is available to deliver wind energy into the Southeast grid that can be used to meet Arkansas, North Carolina, Virginia and Georgia renewable energy goals in a low-cost, reliable manner.

Favorable Economics and Environmental Regulation of Fossil Generation Drive Increasing Demand for the Project's Delivered Wind Energy

Demand for new transmission capacity is not merely the result of policy requirements. Rather, load-serving entities also demand transmission capacity because of the strong economics of delivering high capacity factor wind energy to their systems. The wind energy delivered by the Project is lower cost than energy from local renewable energy resources, and is highly competitive with new natural gas generation. With production tax credits, the Project's delivered energy will cost under 4.5 cents per kWh. Without production tax credits, the Project's delivered energy is still cost-competitive with new combined cycle gas generation. Appendix 6-B to this Part 2 Application is a detailed analysis of the Project's delivered energy price compared to alternatives.

In their prior wind power purchases, Southeastern utilities have emphasized that low-cost wind energy imported from wind-rich areas can save their ratepayers money by providing affordable power and reducing fuel expenditures. In petitioning the Alabama Public Service Commission to approve its power purchase agreement with the Chisholm View wind farm in Oklahoma, Alabama Power's Director of Forecasting and Resource Planning stated "the price for capacity and energy under the PPA is below the Company's projected avoided costs…..and thus the contract can be expected to place downward pressure on customer rates."[22] In a similar application to the Georgia Public Service Commission to approve the purchase of power from the Blue Canyon wind farms in Oklahoma, Georgia Power noted that "the PPAs were offered to the Company at prices that were below projected avoided costs in every year of the PPA

[19] North Carolina Senate Bill 3, Session Law 2007-397 (2007).
[20] Docket NO. E-7, Sub 1043, *Duke Energy Carolinas' Petition for Approval of Rider GS (Green Source Rider) Pilot* (November 25, 2013). Available at: http://www.duke-energy.com/pdfs/20131111501-addendum.pdf (last accessed on January 7, 2015).
[21] Virginia Code § 56-585.2, as amended by H.B. 1022.
[22] Docket No. 31652, *Application of Alabama Power Co.* (June 10, 2011).

term."[23]

Wind energy delivered by the Project is likely to become even more competitive and in higher demand in light of tightening restrictions on fossil-fuel generation. These restrictions add costs to burning gas, coal and oil to generate electricity, and also are likely to drive the retirement of numerous coal plants. The Environmental Protection Agency's ("EPA") Mercury Air Toxic Rule has resulted in a wave of new pollution equipment to be installed with a compliance deadline of 2016 or 2017.[24] In addition, the United States Supreme Court has reinstated the Cross-state Air Pollution Rule that cuts down on sulfuric and other particulate emissions from coal, which can drive more coal-fired generation retirements.[25] In 2013, EPA proposed carbon dioxide limits on new power plants that effectively require carbon capture on new coal-fired power plants.[26] In 2014, EPA proposed its 111(d) rules on carbon emission from existing power plants, which would require each state to meet a specified reduction in carbon dioxide emissions rate for each MWh of electricity generated.[27]

EPA's rules are leading to numerous coal plant retirements. In 2011, TVA announced an agreement with EPA to retire 18 coal plants from service by 2018.[28] TVA announced an additional eight retirements in 2013.[29] In total, TVA has retired or plans to retire over 50% of its coal units, and additional units are subject to ongoing litigation and review. By no means is the impact of regulation on TVA's coal generation fleet unique. Other utilities in the Mid-South and Southeast are also retiring a substantial portion of their coal generation units. According to a recent survey of coal plant retirements, summarized in the below graph, over 14,000 MW of coal power generators have been or are scheduled to be retired by 2017 in the Southeastern Electric Reliability Corporation (SERC) footprint.[30]

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[23] Direct Testimony of Kyle C. Leach and Ervan Hancock, Docket No. 37854, *Georgia Power Company's Application for the Certification of the Power Purchase Agreements for Wind Resources from the Blue Canyon II and Blue Canyon VI Wind Farms* (January 7, 2015).

[24] National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial- Institutional Steam Generating Units, 78 Fed. Reg. 24073 (April 24, 2013) (to be codified at 40 C.F.R. pts 60 and 63).

[25] Environmental Protection Agency v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014).

[26] Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830 (June 18, 2104) (to be codified at 40 C.F.R pt 60).

[27] 79 Fed. Reg. 34830, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (June 18, 2014).

[28] *See* Consent Decree, Civil Action No. 3-11-cv-0017, *State of Alabama and the Alabama Department of Environmental Management, Commonwealth of Kentucky, State of North Carolina* ex rel. *Attorney General Roy Cooper, and State of Tennessee v. Tennessee Valley Authority* (June 30, 2011). Available at: http://www.ncdoj.gov/getdoc/bdf66401-8137-4be2-bd20-57e89b570c1a/TVA-signed-consent-decree.aspx (last accessed on January 7, 2015). *See also* U.S. Environmental Protection Agency, EPA Region 4, Consent Agreement and Final Order, Docket No. CAA-04-2010-1528(b), Available at: http://www2.epa.gov/sites/production/files/documents/proposedtva-cafo.pdf (last accessed on January 7, 2015).

[29] Minutes of Meeting of the Board of Directors, TVA (November 14, 2013). Available at: http://www.tva.com/abouttva/board/pdf/11-14-2013_minutes.pdf (last accessed on January 7, 2015).

[30] Saha, Amlan, "Review of Coal Plant Retirements", M.J. Bradley & Associates, (April 12, 2013). Available at: http://www.mjbradley.com/sites/default/files/Coal_Plant_Retirement_Review_Apr2013_0.pdf (last accessed on January 7, 2015).

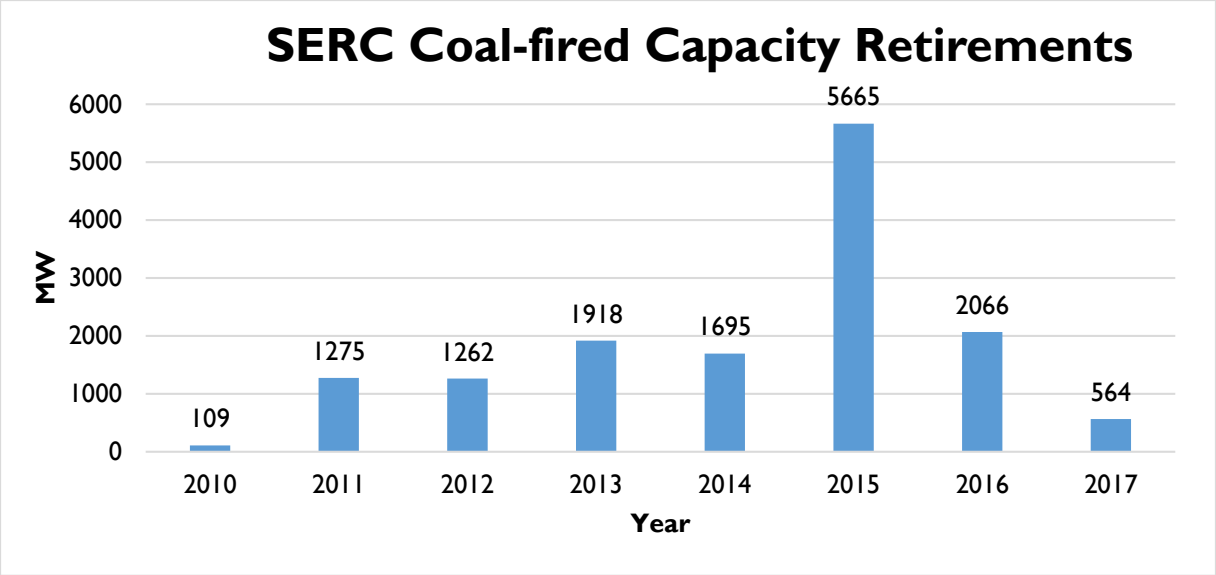

Figure 3: SERC Coal-fired Capacity Retirements

Additional retirements continue to be announced. In fact, since the data above were assembled, the TVA Board of Directors voted to retire the Allen Fossil Plant near Memphis, and replace it with a new, combined-cycle natural gas plant nearby. As coal retirements continue and environmental regulations increase, it is critical that utilities in the region have adequate access to the lowest cost clean energy, like the low-cost wind energy to be delivered by the Project, to keep their rates low.

The need for cleaner energy due to coal retirements and other factors cannot be met solely through new natural gas generation or local renewable energy development in the Mid-South and Southeast. TVA's 2011 IRP noted that "[t]here is finite capacity in the existing natural gas infrastructure. Risks of being limited by deliverability and availability will likely increase as natural gas generation capacity is increased."[31] Further, the potential for volatility in natural gas prices is a strong incentive for utilities to make low-cost renewable energy a part of their mix. As mentioned above and detailed in Appendix 6-B to this Part 2 Application, local renewable resources are substantially more expensive than low-cost wind energy from the Oklahoma Panhandle region. The Project offers a low-risk, affordable way to meet the needs of utilities in the Mid-South and Southeast.

2.1.4 The Demand for the Project's Transmission Capacity Cannot Be Met by the Existing Grid or Existing Planning Processes

Neither the existing grid nor existing planning processes can accommodate the increasing demand for new transmission capacity to support development and delivery of wind energy from the Oklahoma Panhandle to the Mid-South and Southeast. Accordingly, the Project is necessary to accommodate the actual and increasing demand for interregional transmission capacity.

[31] Integrated Resource Plan, TVA's Environmental & Energy Future (March 2011), p. 141.

The ability of the existing transmission to accommodate the additional wind energy development in the Oklahoma Panhandle is limited. The Project's Oklahoma converter station is located a few miles north of the Hitchland substation in Oklahoma, which is owned by Southwestern Public Service Company (an Xcel Energy subsidiary). Little transmission capacity remains available in this area. A reasonable estimate of the maximum wind generation that can be accommodated at Hitchland with today's AC transmission system (including the Hitchland-Woodward 345 kV expansion discussed below) is less than 2,000 MW—much of which already is reserved by wind projects within the interconnection queue.[32] According to SPP, as of December 31, 2014, over 1,400 MW of wind generators are operating, have signed interconnection agreements, or have completed their system impact studies either in Texas County, Oklahoma (the site of the Hitchland substation) or a neighboring county.[33] This means that less than 600 MW (2,000 MW minus 1,400 MW) of interconnection capacity is available for wind generators that have not yet completed their system impact study.[34] Even this amount of capacity may not allow generators to deliver their wind energy to buyers outside SPP, since SPP's focus in transmission planning is moving power with the SPP footprint. Thus, the existing transmission system can accommodate only a fraction of the wind generators in the region seeking to reach utility power purchasers.

Load serving entities in the Mid-South and Southeast that wish to continue purchasing low-cost wind energy from the central United States also face constraints in the existing grid and a need for new interregional transmission facilities. To date, these utilities' power purchase agreements have made use of the existing transmission system. However, this grid was originally built for other purposes, not conveying wind energy to other regions. Existing transmission paths from windy areas to the Southeast are almost completely saturated, and the cost of moving power through the existing grid is increasingly high due to congestion. As DOE noted in its latest National Electric Transmission Congestion Study, currently in draft form, in the Midwest region (including SPP and MISO), "[c]ongestion results from high and growing levels of wind generation that cannot be delivered from western sources to more distant loads, and the lack of additional transmission to enable further development in renewable-rich

[32] SPP Priority Projects Phase II Final Report (April 27, 2010) ("Priority Projects Report"), p. 11 and 34. SPP examined two levels of wind injections at the Hitchland substation as part of two different portfolios of wind generation. The first portfolio, totaling seven GW of wind generation throughout the SPP footprint, included slightly over 1,000 MW of additional wind generation in the Hitchland area. The second portfolio, totaling 11 GW of wind generation throughout the SPP footprint, included 2,000 MW of additional wind generation in the Hitchland area. The study examined how much curtailment (the percentage of undeliverable energy due to grid constraints) occurred in a production cost modeling simulation after taking account of SPP's grid expansion through the Priority Projects (discussed in detail below). SPP found that at the 2,000 MW level, approximately 10% of the output in the Hitchland area was curtailed. This is an economically unfeasible level of curtailment at which wind projects would not proceed.

A transfer capacity analysis using the power flow cases from SPP's 2015 ITP10 confirms the limited headroom available for wind generators at the location of the Oklahoma converter station. Clean Line's internal analysis identified that overloads of existing 345 kV lines began to occur when an additional 556 MW of wind generation was added at the Hitchland substation in SPP's light load power flow case.

[33] Of these, over 800 MW have signed interconnection agreements.

[34] SPP's interconnection queue is available at https://studies.spp.org/SPPGeneration/GI_ActiveRequests.cfm (last accessed on January 7, 2015).

areas."[35]

TVA concurs that transmission expansion will be necessary for additional renewable energy purchases. In the 2011 IRP, TVA noted that: "[t]ransmission expansion also requires long lead times and is a vital component in meeting forecasted demand. It is particularly necessary to acquire renewable energy, which tends to be located outside TVA's service territory and is intermittent in nature."[36] Southern Company, which imports hundreds of MW of wind power from SPP through the existing AC system, has noted the increasing cost of congestion in moving wind power across regions. "The level of congestion costs have sort of shocked us here," Southern's general manager of transmission policy and services stated in March 2014.[37] Since SPP implemented a nodal electricity market in March 2014, the average congestion component of the nodal price at the Hitchland substation, near the Project's Oklahoma converter station, was minus $8.66 per MWh. This means that, due to congestion, power was worth $8.66 less at that location than the system-wide reference price.[38] Unlike the AC grid, the Project offers direct delivery of wind energy to the Mid-South and Southeast without the risk of congestion costs due to differing locational prices of electricity.

As a practical matter, existing planning efforts in SPP and MISO do not meet TVA and other utilities' need for additional renewable energy from outside their service territory. While SPP recently added several new transmission lines to facilitate wind energy, these new additions were sized to accommodate only the wind energy additions needed to service demand in SPP—not to export wind energy to regions to the East.[39] In addition, the Entergy and AECI transmission systems that sits between TVA and SPP have not been upgraded to accommodate new West-East transfers. Nor are there plans for any upgrades in SPP, Entergy, or AECI to facilitate large-scale transfers of renewable energy from the wind-rich Oklahoma Panhandle region to Tennessee (and the Mid-South Southeast more broadly). Consequently, the Project is necessary to make it possible to move additional, low-cost wind energy to TVA and other utilities.

2.2 The proposed Project must be consistent with transmission needs identified, in a transmission expansion plan or otherwise, by the appropriate Transmission Organization (as defined in the Federal Power Act, 16 U.S.C. 791a et seq.) if any, or approved regional reliability organization

In establishing this criterion, Congress sought to ensure that projects undertaken through Section 1222 are appropriately planned to meet identified transmission needs. The Plains & Eastern Project meets this requirement. On an interregional basis, numerous planning initiatives and reports have identified the need for new West-East transmission lines to move

[35] Available at: http://www.energy.gov/sites/prod/files/2014/08/f18/NationalElectricTransmissionCongestionStudy-DraftForPublicComment-August-2014.pdf (last accessed on January 7, 2015). *See* p. xxi.
[36] Integrated Resource Plan, TVA's Environmental & Energy Future (March 2011), p. 27.
[37] "Southern Co. sees high costs of wind imports with Entergy joining MISO," SNL Energy (March 18, 2014).
[38] SPP's Real-Time Balancing Market data is available at ftp://pubftp.spp.org/ (last accessed on January 7, 2015). Five minute LMPs for PNode SPSHITCHUNNOVUS1_WIND from 3/1/2014-12/31/2014 were used to calculate the average congestion and shadow prices at the Hitchland substation.
[39] *See also* Section 2.1.4 for additional detail on this point.

wind power from the central United States to load centers. On a regional basis, SPP and MISO (the two RTOs with which the Project interconnects) have also identified the need for new transmission facilities to accommodate wind generation. Further the Project has been planned and developed in a manner that is consistent with ISO/RTO planning assessments. Namely, in planning and developing the Project, Clean Line performed a series of studies and evaluations that are consistent with how the ISOs and RTOs generally identify needs and solutions for transmission system development. A final measure by which Clean Line meets the statutory requirement is its consistency with reliability standards issued by the approved regional reliability organizations ("RRO") as envisioned under Section 1222. In light of these multiple areas of consistency, further detailed below, Project meets the criterion for consistency with planning and identified transmission needs.

2.2.1 The Project is Consistent with the Identified Need for New Transmission Lines to Integrate Low-Cost Wind Generation

Both interregional studies in which RTO's have participated and regional transmission expansion plans identify the need to increase West-to-East and interregional transfer capacity within the Eastern Interconnection.[40] The most comprehensive studies to date on the transmission needs of the Eastern Interconnection all identify the need to accommodate the continued growth of wind generation. In addition, SPP's and MISO's regional expansion plans have approved substantial transmission build outs to integrate new wind generation in the windiest parts of their respective footprints.

Interregional Studies Show the Need for West-East Lines, Including HVDC Lines, Similar to the Project

In 2008, the Joint Coordinated System Plan ("JCSP") became the first interregional planning effort to involve MISO, SPP, PJM, TVA and MAPP. The JCSP examined both a reference scenario, in which wind generation did not substantially increase, and a scenario in which wind generation reached 20% of overall generation. Both scenarios resulted in transmission portfolios that expanded West-to-East and interregional transmission capacity. The reference scenario yielded a transmission portfolio that included two interregional HVDC lines from Illinois to the East, while the 20% wind scenarios yielded a larger transmission portfolio with seven interregional, West-East, HVDC lines. Of both transmission scenarios, the JCSP final report concludes that "the transmission overlay enables renewable and base load steam energy from the Midwest to reach a wider area and also has the potential to reduce energy costs to consumers along the Eastern Seaboard." [41]

In 2010, the National Renewable Energy Laboratory ("NREL") completed the Eastern Wind Integration and Transmission Study ("EWITS"), which continued the examination of transmission expansion necessary to increase the level of wind energy in the country's electric portfolio. Though NREL managed the Project, MISO was a core part of the study team, and a technical review committee included members from numerous transmission organizations and

[40] The Eastern Interconnection consists of the electrical grid of states east of the Rocky Mountains (excluding Texas) and parts of eastern Canada.

[41] Joint Coordinated System Plan 2008, p. 8-9. Available at: https://www.misoenergy.org/Library/Repository/Study/JCSP/JCSP_Report_Volume_1.pdf. (Last accessed on January 7, 2015).

RTO's. Through the EWITS study, NREL identified a transmission overlay that allowed 20% or higher wind penetration in the Eastern Interconnection. EWITS considered four different scenarios based on different wind generation locations and penetration levels. Notably, the transmission overlay for each scenario included at least six HVDC lines to expand interregional transfer capacity and allow low-cost renewables to reach load centers.[42]

Following in the footsteps of EWITS and JCSP, the Eastern Interconnection Planning Collaborative ("EIPC") was an effort led by DOE which included the participation of MISO, SPP, PJM, TVA, Southern Company and numerous other Transmission Organizations. Similarly to the JCSP and EWITS, EIPC examined the transmission needs of the Eastern Interconnection in light of a generation mix that is shifting towards renewable and lower-carbon generation. EIPC studied a national renewable energy standard that was implemented regionally, meaning each region needed to be self-sufficient in its renewable resources. This scenario yielded a major transmission expansion from western SPP to the east. A second scenario, which included a national carbon policy and allowed imports and exports between transmission regions, yielded a transmission portfolio that included five interregional, West-East HVDC lines. [43]

Other government studies have underlined the importance of new transmission for wind energy. In the *2013 Wind Technologies Market Report*, DOE cites the lack of transmission infrastructure as a barrier to new wind power development: "New transmission is particularly important for wind energy because wind power projects are constrained to areas with adequate wind speeds, which are often located at a distance from load centers."[44] The National Electric Reliability Corporation ("NERC"), in their *2013 Long-Term Reliability Assessment*, acknowledges the growing demand for renewable resources and concludes that "the existing transmission network needs to be expanded to integrate these renewable resources and meet RPS mandates and other state-wide goals."[45] Ultimately, NERC's Assessment concludes that "long-distance transmission lines serve as the foundation of the electricity grid's renewable energy backbone and will be critical for the integration and accommodation of VERs [Variable Energy Resources]."[46] NERC has noted the Project in its Long-Term Reliability Assessments in 2011, 2012 and 2013.[47] These studies, as well as the JCSP, EWITS and EIPC, show that the Project is consistent with identified needs for West-East and interregional transmission expansion.

Regional Transmission Expansions Plans Show the Need to Expand Transmission in the Project's Wind Resource Area and Other Similar Areas

[42] EnerNex Corporation, Eastern Wind Integration and Transmission Study (revised Feb 2011), p. 37. Available at: http://www.nrel.gov/docs/fy11osti/47078.pdf (last accessed on January 7, 2015).
[43] Eastern Interconnect Planning Collaborative, Phase 2 Report: DOE Draft – Part 1 Interregional Transmission Development and Analysis for Three Stakeholder Selected Scenarios, p. 3-5. Available at: http://www.eipconline.com/uploads/20130103_Phase2Report_Part1_Final.pdf (last accessed on January 7, 2015).
[44] U.S. Department of Energy, *2013 Wind Technologies Market Report* (August 2014), p. 67.
[45] National Electric Reliability Corporation, *2013 Long-Term Reliability Assessment*, December 2013, p. 47.
[46] *Id.*
[47] 2011 NERC Long Term Reliability Assessment, p. 448; 2012 NERC Long Term Reliability Assessment, p. 241; 2013 NERC Long Term Reliability Assessment, p. 136 and 148. Available at: http://www.nerc.com/pa/RAPA/ra/Pages/default.aspx (last accessed January 7, 2015).

Similar to the findings from broader interregional studies, SPP also has identified the need for West-to-East transmission improvements to support wind generation. In a recent wind integration study, SPP has found that high levels of wind generation will increase power flows from western SPP to eastern SPP and that "[t]o accommodate the increased west-to-east flows while meeting the reliability standards of the SPP Criteria … a number of transmission expansions were required."[48]

SPP also examined the need for West-East transmission expansion in its 2013 Integrated Transmission Plan.[49] That plan stated:

> As wind capacity has increased, some generation is concentrated in areas of high wind potential towards the western part of the system. It has become necessary to connect this generation with a network that is capable of moving power to the eastern portion of the SPP system or the eastern United States where the major load centers are located.[50]

The 2013 Integrated Transmission Plan specifically considered a future scenario in which 10 GW of additional wind generation is constructed within the SPP footprint for export outside of SPP. To allow for this export, the Plan found that major transmission expansion was needed, primarily in the West-East direction. Notably, SPP found that the addition of two HVDC projects resulted in higher net present value benefits of $3.8 billion as compared to an all AC portfolio.[51]

SPP has specifically identified the wind-rich area of the Oklahoma Panhandle Region as a driver of new transmission expansion. SPP then concluded that extra high voltage lines headed East from this area were needed to resolve congestion and meet public policy goals at low cost. The Project is consistent with this need in that it originates only a few miles from the Hitchland substation—which has been a focus of SPP's assessments of a continuing need for transmission to support anticipated wind energy development. As far back as 2009, the SPP Board of Directors directed its Staff to perform a comprehensive assessment of transmission expansion to increase transfer capacity from the Hitchland area to higher load areas of SPP to the East. As a result, a major new double-circuit 345 kV transmission line headed east from Hitchland to Woodward, Oklahoma became part of SPP's Priority Project Portfolio, a group of transmission

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[48] Charles River Associates, SPP WITF Wind Integration Study (January 4, 2010) p. 1-2. Available at: http://www.uwig.org/CRA_SPP_WITF_Wind_Integration_Study_Final_Report.pdf (last accessed on January 7, 2015).

[49] The 2013 Integrated Transmission Plan is the most recent 20-year transmission plan prepared by SPP and is the best available analysis that SPP has conducted to determine the potential benefits of the Plains & Eastern Project. It also is the most recent transmission plan in which SPP studied the transmission needed to facilitate the export of wind generation to the East, which is the purpose of the Plains & Eastern Project. SPP's ten year transmission plan, such as the more recent 2015, Ten-Year Integrated Transmission Plan (ITP10) did not specifically study the transmission needed to facilitate wind exports. The SPP ITP10, and to a greater degree, the Near Term Integrated Transmission Plan, serve the purpose of identifying transmission needs to address reliability and market congestion that exists within the SPP market territory. The SPP ITP20, however, also considers interactions with SPP's neighbors such as the wind export scenarios modeled in the 2013 ITP20.

[50] SPP 2013 Integrated Transmission Plan 20-Year Assessment Report (July 30, 2013). Available at: http://www.spp.org/publications/20130730_2013_ITP20_Report_clean.pdf (last accessed on January 7, 2015).

[51] *Id*. at 95.

lines that were the central part of SPP's transmission expansion plan and enabled the expansion of wind power in the region. In total the Priority Projects comprised six transmission lines that enabled SPP to incorporate up to 11 GW of low-cost wind power into its system.[52] The Project is therefore consistent with SPP's identified need to expand transmission lines eastward from the Oklahoma Panhandle Region to accommodate wind generation. However, as described further below in Section 2.6, the Project does not duplicate the Hitchland-Woodward expansion or other Priority Projects undertaken by SPP. Rather, the Project addresses a related but still unmet need for interregional transmission facilities to deliver wind energy from the Oklahoma Panhandle to the Mid-South and Southeast.

MISO also identified a similar transmission need to integrate more low-cost wind generation and embarked on a substantial expansion in the northern part of its system, a program that was launched prior to Entergy joining the RTO and the creation of MISO South. MISO approved a portfolio of 17 new transmission lines with a value of over $5 billion, primarily to incorporate high capacity factor wind energy.[53] Together these 17 lines are called the MISO MVP Projects. Like the SPP Priority Projects, the MISO MVP Projects increased transfer capacity from the wind-rich areas of MISO to load centers, a need with which the Plains and Eastern Clean Line Project is consistent.

2.2.2 Clean Line Has Developed the Project Using Analyses and Steps That Are Consistent with RTO Planning

SPP's and MISO's planning processes for their internal system purposes occur through a series of connected studies and analyses to identify the need, to design a proposed addition, and to ensure these additions meet specific reliability, economic and policy concerns. In designing and implementing the Project, Clean Line has undertaken a similar and consistent series of studies that have shaped the Project into its present form. Similar to SPP's and MISO's transmission planning, Clean Line has developed the Project through the following studies and steps: (1) establishing the likely location of wind generation; (2) assessing known areas of congestion; (3) assessing utility demand for wind power; (4) determining the necessary physical infrastructure to meet that demand; (5) considering economic development implications; (6) conducting power flow analyses; and (7) production cost modeling to quantify cost savings to consumers. The Project meets the criteria for consistency in planning under Section 1222(b) through its use of steps and analyses to plan and develop the Project that are consistent with the SPP and MISO planning process.

1. Establishing the Likely Location of Additional Wind Generation

MISO and SPP plan their respective transmission systems around forecasted locations of wind generation based on wind analysis, the interconnection queue and input from stakeholders. For example, in the process of designing and evaluating the Priority Projects, SPP Staff designed a portfolio of seven gigawatts ("GW") of new wind projects in six locations around the region. Likewise, MISO's selection of sites for coordinated wind and transmission expansion dates back to the Regional Generation Outlet Study, performed in 2008 and 2009. The selection of

[52] SPP Priority Projects Phase II Final Report (April 27, 2010) p. 1-3.

[53] https://www.misoenergy.org/Library/Repository/Study/Candidate%20MVP%20Analysis/MVP%20Portfolio%20Analysis%20Full %20Report.pdf.

renewable energy zones for further transmission development included wind analysis, site suitability and distance to existing infrastructure. The highest ranking sites were selected to be included in the MISO transmission expansion plan and set the beginning points of many of the MVP Projects. [54]

As noted in Section 2.5.1 of the Draft EIS and supporting technical materials, Clean Line conducted a similar analysis to define the zones from which the Project is likely to connect wind generation.[55] The process incorporated wind development activity and responses to a Request for Information, wind mapping, evaluating distances from the Hitchland substation area, and environmental and land use consideration. The process used by Clean Line to identify the locations of additional wind generation was therefore consistent with the processes used by SPP and MISO. The identification of the most likely locations for wind development was a key step in planning and developing the Project.

2. Assessing Known Areas of Congestion

In developing their portfolios of transmission lines to connect wind generation to load, both SPP and MISO examine existing congestion due to wind generation. This analysis provides information about where transmission lines could generate economic savings due to reduced congestion costs. For example, SPP's Board of Directors has noted growing congestion on its system and tasked its staff to "reduce grid congestion" and "better integrate SPP's west and east regions."[56] MISO likewise has identified transmission constrained zones which affect the ability to fully utilize wind and designed upgrades to relieve the constraints.[57]

Similarly to SPP and MISO, Clean Line evaluated existing congestion patterns when designing the Project. Early in the Project's development, Clean Line observed that existing wind generation in the Oklahoma Panhandle region was already experiencing very low prices due to transmission congestion.[58] In its 2009 National Electric Transmission Congestion the DOE identified the Oklahoma Panhandle region as a Conditional Constraint Area ("CCA"). The region is a Type I CCA, meaning wind generation can be developed with existing technology. In that report, the DOE notes that Kansas and Oklahoma have strong wind generation potential that could significantly improve the economic vitality of the states' rural counties, enhance reliability and potentially reduce consumer electricity costs.[59] By creating a direct, HVDC link to the Mid-South and Southeast, the Project assures that the connected generators will not experience congestion and avoid existing transmission constraints.

3. Assessing Utility Demand Based on Public Policy and Other Factors

In planning their respective transmission systems, both SPP and MISO conduct a review of

[54] Regional Generation Outlet Study (December 2009). Available at: https://www.misoenergy.org/Library/Repository/Study/RGOS/RGOS_I_Executive_Summary_Report_FINAL.pdf.
[55] In addition to the Draft EIS, Section 2.5.1, *see also* Section 1.2 of the *Wind Generation Technical Report for the Plains & Eastern Transmission Line Project* (March 2014), prepared for the Department of Energy pursuant to 10 CFR 1021.215(b)(2) and Section 3.1 of the *Project Siting Narrative*, Appendix B to the *DOE Alternatives Development Report* (December 2013), prepared by Tetra Tech for the U.S. Department of Energy. Both are available in reference CD.
56 SPP Priority Projects' Phase II Final Report (April 27, 2010), p. 1.
[57] MISO Multi Value Project Portfolio Results and Analysis (January 10, 2012), p. 39.
[58] Plains & Eastern Clean Line, Project Proposal for New or Upgraded Transmission Line Projects Under Section 1222 of the Energy Policy Act of 2005 (July 2010), p.8.
[59] US Department of Energy, *National Electric Transmission Congestion Study* (December 2009), p. 22.

regional renewable energy portfolio standards and goals to determine the amount of renewable energy needed. For example, SPP distributed a survey to state representatives in its Cost Allocation Working Group about each state's mandated or desired level of wind generation. Based on these responses, SPP established a target in 2020 of approximately 11 GW of total wind generation.[60] MISO likewise surveyed each member utility's renewable portfolio standard requirements in 2021 and 2026 in order to determine how much incremental renewable generation the transmission plan needed to enable.[61] These assessments allow MISO and SPP to build transmission to meet the needs of their member utilities for low-cost clean energy.

In planning for the Project, Clean Line conducted a similar review based on numerous meetings with utilities and state policies, which is summarized in Section 2.1.3. As discussed there, Clean Line reviewed and identified the need and demand for renewable energy within the Mid-South and Southeast. In determining the size of the Project, Clean Line took into account the large potential demand for low-cost wind power delivered by the Project, and dimensioned the Project so that it could meet a substantial portion of the identified demand.

4. Determining Physical Infrastructure

In their transmission expansion plans, SPP and MISO weigh the distances involved and evaluate the economics of different voltages and numbers of circuits. Transmission lines with higher voltages and more circuits can carry more power, but are also more expensive. SPP faced this tradeoff in implementing two of the Priority Projects. SPP had studied the use of 765 kV lines to move larger amounts of power within the SPP region than would be possible with 345 kV lines.[62] However, a 345 kV-only portfolio produced better regional cost-benefit metrics and therefore was approved by SPP's Board of Directors.[63]

MISO also studies the appropriate voltage and circuit level to use in in its transmission expansion. In its 2006 transmission expansion plan, MISO initially examined a series of 765 kV transmission lines to improve access to low-cost and high-capacity factor wind generation.[64] However, in its 2011 planning process, MISO concluded that a preferable option was a build out primarily of double circuit 345 kV lines, with some single circuit 345 kV additions and one 765 kV line segment in Indiana.[65]

In developing the Project, Clean Line also analyzed the appropriate technology and voltage for the desired power levels. An initial economic analysis indicated that HVDC was clearly more economic than AC lines of any voltage in light of the power levels and distances involved.[66] A review of recently completed projects identified that DC voltages in the 500-600 kV level were most appropriate. Finally, a more detailed analysis of capital costs and electric losses concluded that 600 kV was the most appropriate voltage when considering power transfer levels, losses,

[60] SPP Priority Projects Phase II Final Report (April 27, 2010), p. 43.
[61] MISO Multi Value Project Portfolio Results and Analysis (January 10, 2012), p. 18.
[62] Charles River Associates, SPP WITF Wind Integration Study (January 4, 2010).
[63] SPP Priority Projects Phase II Final Report (April 27, 2010), p. 6.
[64] MISO Multi Value Project Portfolio Results and Analysis (January 10, 2012), p. 14.
[65] *Id.* at 81.
[66] Plains & Eastern Clean Line, Project Proposal for New or Upgraded Transmission Line Projects Under Section 1222 of the Energy Policy Act of 2005 (July 2010), p. 50-52.

and capital costs.[67] Clean Line's studies, like SPP's and MISO's, assured that the Project was consistent with the need to use the appropriate technology and voltage to economically achieve the goals of transmission expansion.

5. Considering Economic Development Implications

Both SPP and MISO seek to ensure that their transmission expansions result in economic development benefits for the region. In fact, both SPP and MISO have employed Brattle Group estimates to assess the economic impact of their proposed transmission expansions. The Brattle Group studies perform an economic impact assessment using IMPLAN and NREL's JEDI model.[68]

Clean Line performed a similar study, which was attached as Appendix 2 to its July 2010 Proposal to DOE. In addition, the Socioeconomics and Environmental Justice Technical Report that Clean Line submitted to DOE as part of the NEPA process extensively analyzes the employment impacts of the Project, which are further discussed in in Section 3.3.

6. Conducting Power Flow Analyses

In their transmission plans, SPP and MISO examine specific power flow cases to identify violations of reliability criteria that would require either additional transmission expansion or modifications of the proposed upgrades. For example, SPP's Transmission Working Group prepared a series of power flow analyses on the Priority Projects to determine whether this expansion either required additional reliability projects to meet the required NERC and regional standards, or whether the Priority Project actually eliminated other reliability projects that, absent the Priority Projects, were needed to meet the standards. MISO also performed steady state power flow analyses of the MVP projects to see if any NERC or regional reliability standards were affected.[69]

The Project has been the subject of comparable power flow analyses through its interconnection studies with SPP, MISO and TVA. As discussed below in Section 2.2.3, the interconnection studies monitored any violations of reliability planning standards and prescribed upgrades to remedy any violations. The reliability standards used in MISO and SPP transmission planning studies are consistent with and identical to those used in the interconnection studies performed by these entities regarding the Project.

7. Production Cost Modeling

SPP and MISO both use a production cost modeling software, PROMOD, to examine how proposed projects will affect the dispatch of their system. Specifically, the RTOs examine whether the points of injection of new wind power, together with the studied transmission expansion, result in any meaningful amount of curtailment of anticipated power flows. They also examine the extent to which the new transmission projects generate production cost

[67] See Confidential Appendix 2-F to this Part 2 Application.
[68] SPP Priority Projects Phase II Final Report (April 27, 2010), p. 39-40; MISO Multi Value Project Portfolio Results and Analysis (January 10, 2012), p. 7.
[69] MISO Multi Value Project Portfolio Results and Analysis (January 10, 2012), p. 42.

savings for SPP and MISO member utilities.[70]

Clean Line also conducted a similar analysis using PROMOD. An earlier version of this analysis was conducted with GE's Multi-area Production Simulation ("MAPS") and was included in the July 2010 Proposal to DOE.[71] Clean Line's production cost modeling shows that the Project results in minimal curtailment for the connected generators and substantial production cost savings. This is the same purpose for which SPP and MISO use production cost modeling in their transmission expansion plans. In Clean Line's updated analysis, attached as Appendix 2-G to this Part 2 Application, curtailment for the connected wind generation was reduced to a single hour of the year, in contrast to over 15% curtailment (an economically unfeasible level) for the same amount of wind generation if the Project is not built. The analysis also shows annual production cost savings of $540 million because of the Project. These savings arise because the Project's low-cost wind generation reduces the cost of the fuel purchases by utilities necessary to serve their load.

2.2.3 The Project is Consistent with the Reliability Standards of the Appropriate Regional Reliability Organizations

The planning criterion under Section 1222 is also met because the Project has been planned and studied under, and consistently with, the applicable reliable standards of the regional reliability organizations within which it will be located. SPP has been designated as the Regional Entity under Section 215 of the Federal Power Act for the adoption, implementation and enforcement of reliability standards within its boundaries.[72] Both MISO and the TVA system are within the region covered by the Southeastern Electric Reliability Corporation ("SERC"), which is designated by the Federal Energy Regulatory Commission ("FERC") as the Regional Entity under FPA, Section 215.[73]

Over the last five years, the Project has undergone detailed interconnection studies with SPP, MISO and TVA. These interconnection studies confirm that the Project's interconnection and coordinated operation with these systems will be in compliance with all applicable reliability standards of the appropriate regional reliability organization.

On the eastern end of the Project, TVA has studied the Project's 3,500 MW interconnection at the Shelby Substation near Memphis, Tennessee. TVA performed the interconnection study for the Project pursuant to its Large Generator Interconnection Procedures, which explicitly state that the Applicable Reliability Standards for those of study are "the requirements and guidelines of NERC, the Applicable Reliability Council, and the Control Area of the Transmission System."[74] Further confirmation of the SIS's use of SERC reliability criteria appears in the Project's SIS Agreement with TVA. In that agreement, TVA states, "The Study shall use good utility practice, engineering and operating principles, and standards, guidelines, and criteria of

[70] *See also* SPP Priority Projects Phase II Final Report (April 27, 2010), p. 10; MISO Multi Value Project Portfolio Results and Analysis (January 10, 2012), p. 50-53.
[71] *See* July 2010 Proposal to DOE, Appendix 3.
[72] SPP fulfills its NERC Regional Entity designation through its affiliate SPP Regional Entity.
[73] 16 U.S.C. §824o.
[74] TVA Large Generator Interconnection Procedures (January 19, 2007), p. 6. Available at: http://www.tva.gov/power/pdf/tva_lgips.pdf (last accessed on January 7, 2015).

TVA, the Southeastern Electric Reliability Council, and the North American Electric Reliability Council." TVA completed the SIS and is currently working on the Facility Study for the Project. In response to a DOE letter in 2012, TVA states, "The Project is by definition consistent with TVA's current reliability-based transmission expansion plans. TVA's [system impact study] Process detailed above requires that this be the case."[75]

On the western end of the Project, Clean Line has worked with SPP to ensure that the Project can reliably interconnect with SPP's grid and meet all applicable reliability criteria. The Project's interconnection studies with SPP were conducted using SPP Regional Entity reliability criteria. The criteria were developed through the SPP Regional Entity's role as a RRO designated by NERC.[76] The Project's SPP reliability studies were performed in conjunction with SPP staff as well as affected parties, including TVA. In November 2012, SPP's Transmission Working Group unanimously confirmed that the Project's reliability studies are "…consistent with SPP planning processes and [have] met their coordinated planning requirements under SPP Criteria…" The acceptance of these studies marked the successful conclusion of a study process that began in May 2010.

Further, as previously discussed in Section 1, DOE is studying, as part of the NEPA process, an alternative that would add an intermediate converter station to deliver 500 MW to the Entergy Arkansas 500-kV substation. Clean Line strongly supports the addition of this intermediate converter station. To further study this option, Clean Line submitted an interconnection request to MISO dated October 30, 2013. The request is for a 500 MW interconnection to Entergy Arkansas' existing the existing Arkansas Nuclear One-Pleasant Hill 500 kV AC transmission line. MISO completed a Feasibility Study of this request and provided a report on February 10, 2014. Applying applicable regional and local reliability requirements, MISO's Feasibility Study identified no transmission constraints or required upgrades based on the request. In the first quarter of 2015, the Project will enter MISO's Definitive Planning Phase ("DPP"), which is the final technical study required for the MISO interconnection.

MISO's generator interconnection procedures, which are also applicable to HVDC interconnections like the Project, are described in Attachment X to its Open Access Transmission Tariff. The interconnection procedures make explicit that the interconnection study must assure compliance with all applicable RRO transmission criteria and needs, stating:

> As a general matter, the Generating Facility is studied with the Transmission System at both off-peak and peak loads, under a variety of severely stressed conditions, to determine whether, with the Generating Facility at full output, the aggregate of generation in the local area can be delivered to the aggregate of load on the Transmission System or Distribution System, as applicable consistent with Applicable Reliability Standards.

The purpose of the MISO interconnection studies is to show that the proposed injection can be

[75] David Till, Letter to Lauren Azar, (February 16, 2012). David Till is the General Manager, Transmission Strategy of TVA.

[76] These criteria are available at http://www.spp.org/publications/Criteria%20and%20Appendices%20April%2025,%202011.pdf (last accessed on January 7, 2015).

accommodated in a manner that is consistent with Applicable Reliability Standards, which include the standards of "the Regional Entity of NERC applicable to the Local Balancing Authority of the Transmission System."

For the Project's interconnections with TVA, SPP and MISO, the applicable study processes identify any transmission needs (i.e., system upgrades or modifications) necessary to ensure that the interconnection of the facility is in compliance with governing reliability standards of SERC (the RRO for the Arkansas and Tennessee converter stations) or SPP (the RRO for the Oklahoma converter stations). The SERC and SPP regional reliability standards are the same standards that are used by TVA, MISO South and SPP in their regional planning processes. Once the Project's interconnection agreements are completed, the Project explicitly becomes incorporated into the regional transmission expansion plans of SPP, MISO and TVA. Future interconnections and transmission expansions will then be studied assuming the Project exists and considering its impacts on the grid. This will assure ongoing consistency between the Project and the reliability standards for the TVA, SPP and MISO transmission systems.

2.3 The proposed Project is consistent with efficient and reliable operation of the transmission grid

The Project is consistent with the efficient and reliable operation of the transmission grid because (1) the Project will be subject to appropriate reliability standards and oversight from NERC; (2) regional grid operators have applied federal and regional reliability standards to the Project throughout a process of rigorous interconnection studies; and (3) using HVDC to transport remote generation resources to load enters is a reliable and proven application of the technology. These factors are detailed below.

2.3.1 The Project Will be Subject to Appropriate Reliability Standards and Oversight

The Project will comply with applicable reliability standards adopted under Section 215 of the Federal Power Act. As such, the Project will meet the Section 1222(b) reliability criterion. In particular, Clean Line will be subject to reliability oversight under the Federal Power Act section 215(a)(4) when it begins operations. This allows NERC and its regional designee to monitor compliance with applicable reliability standards. Clean Line expects the applicable reliability functions to include those of a "Transmission Owner," a "Transmission Operator," and a "Transmission Service Provider." Depending on the nature of its arrangements with a third party or parties to operate the Project, Clean Line and/or its counterparties will become certified by NERC and register on the NERC Compliance Registry for the applicable functions. Some or all of the Transmission Operator or Transmission Service Provider functions may be assigned to a third party. Regardless, the Project facilities will be subject to applicable requirements of one or more NERC reliability standards in some or all of the following categories: Resource and Demand Balancing; Communications; Critical Infrastructure Protection; Emergency Preparedness and Operations Procedures; Facilities Design, Connections and Maintenance; Interchange Scheduling and Coordination; Interconnection Reliability Operations and Coordination; Modeling, Data, and Analysis; Personnel Performance, Training, and Qualifications; Protection and Control; Transmission Operations; Transmission Planning; and Voltage and Reactive Control.

Clean Line will accept NERC reliability responsibilities and oversight, including for Project transmission assets that may be owned by Southwestern. Clean Line will take all appropriate measures to become certified by NERC and to prepare for and comply with the requirements of the applicable reliability standards once it becomes operational. Such measures may include transactional delegation agreements and/or coordinated or joint registration options as allowed by NERC's Rules of Procedure. Clean Line will operate in accordance with all applicable NERC and regional reliability standards, including those of SPP and SERC. Clean Line will implement a 24-hour, 7 days-a-week control center staffed by NERC-certified operators, and it will be required to demonstrate compliance to NERC and RROs through audits and appropriate filings.

2.3.2 Grid Operators Have Applied Reliability Standards to the Project Through the Interconnection Study Process

Clean Line has already completed a host of detailed interconnection studies required by the relevant grid operators—in which applicable reliability standards have been used to assess the effects of the Project's integration with the interconnecting systems. Further, Clean Line must complete any additional interconnection studies required by the grid operators that have not yet been completed prior to operating the Project.

As detailed in Section 2.2.3 above, the Project has undergone a detailed series of interconnection studies that assure compliance and consistency with all NERC, regional transmission planning and other reliability standards. Because of the exhaustive nature of these processes, the Project is consistent with grid reliability.

2.3.3 HVDC Lines to Move Distant Generation Resources Are a Reliable and Proven Technology

The HVDC technology used for the Project is a proven technology that can be reliably operated as part of the Eastern Interconnection. HVDC technology has been used and proven in North America for several decades, with more than 30 HVDC installations dating back as far as 1968. Of the more than 30 projects, there are 11 HVDC transmission lines in North America that have a combined capacity of approximately 14,000 MW. The remaining HVDC projects are back-to-back HVDC converters, which function the same as an HVDC transmission line project except instead of overhead or underground lines connecting the rectifier and inverter, they are connected directly to each other within the same substation.

HVDC lines are a proven means to efficiently transfer power over long distances. The Pacific DC Intertie project is an 846 mile, ±500 kV HVDC line, which transmits 3,100 MW of power from the Pacific Northwest, with its vast hydro resources, to the Los Angeles area. This transmission line originally went into service in 1970 and was upgraded to its current capacity in 1989. The Pacific DC Intertie project is currently undergoing yet another upgrade, which will further increase its capability. The Intermountain Power Project ("IPP") is a 488 mile, ±500 kV HVDC transmission system, operated by the Los Angeles Department of Water and Power, which transports power from south of Salt Lake City, Utah into the Los Angeles Basin. In 2008, approval was obtained to upgrade the IPP HVDC line to a capacity of 2,400 MW.

Another example of long-distance HVDC lines to move a distant renewable resource can be

found in Canada, where the Nelson River Bipole connects hydroelectric resources in Northern Manitoba to the population centers in Southern Manitoba. The Nelson River projects have over 3,800 MW of capacity and traverse more than 550 miles. Currently, Manitoba Hydro is planning the addition of a third bi-pole to the Nelson River project. Finally, the Quebec-New England project, which delivers 2,000 MW over 932 miles from the southern Hudson Bay area in Quebec to near Boston, Massachusetts, was commissioned in 1990-1992. Quebec-New England was the first multi-terminal HVDC project in North America, and is partially owned and operated by National Grid USA ("National Grid"), a primary investor in Clean Line.[77]

Worldwide, HVDC applications are commonplace. For example, in India and China, there have been over 16 significant applications of the technology since the early 1990s. In China, alone, there are currently 11 operating HVDC projects with more than 35,000 MW of capacity, and there are plans to add an additional 33 HVDC projects totaling more than 217,000 MW of capacity over the next 20 years. India has over 10,000 MW of HVDC projects currently operational and over 6,000 MW in planning. Australia, New Zealand, Brazil, Japan and Europe have each installed large HVDC transmission projects since the late 1960s. Europe has plans for multiple HVDC projects to support major off-shore wind applications in the North Sea as well as around the United Kingdom. These numerous examples of successful HVDC lines, many moving power over long distances from distant generation resources, show that the Project can be implemented reliably.

2.4 The proposed Project will be operated in conformance with prudent utility practice

The Project will fully comply with the requirement for operation in conformance with prudent utility practice. While Section 1222 does not explicitly define "prudent utility practice," this term, in all material respects, is synonymous with the more commonly used term "Good Utility Practice."[78] The electric industry has a long history of applying a "good utility practice"

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[77] The most recent HVDC additions in the United States include the Neptune project, which transmits 660 MW over 65 miles, with nearly 50 miles underwater, and connects Long Island and New Jersey; and the Trans Bay Cable, a 53-mile, 400 MW project, which brings power underneath the bay into the San Francisco area. Other North American HVDC projects include the CU Powerline and Square Butte Projects which bring remote generating resources from North Dakota to Minneapolis, Minnesota and Duluth, Minnesota, respectively; and multiple back-to-back (no overhead line) HVDC projects between the various interconnections.

[78] *See, e.g., Model Form of Mortgage for Electric Distribution Borrowers, 7 C.F.R. Pt. 1718 (2014), Subpt B App. A ("Prudent Utility Practice* shall mean any of the practices, methods and acts which, in the exercise of reasonable judgment, in light of the facts, including, but not limited to, the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry prior thereto, known at the time the decision was made, would have been expected to accomplish the desired result consistent with cost-effectiveness, reliability, safety and expedition. It is recognized that Prudent Utility Practice is not intended to be limited to optimum practice, method or act to the exclusion of all others, but rather is a spectrum of possible practices, methods or acts which could have been expected to accomplish the desired result at the lowest reasonable cost consistent with cost-effectiveness, reliability, safety and expedition.").

See also New York Public Authorities Law § 1020-b, Definitions ("Prudent utility practices' at a particular time means any of the practices, methods, and acts, which, in the exercise of reasonable judgment in light of the facts (including but not limited to the practices, methods and acts engaged in or approved by a significant portion of the gas or the electrical utility industry, as the case may be, prior thereto) known at the time the decision was made, would have been expected to accomplish the desired result at the lowest reasonable cost consistent with

standard to the operation of transmission facilities. This term is defined in FERC's *pro forma* Open Access Transmission Tariff ("OATT") (Section 1.15) as:

> Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region, including those practices required by Federal Power Act section 215(a)(4).

The SPP OATT and TVA Transmission Service Guidelines employ the same definition as set forth in the *pro forma* OATT; the MISO OATT contains minor wording differences but uses this definition in all material respects.

The *pro forma* OATT imposes specific requirements related to Good Utility Practice as part of several areas of operations: interchange, electric frequency, reserves (Section 1.7); curtailment of service (Sections 13.6, 14.7 and 33.5); expansion of facilities (Section 15.4); providing data to transmission customers and other utilities (Sections 16.2, 21.1, 30.6); maintaining power factor (Section 24.3); and general planning, construction operation and maintenance (Section 28.2). The obligation to conduct transmission operations consistent with Good Utility Practice, including in the core areas of operations identified in the *pro forma* OATT, is also applied in the SPP[79] and MISO[80] OATTs and in the TVA[81] Transmission Service Guidelines.

Application of Good Utility Practice to the operation of the Project will occur through a number of means. First, as part of its application for negotiated rate authority before FERC,

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reliability, safety and expedition. Prudent utility practice is not intended to be limited to the optimum practice, method or act, to the exclusion of all others, but rather to be a spectrum of possible practices, methods or acts. In evaluating whether any matter conforms to prudent utility practice, the parties shall take into account the fact that the authority is a corporate municipality of the state with the statutory duties and responsibilities thereof.")

[79] Southwestern Power Pool Open Access Transmission Tariff, Sixth Revised Volume No. 1 (December 1, 2014) – interchange, electric frequency, reserves (Section 1.B); definition of good utility practice (Section 1.G); curtailment of service (Sections 13.6, 14.7, and 33.5); expansion of facilities (Section 15.4); providing data to transmission customers and other utilities (Sections 16.2, 21.1, and 30.6); maintaining power factor (Section 24.3); general planning, construction operation and maintenance (Section 28.2); and installation of interconnection equipment (Section 29.3).

[80] MISO Open Access Transmission Tariff (November 9, 2013) – interchange, electric frequency, reserves (Section 1.B); definition of good utility practice (Section 1.G); curtailment of service (Sections 13.6, 14.7, 27A, and 33.5); expansion of facilities (Section 15.4); providing data to transmission customers and other utilities (Sections 16.2, 21.1, and 30.6); maintaining power factor (Section 24.3); general planning, construction operation and maintenance (Section 28.2); and installation of interconnection equipment (Section 29.3).

[81] TVA Transmission Service Guidelines 2014 Edition – definition of good utility practice (Section 1.19); interchange, electric frequency, reserves (Section 1.9); curtailment of service (Sections 13.6, 14.7, and 33.5); expansion of facilities (Section 15.4); providing data to transmission customers and other utilities (Sections 16.2, 21.1 and 30.6); maintaining power factor (Section 24.3); general planning, construction operation and maintenance (Section 28.2); and installation of interconnection equipment (Section 29.3).

Clean Line committed that service over its facility will be governed by an OATT filed by Clean Line or the governing OATT of an RTO that has assumed functional control over the facility.[82] Importantly, under either scenario, operation of the Project will be in accordance with an OATT that has been filed with, and approved by, FERC. Moreover, as FERC must determine that the proposed OATT is consistent with or superior to its *pro forma* OATT, such OATT must incorporate provisions addressing compliance with the Good Utility Practice standard.

Application of the Good Utility Practice to operations of the Project also will occur through its interconnection agreements with the SPP, MISO and TVA systems. As discussed above, the SPP and MISO OATTs and the TVA Transmission Service Guidelines contain a definition of Good Utility Practice that is identical to or materially the same as the definition in the *pro forma* OATT. Furthermore, the standard interconnection agreements adopted by SPP, MISO and TVA each indicate that the parties thereto shall perform their obligations in accordance with a performance standard that incorporates the concept of Good Utility Practice[83]:

> Each Party shall perform all of its obligations under this LGIA in accordance with Applicable Laws and Regulations, Applicable Reliability Standards, and Good Utility Practice, and to the extent a Party is required or prevented or limited in taking any action by such regulations and standards, such Party shall not be deemed to be in Breach of this LGIA for its compliance therewith.

Therefore, Clean Line will be contractually bound to carry out Good Utility Practice with respect to its interconnection with the SPP, MISO and TVA systems.

A final measure by which operation of the facilities will be consistent with Good Utility Practice (and consequently consistent with prudent utility practice) is through agreements by which functional control over the Project will be conducted. Prior to energization of the Project, it will turn over functional control of the Project to an RTO or other existing third-party transmission operator. Such a transfer of functional control will ensure that the Project is operated by an independent party experienced with Good Utility Practice. Further, the customary practice for the transfer of functional control of transmission facilities includes the execution of an agreement between the transmission owner (i.e., Clean Line) and the RTO or third-party transmission operator. Such agreement will necessarily include an obligation for the entity holding functional control over the facilities to conduct such operations consistent with Good Utility Practice, the applicable OATT, all mandatory reliability rules and any other applicable rules and regulations.[84]

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[82] 148 FERC ¶ 61,122, Docket No. ER14-2070-000 (2014).

[83] The SPP and MISO LGIAs contain a performance standard identical or similar to the text quoted above; the TVA Standard Large Generator Interconnection Procedures do not contain this express language but do reflect the same concept.

[84] Agreement of the Transmission Facilities Owners to Organize the MISO, a Delaware Non-Stock corporation, Article Three, Section I.A ("Functional Control"), which states that "each of the Owners authorizes MISO to exercise functional control over the operation of the Transmission System as necessary to effectuate transmission transactions administered by MISO. Such control shall be exercised in accordance with Good Utility Practice and shall conform to applicable reliability guidelines, policies, standards, rules, regulations, orders, license requirements and all other requirements of NERC, applicable Regional Entities, or any successor organizations, each Owner's specific reliability requirements and operating guidelines, and all applicable requirements of federal or state laws or

Clean Line will meet its obligations to operate the Project consistent with prudent utility practice through qualified staff, led by Dr. Wayne Galli, who was head of Operations Engineering at SPP. Clean Line's staff qualifications are detailed in Section 7.d. Further, as detailed in the letter from National Grid President Tom King, attached as Appendix 2-H, National Grid is supporting the safety and operations plans of the Project. National Grid is one of the world's largest transmission owners, has particular experience with HVDC systems, and complies with Good Utility Practice under FERC and NERC supervision with respect to its numerous existing U.S. transmission lines.

Through adoption of an OATT, compliance with its Interconnection Agreements and agreements addressing the transfer of functional control to an RTO or third-party transmission operator, the Project will be operated under Good Utility Practice obligations. The Project will also be consistent with applicable reliability rules and other operational standards required for coordination with the SPP, MISO and TVA systems. Accordingly, DOE can conclude that the Project will be operated with prudent utility practice.

2.5 The proposed Project will be operated by, or in conformance with the rules of, the appropriate Transmission Organization, if any; or if such an organization does not exist, regional reliability organization

Clean Line meets this Section 1222(b) criterion because its operations will provide open access transmission service under FERC oversight, and this service will be coordinated with the SPP, MISO and TVA systems through interconnection and seams agreements and in compliance with applicable reliability standards (as detailed in Section 2.2.2). As described above in Section 2.4, Clean Line will provide transmission service under a FERC-approved OATT. As a condition of its negotiated rate authority, Clean Line has agreed to allow an RTO or similar entity to exercise functional control over the Project and to administer Clean Line's OATT, including new requests for service and interconnection applications. Clean Line will have seams agreements in place with MISO, SPP and TVA that govern the relationship with those entities. Finally, as described in Section 2.3.1, Clean Line will be the registered Transmission Owner and/or Transmission Operator registered with NERC and the appropriate Regional Entities—and the Project will be operated consistent with all applicable reliability standards.

2.6 The proposed Project will not duplicate the functions of existing transmission facilities or proposed facilities which are the subject of ongoing or approved siting and related permitting proceedings

The Project will not duplicate any existing or proposed transmission facilities. In fact, the Project would be the first HVDC transmission facility providing interregional transmission

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regulatory authorities." *See also* SPP Membership Agreement, Section 2.1.1, which states that "SPP shall schedule transactions and administer transmission service over Tariff Facilities as necessary to provide service in accordance with the SPP OATT. SPP shall function in accordance with Good Utility Practice and shall conform to applicable reliability criteria, policies, standards, rules, regulations, guidelines and other requirements of SPP and NERC, Transmission Owner's specific reliability requirements and operating guidelines (to the extent these are not inconsistent with other requirements specified in this paragraph), and all applicable requirements of Federal and state regulatory authorities."

capacity for the purpose of delivering wind energy from SPP into both MISO South and TVA. In doing so, the Project spans three transmission planning regions: SPP, MISO, and Southeastern Regional Transmission Planning ("SERTP") (of which TVA is a sponsor). As explained above, the Project is designed to fulfill a recognized need for west-to-east transmission capacity that will enable delivery of over 4,000 MW of low-cost wind generation from new wind development in the Oklahoma Panhandle Region to customers in the Mid-South and Southeast.

While SPP and MISO have undertaken some expansion of their transmission systems to accommodate wind energy development as part of their intra-regional planning assessments, these additions do not render the Project duplicative in any way. The primary wind-related transmission developments are the Priority Project Portfolio in the SPP footprint and the MISO MVP Projects located in MISO North. SPP's Priority Project Portfolio is a group of six transmission projects approved by the SPP Board of Directors in April 2010. Of these six projects, only one line, the Hitchland-Woodward project, is within the vicinity of the Project. The Hitchland-Woodward project is a double-circuit 345 kV, AC facility that allows for deliverability of wind energy to sources within the SPP footprint. However, neither Hitchland-Woodward nor any of the other Priority Project Portfolio improvements were designed to increase transmission capacity for interregional transmission into MISO or elsewhere.

The MISO MVP Projects were approved in 2011 and focus on improving access to wind energy within the MISO North, Central and East footprint, which does not include Arkansas or other areas of MISO South. The MISO MVP Projects are a portfolio of 17 new transmission lines that will allow for integration of wind energy into the MISO North, Central and East region.[85] Sixteen of the MISO MVP Projects are rated at 345 kV, and a single project is rated at 765 kV (the Reynolds-Greentown line in Indiana). All are AC transmission facilities. None of the MISO MVP Projects is located in the areas that will be served by the Project.

Both MISO and SPP's transmission expansion plans have implemented only AC projects that expand the deliverability of low-cost wind power within the boundaries of those regions. This is not surprising given the focus of the SPP and MISO planning processes and the known difficulty in implementing interregional planning. At a fundamental level, the SPP and MISO planning processes focus on identification of transmission needs and solutions within their respective footprints. Thus, these intra-regional plans are not intended to identify and adopt interregional projects. Moreover, the development of a coordinated interregional planning process between SPP, MISO and other regions is the subject of ongoing FERC proceedings that are far from completion.

The Project also would not duplicate any existing transmission facilities or expansions underway in the Southwestern service territory, TVA system or the SERTP region. Southwestern owns and maintains 1,380 miles of high voltage alternating current transmission lines, none of which interconnect with TVA.[86] Further, the Southwestern transmission system does not include any direct current facilities or any lines with voltages above 161 kV. Finally, it should be noted that

[85] MISO Multi Value Project Portfolio Results and Analyses (January 10, 2012), available at: https://www.misoenergy.org/Library/Repository/Study/Candidate%20MVP%20Analysis/MVP%20Portfolio%20Analysis%20Full%20Report.pdf.

[86] Southwestern Power Administration 2013 Annual Report, p. 5. Available at: http://www.swpa.gov/PDFs/ARs/SWPA_FY2013_annual_report.pdf (last accessed on January 7, 2014).

in its 2013 Strategic Plan, Southwestern discussed future transmission investments and stated that "Southwestern will utilize statutory authorities, such as Section 1222 of the Energy Policy Act of 2005 ("EPAct 2005"), to facilitate transmission improvements that satisfy the requirements of such statutory authorities." While this does not predetermine a decision on eligibility of the Project under Section 1222 or any final participation decision, the potential for transmission investments pursuant to Section 1222 is consistent with and contemplated by Southwestern's Strategic Plan.

In addition to avoiding duplication of existing or planned facilities, the Project also provides benefits to Southwestern's customers. As noted above, one of Southwestern's preference customers, the East Texas Electric Cooperatives, has entered into a Letter of Intent to participate in the Project. Such participation may include ownership of a portion of the Project's transmission facilities in Oklahoma as well as up to 50 MW of transmission capacity. Many of Southwestern's customers also could benefit from the low-cost wind power delivered by the Project. This is particularly true of the interim converter station in Arkansas, which will connect with the MISO South system, in which many Southwestern customers are located and therefore have ready access to buy power delivered to the MISO South system.

In a similar vein, no duplication of TVA existing system facilities or planned facilities will occur as a result of this Project. TVA has specifically confirmed the Project's non-duplication of facilities:

> …the Project in no way duplicates any function of existing transmission facilities within TVA's system….The Project does not duplicate the function of other proposed projects in that no other project of which TVA is aware shares similar source and sink terminal locations. The Project does share function with other project(s) only in that multiple projects intend to fill a perceived need of moving energy from the nation's wind-richest corridor to the east. As stated, TVA sees no strict duplication or conflict between the Project and others.[87] (emphasis added)

A further distinguishing factor between the Project and other existing or planned transmission facilities is that the Project will not face one of the most critical barriers to the development of interregional projects — disputes over cost allocation. The merchant business model of the Project distinguishes it from the cost allocation construct and potential stalemates that otherwise can hinder interregional transmission expansions. Under the merchant model, the costs of the Project will be recovered solely from specific users of the line pursuant to Clean Line's negotiated rate authority. On the other hand, the MISO and SPP intra-regional transmission plans study the need for and approve only cost-allocated projects paid for through the socialized transmission rates of the RTO. Further, under the broad construct for interregional planning as adopted by FERC, cost allocation of interregional projects must be roughly commensurate with the benefits received and all regions must agree to an allocation methodology for specific interregional projects. This framework creates the significant potential for a stalemate in which interregional projects are delayed by protracted negotiations and disputes over the overall costs to be borne by one region or another.

[87] David Till, Letter to Lauren Azar (February 16, 2012).

Recognizing the limitations of regional transmission planning, FERC's Order No. 1000 implemented a requirement for interregional planning coordination between adjacent transmission planning regions.[88] The implementation of Order No. 1000 is still in its early stages, and has not resulted in any ongoing permitting proceedings for interregional transmission expansion between SPP, MISO and TVA to enable more low-cost renewable energy. Planning coordination between two adjacent regions, as required by Order 1000, is also highly distinct from the Project, which links three transmission regions with a single transmission line.

TVA is not FERC-jurisdictional and therefore has not made, and is not required to make, any FERC Order No. 1000 compliance filings. Order No. 1000 only requires adjacent transmission regions to enter into interregional plans. Even if it elected to participate voluntarily in interregional planning efforts, TVA does not have a seam or adjacent territory to SPP. An interregional plan encompassing the three regions spanned by the Project is therefore well beyond the scope of Order No. 1000. In light of the limitations of Order No. 1000 and the early stages of its implementation, the Project does not duplicate any ongoing interregional planning efforts. Order No. 1000 interregional planning between adjacent regions will not replicate a merchant transmission line like the Project that spans three regions and includes a non-jurisdictional transmission system.

[88] Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, Order No. 1000, FERC Stats. and Regs., Regulations Preambles 2008-2013 ¶ 31,323 (2011), order on reh'g , Order No. 1000-A, 139 FERC ¶ 61,132 (2012), order on reh'g, Order No. 1000-B, 141 FERC ¶ 61,044 (2012), aff'd sub nom. S.C. Pub. Serv. Auth. v. FERC, 762 F.3d 41 (D.C. Cir. 2014).

3 Federal Register Notice Criteria

Explain how the proposed project meets and should be evaluated under the Federal Register criteria.

In its issuance of the Request for Proposals in the Federal Register, DOE stated that:

> If a proposed Project meets the eligibility requirements, DOE and the relevant PMA will conduct an initial evaluation of the eligible Project Proposals, considering criteria including, but not limited to, the following:
>
> 1. Whether the Project is in the public interest;
>
> 2. Whether the Project will facilitate the reliable delivery of power generated by renewable resources;
>
> 3. The benefits and impacts of the Project in each state it traverses, including economic and environmental factors;
>
> 4. The technical viability of the Project, considering engineering, electrical, and geographic factors; and
>
> 5. The financial viability of the Project.

The Plains & Eastern Project meets each of these criteria as set forth below.

3.1 The Project Promotes the Public Interest

The Project meets a clear need for new transmission capacity to connect some of the nation's best and most cost-effective wind generation resources in the Oklahoma Panhandle region to markets in the Mid-South and Southeast that need low-cost, clean power. By modernizing transmission infrastructure for the secure and reliable delivery of affordable energy—the stated purposes of EPAct 2005 and Section 1222—the Project promotes the public interest.

In implementation of federal programs and statutes, the "public interest" reflects the context in which it is employed. In a seminal decision on this point, *NAACP v. Federal Power Commission*, the Supreme Court explained that

> …the use of the words 'public interest' in a regulatory statute is not a broad license to promote the general welfare. Rather, the words take meaning from the purposes of the regulatory legislation.[1]

While, here, the public interest is used within the context of an RFP, not a federal statute, the same guiding principle applies. In evaluating whether the Project promotes the public interest under the Federal Register Evaluation Criteria, DOE can and should look to the purposes of EPAct 2005 and particularly the purposes of Section 1222 for guidance.

The purpose of EPAct 2005, as simply stated in the Conference Report adopting the final

[1] 425 U.S. 662, 669 (1976).

legislation, was to "ensure jobs for our future with secure, affordable and reliable energy."[2] To that end, as part of the EPAct 2005 Electricity Title, Congress enacted a series of revisions to Part II of the Federal Power Act focused on "Transmission Infrastructure Modernization" and created Section 1222 and other new authorities to expand transmission infrastructure. Consistent with the purposes of EPAct 2005, Section 1222 creates new authority for the Secretary to "design, develop, construct, operate, maintain, or own, or participate with other entities in designing, developing, constructing, operating, maintaining, or owning, an electric power transmission facility and related facilities." Within the context of the purposes of EPAct 2005 and Section 1222, the public interest means the modernization of transmission infrastructure in a manner that increases access to secure, affordable and reliable energy.

These two elements—modernizing transmission infrastructure and ensuring jobs for our future through secure, affordable and reliable energy—form the core purposes of EPAct 2005 and Section 1222. The same two elements also form the core purpose of the Plains & Eastern Project. The Project promotes the public interest in modernization of transmission infrastructure and the delivery of secure, affordable and reliable energy through a number of means, which are summarized below and detailed within this Part 2 Application and other information that Clean Line has provided to DOE:

- The Project will enable over 4,000 MW of new wind turbines in the Oklahoma Panhandle region that could not otherwise be built. (Section 1)
- These wind turbines can generate energy for less than half the cost of wind and solar in the Mid-South and Southeast. (Section 2.1, Appendix 6-B)
- Since 2009, TVA and other Mid-South and Southeastern utilities have purchased over 3,600 MW of wind power from the central United States. (Section 2.1)
- Transmission constraints on the existing grid limit the number of additional wind power purchases that are possible. (Section 2.1.4)
- The Project will reliably deliver 18-21 million MWh of clean energy to Arkansas and Tennessee. (Sections 3.3.3 and 3.3.4)
- TVA and other load serving entities have expressed specific interest in the Project as a means to meet their need for low-cost renewable power. (Section 2.1.3)
- The Project's delivered energy, including the cost of generation and transmission, will be less than any other renewable resources in the Mid-South and Southeast, and very competitive with new natural gas generation. (Appendix 6-B)
- The Project can cost-effectively help TVA and the states of North Carolina and Virginia meet renewable or carbon-free energy statutes and goals. (Section 2.1.3)
- The Project will reduce utilities' cost to procure coal, natural gas and other fuels, and their other variable production costs, by $540 million annually. (Appendix 2-G)
- The energy delivered by the Project has no fuel cost volatility and is not exposed to commodity shocks or natural gas pipeline limitations. (Section 2.1.3)

[2] Energy Policy Act of 2005 Conference Report, H.R. Rep. No. 109-190 at p. 1 (July 27, 2005).

- Acknowledging the importance of low-cost, clean electricity for economic development, the City of Memphis, the Shelby County Commission and the Board of Memphis Light Gas & Water support the Project. (Section 2.1.3)
- The Project will substantially reduce water usage for power plant cooling and reduce emissions of mercury, sulfur dioxide and nitrogen oxide, which threaten public health and air quality. (Appendix 2-G)
- The Project will reduce carbon dioxide emissions by an estimated 13 million tons annually. (Appendix 2-G)
- The Project addresses a need for interregional transmission capacity that cannot be addressed by the existing transmission planning programs within SPP, MISO and TVA. (Section 2.6)
- By providing a substantial amount of new interregional transmission capacity, the Project will modernize the U.S. grid that has evolved primarily as a result of local and regional transmission planning. (Section 2.1)
- The Project will comply with all applicable federal and regional reliability requirements, as confirmed by a series of multiyear technical studies. (Section 2.2.3)
- HVDC is the most efficient and appropriate technology to move large amounts of power over long distances. (July 2010 Proposal to DOE, p. 49)
- Relative to comparable AC lines, HVDC has lower losses and allows the operator complete control of energy flows. (*Id.*)
- HVDC lines have a number of additional reliability benefits to the system, because they are not overloaded by unrelated outages, complement existing AC networks without contributing to short circuit current power, and can dampen power oscillation (*Id.*)
- The Project would be the first overhead, long-distance HVDC project to be built in the United States in over 20 years, while China, India, Brazil and Canada have all recently constructed overhead, long-distance HVDC lines to connect remote generation resources and have dozens more of such projects under development. (Section 2.3.3)

The above list is not an exhaustive catalogue of the Project's benefits that serve the public interest through the secure, affordable, and reliable delivery of energy and modernization of transmission infrastructure. As detailed in Section 3.3 below, the Project also supports the EPAct 2005 goal of ensuring jobs because the Project will create thousands of construction and manufacturing jobs, and hundreds of permanent operations and maintenance jobs. The Project will advance important government policy objectives, including providing a low-cost option for compliance with EPA plans to enforce the Clean Air Act and allowing more Americans to enjoy the benefits of the nation's outstanding wind resource in the Great Plains region. Because the Project reliably delivers affordable energy and modernizes transmission infrastructure, DOE can and should find that the Project promotes the public interest.

3.2 The Project Facilitates the Reliable Delivery of Renewable Resources

Clean Line is developing the Project in order to facilitate the reliable delivery of low-cost wind energy from the Oklahoma Panhandle region to the Mid-South and Southeast. The Project begins in an area with plentiful and low-cost wind resource, uses appropriate and reliable HVDC technology, and delivers low-cost clean energy to where it is needed. There is a broad record of support for the fact that the Project facilitates the reliable delivery of renewable resources, which is summarized below and detailed elsewhere in materials submitted to DOE:

- The Project will allow over 4,000 MW of wind generation in the Oklahoma Panhandle region to connect to its western converter station through a series of AC collector lines. (Section 1, Chapter 2 of the Draft EIS)
- The Oklahoma Panhandle region has an abundant resource of low-cost wind energy. DOE's National Renewable Energy Laboratory has estimated Oklahoma has 267,000 MW of high capacity factor wind potential. (July 2010 Proposal to DOE, p. 7)
- Within 40 miles of the proposed converter station, there are over 1 million acres of wind zones that can accommodate over 8,000 MW of new generation. (Section 2.5.1 of the Draft EIS and *Wind Generation Technical Report*, Section 1.2)
- In response to Clean Line's Request for Information ("RFI"), wind generators advancing over 16,000 MW of projects in the region responded with interest in the Project. (Section 2.1.2)
- Wind generators can produce electricity in the Oklahoma Panhandle region for a very low cost. The lowest-priced 4,000 MW of responses to Clean Line's RFI reported an average price of 2.4 cents per kWh. (Section 2.1.2)
- Capacity factors (a measure of wind turbine efficiency) in the Oklahoma Panhandle region are among the highest in the country. The lowest-priced 4,000 MW of responses to Clean Line's RFI reported a projected average capacity factor of 51%.
- The variability of the wind resource in the Oklahoma is small compared to the variability already managed today by TVA and other neighboring utilities. (July 2010 Proposal to DOE, p. 31-32)
- HVDC is commonly used in North America and around the world to transmit remote energy resources to load centers reliably. (Section 2.3.3)
- The regional grid operators with which the Project will interconnect have conducted detailed interconnection studies to assure compliance with all applicable reliability standards. (Section 2.2.3)
- The Project will deliver 3,500 MW of low-cost power to TVA, which has identified up to 2,500 MW of renewable power as part of its most recent integrated resource plan. (Section 2.1.3)
- The Project may also deliver 500 MW of low-cost power to a proposed converter station in Arkansas, which can also benefit from affordable wind energy (Section 3.3.3)

These numerous factors show that there is no doubt that the Project facilitates the reliable delivery of renewable resources.

3.3 The Project Provides Substantial Benefits to Each State it Traverses and Avoids and Minimizes Environmental Impacts

3.3.1 Clean Line Will Avoid and Minimize Environmental Impacts, which have been Thoroughly Studied in the Draft EIS

Consistent with the RFP evaluation criteria, Clean Line will construct and operate the Project in a manner that avoids or minimizes adverse environmental effects. DOE analyzed the potential environmental impacts of the Project in its Draft EIS.

In the Draft EIS, DOE evaluates the potential direct, indirect, and cumulative impacts of the Project on environmental resources, including features of the natural environment (e.g., wetlands, streams, and geological features) and matters of social, cultural, and economic concern. The Draft EIS includes analysis of potential effects on a segment-by-segment basis in order to enable the DOE to understand the varying potential environmental impacts of the Project on different regions within Oklahoma, Arkansas, Tennessee, and (with respect to the AC collector system) Texas. The scope of this evaluation included not only the Applicant Proposed Route but also an analysis of alternative HVDC routes and a "no action" alternative. Further, DOE analyzed the effects of wind generation that will be interconnected to, and deliver energy over, the Project as a connected action. Altogether, DOE evaluated a total of three converter stations; 13 AC collection system routes (ranging in length from 13 to 56 miles each); approximately 720 miles of HVDC transmission line for the Applicant Proposed Route and another approximately 1,125 miles of HVDC transmission line for the alternative routes; access roads; temporary construction areas; 64 environmental protection measures; and other features associated with the Project (such as right-of-way, communications regeneration stations, and transmission structures).

DOE's analyses of potential beneficial and adverse effects of the Project are primarily presented in Chapters 3 and 4 of the Draft EIS and supporting maps and appendices. Notably, in its Draft EIS, DOE concluded as follows:

> While the relative importance of specific environmental resource areas varies by individual (some members of the public or agencies value certain resources over others), the Plains & Eastern EIS did not identify widespread, major impacts as a result of construction or operations of the Project. Implementation of the environmental protection measures that the Applicant has included as an integral part of the Project would avoid or minimize the potential for major environmental effects to the affected resources.[3]

As noted in the Draft EIS, Clean Line has proposed to DOE that it will implement 64 project-specific environmental protection measures to avoid and/or minimize adverse effects to

[3] U.S. Department of Energy, Draft *Environmental Impact Statement for the Plains & Eastern Clean Line Transmission Line Project* (December 2014), Summary, p. S-73.

environmental resources from construction, operations and maintenance, and/or decommissioning of the Project. Clean Line will designate certain areas as "environmentally sensitive," and take actions to avoid and/or minimize adverse effects on these areas. Environmentally sensitive areas may include, for example, wetlands, certain water bodies, cultural resources, or wildlife habitat. Clean Line's environmental protection measures are described in Appendix B of the Project Description and discussed in Chapter 3 of the Draft EIS. Before the Project begins construction, Clean Line also will develop and implement a number of environmental management plans, including (but not limited to) a Transportation and Traffic Management Plan, a Stormwater Pollution Prevention Plan, a Transmission Vegetation Management Plan and an Avian Protection Plan. These plans are described in detail in Appendix F of the Draft EIS.

In addition to the project-specific environmental protection measures and plans described above, Clean Line maintains corporate policies that set principles and broad goals to guide sustainable business practices on all of its projects. For example, Clean Line's Agricultural Impact Mitigation Policy articulates concerns and addresses issues associated with electric transmission line development on agricultural lands and sets forth a general approach to preserve the utility and productivity of these lands. Clean Line's Avian Program describes Clean Line's commitment to implement current industry suggested practices and recommended guidelines to make transmission systems safer for avian species.

Clean Line's environmental protection measures, protection plans and corporate policies minimize potential impacts along the Project's route through a number of means, including:

- Minimizing the clearing of vegetation within the ROW.
- Minimizing the impact on existing land uses (e.g., oil/gas wells, private lands, agricultural areas, pastures, hunting leases)
- Minimizing the impacts on existing structures and operations from site access roads and temporary work areas;
- Making efforts, where consistent with engineering design requirements, to accommodate reasonable requests from individual landowners to adjust the location of the right-of-way and transmission structures on their properties.

In addition to the impacts described in the Draft EIS, DOE can take note of the benefits for Oklahoma, Arkansas and Tennessee discussed below. As part of its development process, Clean Line has assured that each state within the Project's footprint realizes substantial benefits from its construction and operation.

3.3.2 Benefits and Impacts to Oklahoma

Within Oklahoma, the Project will have an AC collection system, its western converter station, and approximately 427 miles of the HVDC line. The Project will enable the construction of over 4,000 MW of new wind turbines that could not otherwise be built due to transmission constraints. Manufacturing and installing these new wind turbines will create thousands of jobs for Oklahomans and increase local and state tax revenues. The Project's economic benefits to Oklahoma were recognized by Governor Mary Fallin in her letter to Secretary of Energy Moniz

asking DOE to proceed with the Project under Section 1222. "The development, construction, and operation of the transmission line and affiliated generation facilities will be transformational for Oklahoma's panhandle region," Governor Fallin stated, "where there are vast wind resources but few wind turbines because of the lack of transmission."[4]

In October 2011 the Oklahoma Corporation Commission found that Plains and Eastern Clean Line Oklahoma LLC met all of the legal requirements for a public utility.[5] The Commission's Order also stated that it is the legislative intent of State of Oklahoma to promote the development of wind energy resources for "both the people of the state and the nation as a whole," to be "utilized in every part of the state and exported to other states."[6]

The construction of the converter station and HVDC line for the Project also will result in a substantial economic benefit to Oklahoma. The economic impacts of the Project are analyzed in the Socioeconomics and Environmental Justice Report submitted to DOE.[7] The construction of the transmission line in Oklahoma would result in an estimated 1,060 jobs, consisting of 572 direct jobs and 488 indirect and induced jobs.[8] The construction of the converter station in Oklahoma would result in 256 jobs, consisting of 138 direct jobs and 118 indirect and induced jobs.[9]

In order to maximize the economic benefit to the states within the Project's footprint, Clean Line is committed to sourcing local labor and equipment wherever possible and economically competitive. In Oklahoma, Clean Line has entered into an agreement with Pelco Structural LLC ("Pelco") to be a preferred supplier for the Project's tubular steel transmission structures. Under the agreement, Pelco will supply structures from its facility in Claremore, Oklahoma, which employs approximately 100 individuals. In addition, Pelco makes its engineers available to aid Clean Line in the design of structures and ongoing development efforts.

Importantly, all of the economic benefits from the Project can accrue to the state of Oklahoma without any cost allocation under a regional transmission tariff or increase in transmission rates. Under the Project's shipper-pays or merchant business models, only specific users of the line will pay for service. Therefore, the Project will not increase transmission rates or retail electric rates in Oklahoma, while still providing the economic benefits of new wind farm construction and a major infrastructure project.

3.3.3 Benefits and Impacts to Arkansas

In Arkansas, the Project is expected to traverse over 270 miles. In addition to the HVDC

[4] Letter from Governor Fallin to Secretary Moniz (June 13, 2013). Attached as Appendix 3-A to this Part 2 Application.
[5] Order No. 590530, Cause No. PUD 201000075, *In the Matter of the Application of Plains and Eastern Clean Line LLC, to Conduct Business as an Electric Utility in the State of Oklahoma.*
[6] Order No. 590530, Cause No. PUD 201000075, *In the Matter of the Application of Plains and Eastern Clean Line LLC, to Conduct Business as an Electric Utility in the State of Oklahoma.*
[7] *Socioeconomics and Environmental Justice Technical Report for the Plains and Eastern Transmission Line Project* (December 2013). Prepared for the Department of Energy pursuant to 10 CFR 1021.215(b)(2). Available in reference CD.
[8] *Id.* at 128.
[9] *Id.* at 125.

transmission line, Clean Line strongly supports the inclusion of the intermediate converter station in central Arkansas as an integral part of the overall Project. The Arkansas converter station would deliver 500 MW of low-cost wind power to the state. This converter station is under review as an alternative as part of the NEPA review process. MISO has also completed the first stage of interconnection studies on this proposed intermediate converter station, and it will be included in the next cycle of MISO's Definitive Planning Phase.

Transmission customers have demonstrated substantial interest in delivering wind energy to the Arkansas converter station. As part of its open solicitation for transmission capacity, Clean Line received transmission service requests to Arkansas for nearly four times the proposed 500 MW size of the converter station. Arkansas would benefit from the low-cost, wind energy delivered by the Project. This energy is lower cost than energy from other renewable resources and even new thermal power plants under most future scenarios (Appendix 6-B). The Project would allow load serving entities in Arkansas to access utility-scale renewable sources at prices that would keep electric rates low and provide significant environmental benefits.

As of November 2014, Arkansas had no local utility-scale electricity wind or solar generation installed in the state.[10] Arkansas currently relies on coal power for over 54% of its electric power generation.[11] Responding to the need to diversify its generation portfolio, the largest investor-owned utility in the state, Entergy Arkansas, recently issued a request for proposals from renewable energy resources. Entergy requested that proposals consist of renewable generation with online dates between 2015 and 2020, which is consistent with the online date of the Project. Recognizing the potential benefits to ratepayers of the municipal utility, the Mayor of North Little Rock in 2012 supported the development of the Project as a way to provide Arkansas with low-cost clean energy. (Appendix 2-E)

Under EPA's proposed Clean Power Plan, Arkansas would be required to reduce its carbon emissions rate from electric generation by 44%. Arkansas' emissions reduction target was calculated, in part, based on a renewable energy target of 20% of total electric generation, which would require substantial additional investments in the purchase and delivery of renewable energy. The Project would offer Arkansas an affordable way to reduce its carbon and other emissions from power generation and meet the goals outlined in the Clean Power Plan.[12]

The wind generation that will connect to the western converter and be delivered into Arkansas also has significant environmental benefits. The Plains & Eastern Project will deliver approximately 2.5 million MWh of clean, renewable energy per year into the Entergy Arkansas system. On an annual basis, the Project will reduce carbon dioxide emissions in Arkansas by an estimated 1.1 million tons, nitric oxides by over 500 tons, sulfur oxides by over 800 tons, and

[10] U.S. Energy Information Administration. Arkansas State Energy Profile. Available at: http://www.eia.gov/state/?sid=AR.
[11] U.S. Energy Information Administration Arkansas Net Electricity Generation by Source (September 2014).
[12] U.S. Environmental Protection Agency, Clean Power Plan Proposed Rule (June 2014). Percentage reduction was calculated using the 2012 carbon emission rate from all generation sources subject to the state goals outlined in the Goal Computation Technical Support Document to the Proposed Rule (1,634 lbs./MWh) and the Arkansas 2030 carbon emission rate goal outlined in the Proposed Rule (910 lbs./MWh).

mercury by 20 pounds.[13]

The Project also will represent a substantial investment in Arkansas of over $500 million and will bring a number of important economic benefits, including increased economic output, employment, and state and local taxes. The construction of the transmission line in Arkansas would result in an estimated 656 jobs, consisting of 371 direct jobs and 285 indirect and induced jobs.[14] The construction of the converter station in Arkansas would result in an estimated 244 jobs, consisting of 138 direct jobs and 106 indirect and induced jobs.[15]

In order to maximize the economic benefit to the states within the Project's footprint, Clean Line is committed to sourcing local labor and equipment wherever possible and economically competitive. Clean Line also entered into a preferred supplier agreement in Arkansas. Clean Line intends to purchase conductor for the Project from General Cable's factory in Malvern, Arkansas. The Project is expected to use approximately 25 million conductor feet of conductor, based on a length of approximately 720 miles. The supply order for the Project could be worth $100 million or more, depending on commodity prices. Clean Line has targeted the steel for this order to come from Bekaert Steel Van Buren, a steel company that operates a factory in Van Buren, Arkansas. More than 400 Arkansans work at the General Cable and Bekaert Steel Van Buren facilities. This procurement plan is part of Clean Line's ongoing efforts to maximize benefits for Arkansas.

3.3.4 Benefits and Impacts to Tennessee

Like Arkansas, Tennessee will benefit from the low-cost, wind energy delivered by the Project. This energy is lower-cost than energy from other renewable resources and even new thermal power plants under most future scenarios (Appendix 6-B). By providing a lower cost resource than is otherwise available, the Project can keep electric rates low in Tennessee, while providing the benefits of clean energy with no fuel price volatility.

TVA is the largest wholesale provider of electric power in Tennessee. TVA has entered into two Memoranda of Understanding with Clean Line and recently sent Clean Line a Letter of Interest regarding the Project stating TVA's belief that, based on experience with wind energy and increased federal environmental regulation, the Project can benefit TVA's customers. In its 2011 Integrated Resource Plan, TVA's preferred resource plan included up to 2,500 MW of renewable power resources. The Project meets Tennessee's demand for additional, affordable renewable energy.

The Project also can help Tennessee cope with increasing coal plant retirements and the need to reduce carbon emissions to meet new emission standards under the Clean Air Act. In 2011, TVA announced an agreement with the EPA to retire 18 coal plants from service by 2018. TVA

[13] LEIDOS, Plains & Eastern Clean Line Benefit Analysis (January 2015). Attached as Appendix 2-G to this Part 2 Application. This study contains a wholesale power market analysis for the Project that quantifies its benefits in terms of reduced emissions, reduced electric production cost and reduced wholesale electric prices.
[14] *Socioeconomics and Environmental Justice Technical Report for the Plains and Eastern Transmission Line Project* (March 2014), p. 129. Prepared for the Department of Energy pursuant to 10 CFR 1021.215(b)(2). Available in reference CD.
[15] *Id.* at 126.

announced an additional eight retirements in 2013. In total, TVA has retired or plans to retire over 50% of its coal units, and additional units are subject to ongoing litigation and review. Under the Clean Power Plan, Tennessee's emissions reduction target was calculated based on a renewable energy target of 10% of total electric generation, which would require substantial additional investments in renewable energy. Overall, the proposed Clean Power Plan would require Tennessee to reduce its carbon emissions rate by 26%. Affordable sources of low-carbon electricity are essential for Tennessee to meet this goal at a low cost.

The Plains & Eastern Project will deliver up to 3,500 MW of carbon-free electric power into Tennessee and will deliver approximately 18 million MWh of clean electric energy per year into the TVA system and surrounding markets. By delivering clean energy to Tennessee, the Plains & Eastern Project will reduce carbon, sulfur, particulate and organic compounds emissions, and waste byproducts and will also reduce water usage, as compared to the production of comparable amounts of electricity from fossil-fueled sources. On an annual basis, the Project will reduce carbon dioxide emissions in Tennessee by an estimated 2.8 million tons, nitric oxides by over 800 tons, sulfur oxides by over 1,800 tons, and mercury by over 90 pounds.[16]

In addition to low-cost power and cleaner air and water, the Project offers substantial economic development benefits to Tennessee. Clean Line will build approximately 17 miles of HVDC line in Tennessee as well as an HVDC converter station. Clean Line's investment in Tennessee will exceed $300 million. In order to maximize the economic benefit to the states within the Project's footprint, Clean Line is committed to sourcing local labor and equipment wherever possible and economically competitive. The construction of the transmission line in Tennessee would result in an estimated 44 jobs, consisting of 22 direct jobs and 22 indirect and induced jobs.[17] The construction of the converter station in Tennessee would result in an estimated 274 jobs, consisting of 138 direct jobs and 136 indirect and induced jobs.[18]

Recognizing the economic development benefits of low-cost renewable energy and infrastructure investment in Tennessee, the Board of Memphis Light Gas & Water, TVA's largest wholesale power customer, passed a resolution "to fully support the development and implementation of wind energy transported by HVDC transmission projects" (Appendix 2-D). The Shelby County Commission, which oversees the largest county in the state and the site of the Project's eastern converter station, passed a resolution supporting the Project's development, construction and operations. The Mayor's Office of the City of Memphis sent a letter supporting the Project's application to the Tennessee Regulatory Authority, and Shelby County's Economic Development and Growth Engine has implemented a tax incentive program in recognition of the Project's economic development benefits. Other cities throughout Tennessee, including Nashville, Knoxville and Chattanooga have supported the increased use of renewable energy in the state. These cities recognize the numerous economic, environmental and quality-of-life benefits from affordable renewable energy.

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[16] LEIDOS, Plains & Eastern Clean Line Benefit Analysis (January 2015). Attached as Appendix 2-G to this Part 2 Application.

[17] *Socioeconomics and Environmental Justice Technical Report for the Plains and Eastern Transmission Line Project* (March 2014), p. 130. Prepared for the Department of Energy pursuant to 10 CFR 1021.215(b)(2). Available in reference CD.

[18] *Id.* at 126.

3.4 The Project Is Technically Viable

The Project is technically viable because (1) from an engineering perspective, the technology and design employed are reliable, proven, and vetted by knowledgeable vendors; (2) from an electrical perspective, SPP, MISO and TVA have completed interconnection studies on the Project proving its viability; and (3) from a geographic perspective, relevant geographic considerations inform the Project's converter station locations and routing. These factors are described in more detail below.

3.4.1 The Project is Technically Viable from an Engineering Perspective

The Project relies on existing technology, as well as proven engineering and construction methods, all of which confirm the viability of the Project. HVDC conversion, in particular the line commutated conversion ("LCC") technology[19] that the Project will use, is both tested and proven. Similar HVDC converters using LCC have operated safely and reliably for over 40 years. The converter stations are physically similar to any large electrical substation with the addition of the specific equipment for AC/DC conversion. Over 30 successful applications of HVDC exist in North America, and dozens more are in operation around the world. Within the electric power industry, HVDC is well established as the most appropriate technical solution to move large amounts of power a long distance.

Electric utilities in the United States have constructed tens of thousands of miles of high voltage, overhead lines over the last 100 years. The overhead line construction for the Project does not present any challenges that are fundamentally different from an alternating current line. Identical materials—steel, aluminum, copper and insulation—are used for both HVDC and AC lines. In fact, the Project's HVDC overhead line is simpler in important ways than an AC overhead line, because the HVDC line requires only two separate sets of conductors as opposed to the three separate sets of conductors required for an AC transmission line.

POWER Engineers ("POWER") assists Clean Line on the engineering aspects of the transmission line design, a field in which POWER has deep experience. POWER has advised electric utilities on many significant overhead transmission line projects in recent years. POWER advised Southern California Edison on its Eldorado-Ivanpah line; American Transmission Company on its Arrowhead-Western line; and also acts as owner's engineer to Bonneville Power Administration. POWER has specific experience in HVDC transmission in North America, including acting as owner's engineer for the TransWest Express, an approximately 725 mile HVDC transmission project that will deliver wind energy from Wyoming to the Desert Southwest region. Working with POWER, Clean Line has completed studies and specifications for the Project's conductor and structures. The selected conductor can safely transfer 500 MW to Arkansas and 3,500 MW to Tennessee. These power deliveries result in a current level that stays within the thermal limitations of the conductor materials and appropriate sag limitations.[20] POWER and Clean Line have designed a family of transmission structures for the Project that comply with all relevant National Electric Safety Council requirements, including ground clearances and wind and ice conditions for Oklahoma, Arkansas

[19] LCC conversion technology has been used since the 1970s and relies on the line voltage of the AC system to commutate power. Newer voltage source conversion or VS technology was first implemented in the 1990s.
[20] Preliminary Design Criteria, pp. 12-13. Attached as Appendix 8-A to this Part 2 Application.

and Tennessee.[21] POWER has reviewed the conductor and structure design for reliability and viability. More detail on the Project's design is contained in the appendices to Section 8 of this Part 2 Application.

Other qualified vendors also are assisting in the engineering and design of the Project to confirm its technical viability. General Cable, the Project's preferred supplier of conductor, is one of the largest wire and cable manufacturers in the world, is a technology leader in aluminum steel reinforced cable ("ASRC") and provides technical expertise to Clean Line with regards to electrical conductor technology. General Cable has reviewed and confirmed the viability of Clean Line's conductor design. Pelco, the Project's preferred supplier for tubular steel structures, provides high quality steel tapered transmission poles and has qualified and experienced engineering and fabrication resources. Pelco has reviewed and confirmed the viability of Clean Line's monopole structure design.

Fluor Enterprises, Inc. ("Fluor") provides construction advisory and development services for the Project. Fluor is a Fortune 500 company that has constructed energy infrastructure across the United States and around the world. In its work on the Project, Fluor has partnered with its subcontractor, Pike Energy Solutions ("Pike"), a leading U.S. transmission line and substation engineering and construction company. Fluor and Pike have been deeply involved in reviewing the feasibility of the Project's engineering and routing: Their activities include (1) providing technical input on identification of the proposed and alternative routes and siting areas for the converters; (2) providing technical input on construction activities, including information on staffing, equipment, and construction methods; (3) assisting Clean Line to engage potential subcontractors and other businesses in the Project states; (4) performing a labor market assessment for the Project; (5) carrying out initial spotting of structures for the proposed route; and (6) reviewing the Project's engineering design for construction feasibility.

Clean Line has developed the design specifications for the HVDC converter stations for the Project with assistance from TransGrid Solutions ("TGS"). The TGS team has substantial experience in HVDC engineering and design and has been involved in a large percentage of the HVDC projects around the world that are either currently in service or under construction.[22] TGS has completed a technical specification for the Project's HVDC system, and on the basis of this specification, vendors have submitted proposals to supply the converters for the Project.

Clean Line's major investor, National Grid, is one of the most experienced installers and operators of HVDC transmission in the world and advises Clean Line on HVDC engineering and procurement.[23] National Grid's engineering team's regularly consults with Clean Line's engineering team on the technical parameters of the Project, further ensuring technical viability.

3.4.2 The Project is Technically Viable from an Electrical Perspective

SPP, MISO and TVA have studied the Project's interconnection extensively. As further detailed in Section 2.2.3, the interconnection studies assure that the Project's interconnection complies

[21] *Id.* at 3-8.
[22] See http://www.transgridsolutions.com/transgrid_projects.htm for additional detail on TGS' experience. (Last accessed on January 2, 2015).
[23] See *also* Section 7.

with all applicable federal, regional and local reliability standards. The studies demonstrate the Project can connect to the existing grid at the desired power levels without adverse impact to reliability for the Project or the interconnecting system.

With respect to the western point of interconnection in the Oklahoma Panhandle, Clean Line has worked with SPP to ensure that the Project can reliably interconnect with SPP's grid and meet all required reliability criteria. In November 2012, SPP's Transmission Working Group unanimously confirmed that the Project's reliability studies are "…consistent with SPP planning processes and [have] met their coordinated planning requirements under SPP Criteria…" The Project's SPP reliability studies were performed in conjunction with SPP staff as well as affected parties, including TVA. The acceptance of these studies marked the successful conclusion of a study process that began in May 2010.

TVA has studied the Project's interconnection of up to 3,500 MW to the TVA system. On March 21, 2014, TVA delivered a final Interconnection System Impact Study ("SIS") report to Clean Line. The SIS identified certain upgrades that would be made to TVA's system to reliably interconnect the Project. As part of TVA's SIS, Memphis, Light, Gas & Water Division ("MLGW") also performed an Affected SIS and found that no upgrades were required for MLGW to maintain reliability on its system.

Clean Line also is working with MISO to study the reliable installation and interconnection of a converter station to deliver 500 MW to the Entergy Arkansas 500-kV grid. To further study this option, Clean Line submitted an interconnection request to MISO dated October 30, 2013. The request is for a 500 MW for an interconnection to Entergy Arkansas' existing 500 kV Arkansas Nuclear One-Pleasant Hill transmission line. MISO completed a Feasibility Study of this request and provided a report on February 10, 2014. MISO's Feasibility Study identified no transmission constraints or required upgrades based on the request. The interconnection will be incorporated into MISO's 2015 Definitive Planning Phase.

3.4.3 The Project is Viable from a Geographic Perspective

Geographic factors have been incorporated into and inform all relevant aspects of the Project, including: the overall purpose of the Project transmitting power from the Oklahoma Panhandle to the Mid-South and Southeast; Clean Line's routing efforts for the HVDC Line and AC Collection system, as well as converter station locations; DOE's evaluation of impacts within the draft EIS; and the plans for engineering and operations for the Project. Given Clean Line's careful review of geographic factors in its routing, siting and engineering process, the Project is certainly technically viable from a geographic perspective.

The Project Originates in the Oklahoma Panhandle in an Advantageous Geographic Location for Wind Generation and Delivers Energy to Locations with Demand for Wind Generation

The Project's general geographic placement in the United States is characterized, on the western side, by the existence of a large, high quality wind resource in the Great Plains region and, on the eastern side, by a large electrical market with relatively small scale and higher cost renewable energy resources in the region. Studies by the NREL indicate that Oklahoma has the potential to develop an amount of wind energy several times greater than its own total energy

consumption.[24] In particular, northwest Oklahoma and the Oklahoma Panhandle region are within a large excellent wind resource region that extends throughout the Great Plains.

Geographic considerations likewise informed the overall Project goal of delivering low-cost wind energy to the Mid-South and Southeast. The Mid-South and Southeast region of the United States contains a large population and several major metropolitan areas. However, wind speeds in the Mid-South and Southeast are relatively low and much of the hilly, wooded terrain is not amenable to large-scale wind energy development. Because of these factors, the Mid-South and Southeast have a need for low-cost renewable energy from the Oklahoma Panhandle.

Geographic Factors Were Carefully Considered in Route and Converter Station Area Identification

Clean Line carefully considered geographic features in the identification of both the proposed converter station locations and the potential routes for the HVDC transmission line and AC collection system. Some of the general and technical guidelines for siting that are informed by geographic factors include:

- Utilize existing linear corridors to the extent practicable;
- Utilize areas with land uses/land cover that are consistent or compatible with linear utility uses, such as existing utility corridors and open lands, to the extent practicable;
- Minimize the number and length of crossings of large lakes, major rivers, large wetland complexes, or other sensitive water resources;
- Minimize the length of the transmission line located on soils sloped more than 20 percent.

During preparation of the Draft EIS, DOE received from Clean Line several technical reports that explain and demonstrate how Clean Line incorporated geographic factors into the planning and development of the Project. Clean Line provided DOE with a Tier IV Route Analysis, which has been included as Appendix G to the Draft EIS. As described in the Tier IV Route Analysis, Clean Line divided the Project into seven regions based on geographic similarities and common nodes in the routes.[25] Clean Line designated factors (referred to as sensitivities and opportunities) that were used to identify and refine the Applicant Proposed Route. Clean Line applied general and technical guidelines to (1) avoid conflicts with existing resources, developed areas, and existing incompatible infrastructure; (2) maximize opportunities for paralleling existing compatible infrastructure; (3) and consider land use and other factors. The result of this routing process is a geographically feasible Applicant Proposed Route.

Geographic Factors Were Evaluated in the Draft EIS

The Draft EIS evaluated numerous factors related to the Project, including: (i) air and climate change (Chapter 3.3); (ii) geotechnical considerations in construction and operation of the

[24] *See* Plains & Eastern Clean Line, Project Proposal for New or Upgraded Transmission Line Projects Under Section 1222 of the Energy Policy Act of 2005 (July 2010), p. 7.
[25] *Tier IV Routing Analysis* is attached as Appendix G to the Draft EIS (December 2014), p. 21.

Project within the context of electrical environment (Chapter 3.4); geology, soils and minerals (Chapter 3.6); and groundwater (Chapter 3.7); (iii) safety and hazards analysis of weather and natural phenomena (Chapter 3.8) and (iv) potential effects on land use types (Chapter 3.10).

Clean Line Considered Geographic Criteria in the Siting Process

The engineering and construction experts on Clean Line's routing team have evaluated geographic factors to assure that the construction of the Project is feasible and that the proposed locations of the Project facilities are suitable for safe and timely construction. In addition to aerial reconnaissance completed on certain Project routing options, Clean Line has also conducted engineering and construction windshield surveys (observation of areas from public roads), acquisition of LiDAR data on the proposed and alternative routes, and initial environmental field surveys on parcels along the proposed route. In addition, Clean Line has studied the geotechnical characteristics of the areas under consideration for location of the Project facilities. These studies have not identified any geotechnical condition that conflicts with the feasibility of the construction or operation of the Project. Further geotechnical work, including soil borings, will be undertaken before construction of the Project to confirm site-specific foundation designs and individual structure locations. The engineering completed on the Project to date has taken into account the geographic factors present in the Project area.

3.5 The Project is Financially Viable

DOE's Request for Proposals under Section 1222 defines financial viability as a demonstration that the applicant "is in sound financial condition and has the ability to secure the necessary financing to meet the Project's requirements at all relevant phases of the Project." Clean Line meets that test. Clean Line Energy Partners LLC and its subsidiaries working on the Project are in sound financial condition. Clean Line's principal investors, National Grid and ZAM Ventures, L.P. ("ZAM Ventures") have made, and continue to make, substantial investments to support the Project's development. In light of the capabilities of its investors, the track record of Clean Line's management and the track record of successful transmission financings, the Project can also attract the necessary financing for its construction and operations.

3.5.1 Clean Line is in Sound Financial Condition

Confidential financial statements for Clean Line Energy Partners LLC and Plains and Eastern Clean Line Holdings LLC (which owns and consolidates Plains and Eastern Clean Line Oklahoma LLC and Plains and Eastern Clean Line LLC) are attached in Confidential Appendix 6-E. The financial statements show that these entities' activities reflect the current stage of project development, where the focus is on permitting and engineering. These financial statements show that these entities have no material liabilities. All of these entities are capitalized entirely with equity and have no debt. Clean Line Energy Partners LLC is funded by equity from its shareholders, principally ZAM Ventures and National Grid USA. In turn, Clean Line Energy Partners LLC then contributes equity to its subsidiaries, which is used to fund the development of the Project, including engineering, permitting, and all costs incurred by DOE and Southwestern in evaluating the Project under Section 1222 and NEPA.

3.5.2 Clean Line Has Strong Financial Backing to Complete Development of the Project

The two largest shareholders in Clean Line are ZAM Ventures and National Grid USA. Clean Line's other investors are Michael Zilkha, an individual, and Clean Line Investment LLC, a company owned by Clean Line employees and service providers.

ZAM Ventures is one of the principal investment vehicles for the ZBI Ventures portfolio. ZBI Ventures focuses on long-term investments in the energy sector. Many of ZBI Ventures' investments are in the oil and gas industry around the world. ZBI Ventures has invested in several private conventional and unconventional oil and gas investments in the United States, Canada and elsewhere in the world. ZBI Ventures has also invested in an oilfield services company doing business in various parts of the United States. In addition, ZBI Ventures has made several investments in renewable energy companies.

In the United States, National Grid USA's regulated subsidiaries deliver electricity to approximately 3.4 million customers in New York, Massachusetts and Rhode Island. National Grid USA's regulated operating subsidiaries include New England Power Company, Massachusetts Electric Company, Nantucket Electric, Narragansett Electric Company, Niagara Mohawk Power Corporation, KeySpan Gas East Corporation, Boston Gas Company, Colonial Gas Company, and The Brooklyn Union Gas Company. Through these subsidiaries, National Grid owns and operates over 8,600 miles of high voltage transmission spanning upstate New York, Massachusetts, New Hampshire, Rhode Island and Vermont, including nearly 100 miles of underground cable and 522 substations. National Grid USA is also the largest distributor of natural gas in the northeastern United States, serving approximately 3.5 million customers in New England and upstate New York. Other operating subsidiaries are involved in LNG storage. National Grid USA also invests and participates in the development of natural gas pipelines and other energy related projects. The financial statements of National Grid USA are attached as Appendix 6-E.

National Grid USA is a wholly owned U.S. subsidiary of National Grid plc, a major multinational company whose principal activities are owning and operating regulated networks for the transmission and distribution of electricity and natural gas. National Grid plc is based in the United Kingdom and is one of the largest investor-owned energy companies in the world with $75 billion in assets and over $22 billion in annual revenues. In the United Kingdom, a subsidiary of National Grid plc, National Grid Electricity Transmission plc, owns and operates the high voltage electric transmission system in England and Wales, comprising approximately 4,500 miles of overhead transmission lines among other assets, and operates the high voltage electricity transmission system in Scotland. National Grid Electricity Transmission plc is also the operator and part owner of a 2,000 MW HVDC link to France, a 1,000 MW HVDC link to the Netherlands, and a planned HVDC facility to link Scotland with England and Wales. Another subsidiary of National Grid plc, National Grid Gas plc, owns and operates the gas transportation system, comprising approximately 4,700 miles of high pressure pipe, and a majority of the gas distribution system, in Great Britain, serving over 11 million homes and businesses. The financial statements of National Grid USA are attached as Appendix 6-E.

Both ZAM Ventures and National Grid USA continue to invest in Clean Line and are capable of

supporting the Project as additional development milestones are reached and the Project requires additional equity capital. The funding provided by these investors will enable Clean Line Energy Partners LLC and its subsidiaries to bring the Project, and the other transmission line projects being developed by other subsidiaries of Clean Line, to a point of development where major permits and authorizations are obtained. It is at this time that long-term transmission service agreements can be signed with transmission customers. On the basis of these agreements, project-specific financing arrangements can be entered into with lenders and with equity investors and/or other partners.

3.5.3 The Project Can Attract the Necessary Construction Financing From Existing Investors and the Capital Markets

Once the Project completes the necessary development milestones (including a Record of Decision and Participation Agreement under Section 1222) and signs definitive capacity contracts with transmission customers, its construction and operations will be financed against the strength of its future revenues. The additional capital obtained through these financing arrangements will allow Clean Line to construct the Project. The current equity investors may participate in the project financings by making debt or additional equity investments along with new lenders, investors and/or partners.

Importantly, the Project's construction will be fully financed before construction of the Project begins. No lender or investor is willing to take the risk that insufficient funding commitments lead to an incomplete Project. Obtaining total adequate debt and equity financing equal to the Project's total cost is a standard condition precedent in financing agreements.

Many successful transmission projects have followed Clean Line's model in which initial equity investors fund development and the Project is later refinanced at the project level to fund construction. Utilities and developers have applied this model to traditionally rate-based transmission lines and merchant transmission lines.

As described in greater detail in a letter from Lazard Frères & Co. LLC ("Lazard"),[26] large amounts of liquidity exist in the capital markets for transmission projects that have reached an advanced stage of development. The capital markets have a substantial history of supporting transmission projects, including merchant transmission projects, through debt and equity financings. Appendix 3-C to this Part 2 Application provides a list of precedent transactions in both the equity and debt markets. A number of transmission line projects have entered into project finance arrangements to fund their construction. For example, in 2003, the Path 15 project, an 83-mile stretch of 500 kV lines in Northern California, closed $209 million in debt financing from the bank and bond markets. In 2005, the Neptune Project, a ±500 kV HVDC underwater transmission project, raised $600 million in a private placement at a competitive spread to LIBOR. In early 2008, Trans Bay Cable LLC successfully closed an approximately $500 million transaction in the project finance market to fund a 53 mile underwater HVDC project. In September 2008, the Trans-Allegheny Interstate Line project closed a $550 million senior secured loan, and in January 2010, that project closed an additional $800 million of financing, comprised of $350 million in floating bank debt and $450 million in fixed coupon

[26] Lazard Frères & Co. LLC, Letter to Michael Skelly (December 19, 2014). Attached as Appendix 3-B.

bonds. Additionally, significant institutional investors, such as the California Public Employees Retirement System (known as CalPERS), John Hancock Financial Services, and TIAA-CREF, have also made major equity investments in transmission lines, as have the private equity firms ArcLight Capital Partners, Energy Investors Fund, Energy Capital Partners, and Starwood Energy. All of these examples confirm that debt and equity financing is in plentiful supply for projects like the Plains & Eastern Project. Texas' recent experience with the CREZ lines provides further confirmation of the viability of project finance applied to transmission lines.

The project finance model is not unique to transmission lines. Natural gas pipelines have commonly used project finance to fund the construction of new pipeline projects Developers of new independent power generation projects have long relied on project finance to fund their construction. For example, the U.S. wind power industry has raised tens of billions of dollars of project-level debt and equity over the last five years. Horizon Wind Energy (now EDP Renewables), which is one of the leading developers of wind generation facilities in the U.S., successfully used this approach to develop, finance, construct, and place into operation a number of significant wind generation projects throughout the U.S. Together, the members of Clean Line's management team have led over $2 billion in project financings and worked on many more.

The long-term financing of the Project will take into account both construction and operating costs. An additional financing for operating costs will not be necessary. As shown in Confidential Appendix 6-A, Clean Line's financial model for the Project, projected revenues greatly exceed the anticipated expenses and will be sufficient to pay all operating costs without raising additional capital.

4 Role of Power Marketing Administration

Pursuant to Section 1222 of the Energy Policy Act of 2005, Clean Line proposes that Southwestern participate in the development, construction, ownership and operation of the Plains & Eastern Project. The *Proposed Participation Agreement Term Sheet for the Plains & Eastern Clean Line*, attached as Appendix 4-A, provides additional detail on the proposed nature of Southwestern's participation in the Project.

5 Risk Mitigation

Describe any and all steps that the applicant has taken or will take to ensure the project will not place any risk onto Southwestern, Southwestern's Customers, and the Department of Energy. This includes, but is not limited to:

a. Descriptions of specific instruments, letters of guarantee, and insurance policies by which. Southwestern, Southwestern's Customers, and the Department of Energy will be held harmless and ensured all liabilities will be borne by others.

The Project documents will include appropriate financial instruments, insurance, and risk mitigating elements to ensure that DOE and Southwestern will be held harmless from costs and liabilities related to the Project and that such costs and liabilities will be the responsibility of Clean Line or others, as applicable. These instruments and risk mitigating elements include but are not limited to:

Cost Responsibility: Clean Line will advance fund and cover DOE and Southwestern for all costs incurred in connection with their participation in the Project, including in the development, construction and operation of the Project, or otherwise. If due to an unforeseen circumstance Clean Line has not advance funded a cost to DOE or Southwestern, Clean Line will promptly reimburse DOE or Southwestern for such cost.

Financing/Notice to Proceed: The construction contracts for the HVDC transmission line and converter stations and associated facilities will include a condition precedent that the Full Notice to Proceed with major construction activities may not be issued unless Clean Line shall have procured the financing in amounts necessary to complete construction of such facilities.

Indemnification: The Clean Line indemnities will be set forth in the Participation Agreement, and will generally include but not be limited to the following provisions:

Clean Line will indemnify and hold harmless DOE and Southwestern, as applicable, for all Project-related liabilities ("Losses"). Covered Losses will include any liability, loss, claim, settlement payment, cost and expense, interest, award, judgment, damages, diminution in value, fines (including NERC fines), fees and penalties or other charges, including reasonable attorneys' fees. Under the indemnity, Clean Line will indemnify and hold harmless Southwestern and/or DOE, as applicable, against all Losses incurred by, borne by or asserted by a third party against Southwestern and/or DOE, as applicable, and arising out of any one or more of the following: (i) damage or injury to property or persons used on or in connection with the Project; (ii) damage or injury to property or persons resulting from any action taken under the Participation Agreement; (iii) permitting and regulatory non-compliance; (iv) environmental releases; (v) decommissioning of the Project; and (vi) any material breach by Clean Line of any covenant or other agreement set forth in the Participation Agreement or any other Project document. Separately, Clean Line will procure from the construction contractors and maintenance services contractors indemnities for which DOE and Southwestern, as applicable, will both be beneficiaries through indemnity provisions in the construction contracts and the maintenance services agreement.

Credit Support: Clean Line will provide appropriate credit support in favor of DOE and Southwestern to support Clean Line's financial and indemnity obligations under the Project documents. Clean Line will provide that DOE and Southwestern are the beneficiaries of credit support provided by the construction contractors.

Insurance Policies: Clean Line will obtain customary and commercially reasonable insurance policies. DOE and Southwestern will be named as additional insured parties, as appropriate, under such policies through the provisions of the Participation Agreement. The Parties will also determine appropriate insurance protections for DOE and Southwestern through insurance policies procured by the construction contractors and Maintenance Services Agreement contractor, including an additional insured party endorsement.

Warranties: Clean Line will ensure that DOE and Southwestern, as applicable, have the benefit of construction contract warranties, in order to mitigate project operation and maintenance risks.

Regulatory Compliance: Clean Line will obtain all applicable regulatory and other governmental permits, approvals or authorizations necessary to construct, operate and maintain the Project, and will comply with all applicable federal, state and local laws and regulations related to the construction, operation and maintenance of the Project. These obligations include, but are not limited to: following applicable requirements for right-of-way acquisitions; obtaining all insurance policies required by law or relevant governmental authorities; obtaining and maintaining all permits or authorizations necessary for development, construction and operation activities; and maintaining compliance with applicable NERC and RRO reliability requirements for operation and maintenance of the Project.

Clean Line or its designee will register with NERC as the Transmission Owner and Transmission Operator for the Project and, thus, will be responsible for compliance with the applicable NERC reliability standards. With respect to any facilities owned by DOE/Southwestern, NERC's Rules of Procedure and *Statement of Compliance Registry Criteria* allow transfer by written agreement of responsibilities to register and comply with approved NERC Reliability Standards. Where such agreements are in place, the NERC rules exclude non-responsible transmission owners and operators from the obligation to register and comply with reliability standards. Therefore, DOE and Southwestern will not have an obligation to register with NERC. Since NERC rules provide that only registered entities have NERC reliability compliance obligations and liability, DOE and Southwestern will not have reliability compliance obligations or liabilities with respect to ownership or operation of the Project.[1]

Coordination and Communication: DOE and Southwestern will be entitled to appoint representatives to the Coordinating Committee – which will oversee the development, construction and operation of the Project. Clean Line will ensure that the Coordination Committee is regularly briefed regarding issues material to the development, construction and operation of the Project. The Coordination Committee will have the authority to create sub-

[1] *See* NERC Rules of Procedure, Section 500.1.2 and NERC *Statement of Compliance Registry Criteria*, NERC Rules of Procedure App. 5B (Eff. July 2, 1 2014), p.2, 10.

committees to consider any relevant issues.

Best Practices: In addition to constructing, operating and maintaining the Project consistent with Good Utility Practice, Clean Line will adopt and implement a best practices policy when constructing, operating and maintaining the Project and all Project-related facilities, including best practices as they relate to safety, ensuring regulatory compliance and protection of third parties and their property. Clean Line will select only experienced and reputable contractors using proven designs and technology for the construction, operation and maintenance of the Project.

b. An estimate for the cost of decommissioning the project during construction and during operations.

Clean Line is in the process of conducting an analysis of the cost of decommissioning the Project and will provide it to DOE when completed.

6 Financial Information

Provide financial information necessary to assess both the creditworthiness and the financial viability of the project. A list of requested information is included below. If any such documentation is unavailable, please provide an explanation for why such documentation will not be provided or, if applicable, a schedule for when such information will be available.

a. Complete financial models for the proposed project.

Please find attached as Confidential Appendix 6-A. A working, Microsoft Excel version of this file will be provided to DOE.

b. Information that would be included in a business plan, including but not limited to a market analysis, proposed commercial deal structure, total project costs, and economic benefits.

Market Analysis
Section 2.1 describes the market for Clean Line's transmission capacity in detail. A brief summary of this market is provided below:

- Clean Line has conducted an open solicitation for the Project's capacity and received transmission service requests of approximately four times the Project's size. (Section 2.1.1)
- Wind generators are developing many thousands of megawatts of projects in the Oklahoma Panhandle region and need the Project's capacity to reach buyers. (Section 2.1.2)
- Load serving entities including TVA have expressed specific interest in the Project as a means to meet their need for low-cost, clean energy. (Section 2.1.3)
- No existing transmission lines or planning processes can meet the market need for interregional transmission capacity that drives demand for the Project. (Section 2.1.4)

In addition to the above factors, the market for Clean Line's transmission capacity can be confirmed by levelized cost analysis. The levelized cost of energy ("LCOE") calculation method is used in the electric power industry to rigorously compare different ways of sourcing electricity and determine the most beneficial option. It takes into account all costs of generating electricity, including capital costs, operating expenses, taxes, the cost of debt, the return on equity, any available subsidies, and necessary transmission additions. The LCOE analysis produces a levelized cost per unit of energy that is a proxy for a power purchase agreement that a utility would sign. The price of the power purchase agreement, as estimated by the LCOE model, is sufficient for the owner of generation and transmission facilities to recover all the costs associated with the facilities and earn a market rate of return.[1]

[1] This model assumes all power purchases are passed through to ratepayers. This is an appropriate modeling assumption because almost all of the customers in Tennessee and the Southeast pay cost-based electric rates to

A levelized cost comparison is an analysis used by the TVA and other utilities in the South when deciding what resource to add to their generation mix. Clean Line has prepared such an analysis to estimate the benefits of the Plains & Eastern Project to electric customers in the Southeast.

The LCOE analysis indicates that wind energy delivered by the Project will provide the lowest cost new generation to the region. The results are shown in the graph below:

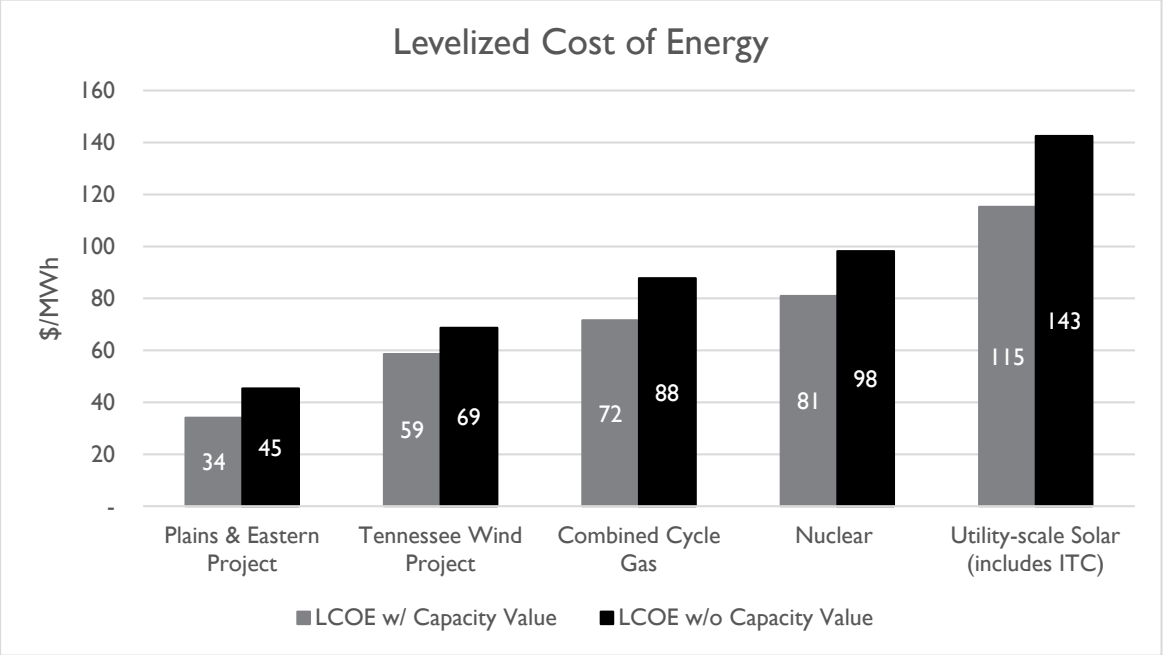

Figure 4: Levelized Cost of Energy Comparison of Various Generation Sources

Two different levelized cost calculations are shown above. The black bars reflect just the cost of generating energy. They do not account for the differing capacity value of generation technologies, that is, their ability to run reliably to meet peak demand, which will be a significant component of their value to the bulk electric system. The gray bars, on the other hand show the results for each kind of generator incorporating an appropriate capacity value.[2] Even when capacity value is included in the model, the wind energy delivered over the Project remains the lowest cost option even considering this effect. Additional detail on the LCOE model, including various scenarios around future assumptions, is attached as Appendix 6-B. A working version of this model in Microsoft Excel also will be provided to DOE.

integrated utilities. However, it is worth reiterating that no utility is obligated to buy power delivered by the Project. The power must be economical to be purchased.

[2] For wind generation, capacity value was estimated by looking at output during TVA peak load hours. For gas and nuclear, the capacity value was assumed to be equal to one minus the forced outage rate based on national data. For solar, the capacity value was calculated using the effective load carrying capability assuming 2-axis tracking and 10% penetration levels in TN, *see Update: Effective Load-Carrying Capability of Photovoltaics in the United State*s, NREL, available at http://www.nrel.gov/docs/fy06osti/40068.pdf (last accessed January 7, 2015). The dollar amount used for capacity was the annual cost, as estimated by the Energy Information Administration, of operating a simple cycle combustion turbine, which is the cheapest form of peaking generation.

Proposed Commercial Deal Structure
Clean Line's proposed arrangement with Southwestern is described in Appendix 4-A. Clean Line will provide the financing to construct the Project and indemnify Southwestern against risks from its participation in the Project. Clean Line will recover its investment in the Project through long-term sales of transmission capacity pursuant to its negotiated rate authority from FERC. Clean Line has completed a capacity solicitation for the Project and is currently negotiating with customers. Confidential Appendix 6-C is a simplified term sheet containing the major terms of agreements with transmission service customers.

Total Project Costs
Appendix 6-D provides a breakdown of the total Project cost.

Economic Benefits
Appendix 2-G contains a wholesale power market analysis for the Project that quantifies its benefits in terms of reduced emissions, reduced electric production costs and reduced wholesale electric prices.

c. Financial statements, terms sheets, plans of finance, and any other documents necessary to demonstrate how the applicant will finance the proposed project and cover all risk and liabilities to Southwestern, Southwestern's Customers, and the Department of Energy.

Financial Statements
Recent financial statements for National Grid plc and National Grid USA are included as Appendix 6-E. Recent financial statements for Clean Line Energy Partners LLC and Plains and Eastern Clean Line Holdings LLC are included as Confidential Appendix 6-E. As noted in Section 3.5.1, the financial statements of Clean Line entities show that these entities' activities reflect the current stage of development, where the focus is on permitting and engineering. The financial statements show that these entities have no material liabilities. Projected financial statements for the Project are included in the Financial Model, attached as Confidential Appendix 6-A.

Term Sheets and Plans of Finance
Clean Line's plan to finance the Project is detailed in Section 3.5. The funding provided by the equity investors will enable Clean Line and its subsidiaries to bring the Project to a point of development at which long-term transmission service agreements can be signed with transmission customers and, on the basis of these agreements, project-specific financing arrangements can be entered into with lenders and with equity investors and/or other partners. The additional capital obtained through these financing arrangements will allow Clean Line to construct and operate the Project. The current equity investors may participate in the project financings by making debt or additional equity investments along with new lenders, investors and/or partners. As described in Section 3.5.2, the capital markets have a strong record of supporting transmission projects like the Project. Lazard has provided a letter describing the strong financial outlook for the Project, attached as Appendix 3-B.

d. Credit assessment from a nationally-recognized credit rating agency (S&P, Moody's, Fitch) or other documentation of creditworthiness if such assessment is not available

Clean Line Energy Partners LLC and Plains and Eastern Clean Line Holdings LLC will likely not have a credit rating. Most project finance debt is not rated by a major credit rating agency, since project finance lenders typically do their own due diligence and credit analysis rather than relying on a third party agency.

Clean Line will enter into long term transmission capacity contracts. These contracts will provide for a reservation charge, meaning the transmission customer will pay regardless of what percentage of the time the customer uses the reserved capacity. This pricing arrangement is typical for transmission lines. It is also similar to the contractual arrangements for natural gas pipelines. Clean Line will impose credit requirements on its transmission customers. The credit requirements will require that transmission customers have investment grade or higher credit ratings or that the customer post additional security in the form of cash or a letter of credit, or provide a parent guaranty from an entity with an investment grade credit rating. These credit requirements will provide revenue certainty, which will allow lenders to be comfortable that Clean Line can repay its debt.

National Grid plc and National Grid USA are rated entities. Their credit ratings are provided below.

National Grid plc:
Moody's: Baa1
S&P: BBB+
Fitch: BBB+

National Grid USA:
Moody's: Baa1
S&P: BBB+
Fitch: NR

Letters from Lazard (Appendix 3-B) and National Grid USA (Appendix 2-H) describe the strong interest in the capital markets to support the financing of transmission projects like the Plains & Eastern Project. Lazard is one of the leading investment advisory firms in the world in the power and utilities industry. National Grid is one of the largest investor owned utilities in the world and delivers electricity to approximately 3.4 million customers in the Northeastern United States.

e. *Information about transmission service agreements executed or being negotiated with any generator.*

In September 2012, Clean Line received negotiated rate authority from FERC. FERC granted Clean Line the authority to subscribe up to 75% of the line's transmission capacity through direct negotiation with anchor tenants. On January 17, 2013, FERC released a new policy statement on Allocation of Capacity on New Merchant Transmission Projects and New Cost-Based, Participant-Funded Transmission Projects, 142 FERC ¶ 61,038. The new policy statement provided additional flexibility for merchant transmission developers. On May 30, 2014, Plains and Eastern filed for amended negotiated rate authority under the FERC Policy Statement. In August 2014, Plains and Eastern Clean Line received amended negotiated rate

authority from FERC. FERC granted Clean Line the authority to subscribe up to 100% of the line's transmission capacity through direct negotiation with anchor tenants.

From May 22 to July 25, 2014, Clean Line ran an open solicitation for capacity on the Plains & Eastern Project. Clean Line received 29 requests from fifteen different transmission customers requesting 17,091 MW, or 392% of the Project's total 4,355 MW of West-East transfer capacity. All of the requests were from companies whose primary business is wind power generation, not retail electric service.

Given the strength of the response, Clean Line decided to phase the negotiation of Precedent Agreements. A form of the Precedent Agreement term sheet is included as Confidential Appendix 6-C. As of the date of this Part 2 Application, Clean Line has signed term sheets for Precedent Agreements with five transmission service customers. A Record of Decision from DOE/Southwestern evidencing intent to participate in the development, construction, ownership and operation of a portion of the Transmission Facilities will be a condition precedent to the transmission customer taking service under a Transmission Service Agreement.

f. Information about any power purchase agreements the generator has executed or are being negotiated with any customers.

Clean Line frequently meets with load-serving entities in the Mid-South and Southeast to share information about the Project. In addition, multiple wind energy companies have been making proposals to load-serving entities using the Project for transmission service. In support of this Part 2 Application, ten wind energy companies have submitted letters describing their ongoing efforts regarding power purchase agreements. These letters are attached as Appendix 2-B.

g. Financial and credit information that would be provided as part of a Federal Energy Regulatory Commission (FERC) Attachment Q regarding transmission tariffs, including information regarding the scale of the letter of credit.

Clean Line will impose credit requirements on its transmission customers. The credit requirements will require that the transmission customer have investment grade or higher credit ratings or that the customer post additional security in the form of cash or a letter of credit, or a parent guaranty from an entity with investment grade credit ratings. The amount of security required will depend on the underlying creditworthiness of the customer and is subject to negotiations; however, it must be (and will be) sufficient to provide the revenue certainty necessary to finance the Project.

h. Financial and credit information that would be submitted to the Southwest Power Pool (SPP), Midcontinent Independent System Operator (MISO), and Tennessee Valley Authority (TVA) as part of each entity's cost allocation determination.

Though Clean Line is not pursuing cost allocation, MISO and SPP ask entities pursuing cost allocation of a new transmission project for information on their creditworthiness and relevant experience. This information is provided in Section 6.d. of this Part 2 Application and Section 7.d. Clean Line is not aware of any analogous requirements with respect to TVA, since TVA is the only transmission owner within its system.

7 Business Entity Information

a. Describe whether the applicant or its transmission lines are owned wholly or in part by a foreign government; and list all existing contracts that the applicant has with any foreign government, or any foreign private concerns, relating to any purchase, sale, or delivery of electric energy.

This request is not applicable to the Project.

b. Provide documentation demonstrating that the construction, connection, operation, or maintenance of the proposed facility is within the corporate power of the applicant and is in line with prudent utility practice, and that the applicant has complied with or will comply with all pertinent federal and state laws. Opinion of counsel as to corporate powers will be required upon closing in the event DOE or Southwestern enters into a project agreement.

See officer's certificate attached as Appendix 7-A.

c. Describe the relationship between Clean Line Energy Partners, any parent corporation, and any other business affiliations that would be directly or indirectly involved in the proposed project.

Plains and Eastern Clean Line LLC is a limited liability company organized under the laws of the State of Arkansas. Plains and Eastern Clean Line Oklahoma LLC is a limited liability company organized under the laws of the State of Oklahoma. These two entities jointly develop the Plains & Eastern Project and are both wholly owned subsidiaries of Plains and Eastern Clean Line Holdings LLC, a Delaware limited liability company, which in turn is a wholly owned subsidiary of Clean Line Energy Partners LLC, a Delaware limited liability company. Employees of Clean Line Energy Partners LLC provide services to develop the Plains & Eastern Project.

Clean Line's investors are National Grid USA,[1] ZAM Ventures[2], Michael Zilkha, and Clean Line Investment LLC. Additional detail on National Grid USA and ZAM Ventures is provided in Section 3.5.2.

d. Describe the professional background and experience of the management team, at the corporate and project levels. Also provide the name and describe the relevant experience of any contracting companies that will be used to support the proposed project, to the extent such entities are known at this time.

Clean Line has assembled an experienced management team, is backed by one of the world's largest transmission owners, and has developed strategic partnerships with seasoned contractors to manage the development, construction and operation of the Project.

[1] The name of the actual investing entity is a GridAmerica Holdings, Inc., a subsidiary of National Grid USA.
[2] The name of the actual investing entity is Clean Line Investor Corp., a subsidiary of ZAM Ventures.

Clean Line Management Team

Clean Line has assembled an experienced and knowledgeable team to manage the development, construction and operation of the Project and the other transmission projects under development by other Clean Line subsidiaries. The Clean Line team has substantial expertise in electrical engineering, environmental studies, finance, regulatory compliance and other disciplines relevant to execution of the Project. In assembling the team, Clean Line looks for people who work well together and have the ability to work with many stakeholders involved in a major infrastructure project. This includes people who understand the local environment, who can work with the local authorities to obtain the necessary permits, and who have the right technical talents and experience in developing, constructing and operating energy and transmission facilities efficiently and in accordance with utility best practices. As described below, Clean Line's team members have managed the development, construction and operation of many large-scale energy infrastructure projects, including transmission lines, wind farms and fossil fuel power plants. Additional information including the qualifications and experience of selected Clean Line management team members and employees is attached as Appendix 7-B.

Michael Skelly
President and Chief Executive Officer

Michael Skelly is responsible for overall management leadership and strategic direction. He has been in the energy business for almost 20 years. He led the development of Horizon Wind Energy ("Horizon") from a two-person company to one of the largest renewable energy companies in the country. Under his leadership, Horizon developed and constructed nearly 2,000 MW of wind energy projects and amassed a portfolio of project in development totaling almost 10,000 MW in over a dozen states. Horizon was founded by the Houston-based Zilkha family and is now owned by Energias de Portugal, S.A. ("EDP"). EDP has continued to build and operate wind projects from the project pipeline developed under Mr. Skelly's leadership. Before Horizon, Mr. Skelly developed thermal, hydroelectric, biomass and wind energy projects in Central America with Energia Global. In the early 1990s, Mr. Skelly co-founded the Rain Forest Aerial Tram, a mile-long tramway system which takes visitors on an aerial tour of the rain forest in Costa Rica. That company currently has 400 employees. Mr. Skelly has played a leading role in several other businesses.

Mr. Skelly has a Bachelor of Arts degree in Economics from the University of Notre Dame. He served in the U.S. Peace Corps in Central America before obtaining a Masters of Business Administration from Harvard Business School.

Jayshree Desai
Chief Operating Officer

Jayshree Desai oversees all company operations, including commercial, strategy, finance, legal, and other functional areas. Prior to joining Clean Line Energy Partners, Jayshree Desai was Chief Financial Officer ("CFO") of EDPR, where she was responsible for corporate and project finance, accounting, tax and information technology. As CFO, she managed the successful growth of the company's balance sheet as it grew from $8 million to more than $5 billion in assets. She was also a key member of the teams responsible for major transactions involving the company including the initial public offering of the EDP renewable energy subsidiary in 2008.

Ms. Desai earned a Bachelor's degree from the University of Texas at Austin and a Masters of Business Administration from the Wharton School of the University of Pennsylvania.

Wayne Galli, Ph.D., P.E.
Executive Vice President, Transmission and Technical Services
Dr. Wayne Galli oversees all technical and engineering activities for Clean Line. Dr. Galli's background in electric power systems includes more than 17 years of experience in technical and managerial roles. Dr. Galli's experience runs the gamut from system studies and operations to regulatory matters to project development. Most recently, he served as Director of Transmission Development for NextEra Energy Resources where he was instrumental in developing transmission projects under the Competitive Renewable Energy Zones ("CREZ") initiative in Texas. In this capacity, Dr. Galli was an instrumental part of the team that obtained a successful award of over $500 million in transmission assets (approximately 300 miles of the most critical CREZ transmission lines) under the CREZ Transmission Service Provider docket. He then led efforts in routing, siting and engineering of the transmission lines. At Southwest Power Pool, Dr. Galli led the implementation of several components of the SPP market. As Supervisor of the Operations Engineering Group, his group grew over fourfold to ensure reliable operations of the SPP grid under the new market paradigm. Dr. Galli's background also includes long-term system planning experience with Southern Company Services, where he analyzed 500 kV expansion plans primarily focused on planning and strengthening Southern Company's 500 kV backbone system. He also gained commercial power systems experience with Siemens Westinghouse Technical Services.

Dr. Galli has taught at the university level and has helped design shipboard power systems for the Department of Defense. Dr. Galli holds Bachelor and Master of Science degrees from Louisiana Tech University and a Doctor of Philosophy degree from Purdue University, all in electrical engineering. He is a Senior Member of the Institute of Electrical and Electronics Engineers, a member of CIGRE, and is a registered Professional Engineer in the Commonwealth of Virginia.

Mario Hurtado
Executive Vice President; Project Manager of Plains and Eastern Clean Line LLC
Mario Hurtado leads the development efforts for the Project including the management of the regulatory procedures, outreach efforts, environmental considerations, and siting planning necessary for implementing the Project. Mr. Hurtado has developed and managed power and other energy infrastructure with large corporate and early-stage venture companies in the electric power and natural gas industries for over 20 years. Mr. Hurtado headed all development and operations in Central America and the Caribbean at Globeleq, a successful power developer and operator focused on the emerging markets. While at Globeleq, Mr. Hurtado acquired, built and managed a portfolio of traditional and renewable electric generating plants. As an executive at Reliant Energy and Duke Energy, he led corporate transactions and managed the commercial issues involving large utilities and generating plants throughout the U.S. and Latin America. Mr. Hurtado has also developed liquefied natural gas terminals in the U.S. and Europe.

Mr. Hurtado received his Bachelor of Arts from Columbia University in New York City with a major in Political Science.

Jimmy Glotfelty
Executive Vice President, External Affairs
Jimmy Glotfelty brings almost two decades of transmission experience to Clean Line, with experience in both the public and private sectors. He is a well-known expert in electric transmission and distribution, generation, energy policy and energy security. He most recently held the position of Vice President, Energy Markets, for ICF Consulting. Mr. Glotfelty served in the U.S. Department of Energy where he was the Founder and Director of the Office of Electric Transmission and Distribution, a $100 million per year electricity transmission and distribution research and development program. During Mr. Glotfelty's tenure at the U.S. DOE, he led the administration's electricity policy efforts and managed the research and writing of several strategic studies on key transmission and distribution technologies, regional management of the U.S. transmission grid, identifying major transmission bottlenecks and securing the critical energy infrastructure of the United States. Mr. Glotfelty was also the lead U.S. representative to the Joint U.S.-Canada Power System Outage Task Force investigating the Blackout of August 2003.

Before working at the U.S. DOE, Mr. Glotfelty worked at Calpine Corporation, an independent power supplier, where he served on power plant development teams and managed external relations for 14 states. Mr. Glotfelty has also served as a Senior Energy Policy Advisor to the Governor of the State of Texas where he worked extensively with members of the Texas Legislature and industry to pass legislation that created a robust renewable portfolio standard and competitive wholesale power markets in Texas.

David Berry
Executive Vice President – Strategy & Finance
David Berry is responsible for Clean Line Energy Partners' financing efforts, deal structuring, accounting and strategic analysis. Mr. Berry's prior employment was with Horizon Wind Energy as the Director of Finance. At Horizon, Mr. Berry worked on and led over $2 billion of project finance transactions, including a non-recourse debt financing that was named North American Renewables Deal of the Year by Project Finance, and several structured equity transactions. He was also responsible for investment analysis and acquisitions. Mr. Berry is a graduate of Rice University.

Cary Kottler
Executive Vice President and General Counsel
As Executive Vice President and General Counsel, Cary Kottler is responsible for all legal, contractual, regulatory, and compliance matters for Clean Line. In addition Mr. Kottler works on Clean Line's commercial arrangements and advises on business development opportunities and corporate strategy. Prior to joining Clean Line, Mr. Kottler worked as a corporate attorney for Vinson & Elkins, where he specialized in mergers and acquisitions, project development and private equity investments. He completed transactions ranging in value from $5 million to over $4 billion and encompassed many areas of the renewable energy industry, including wind, solar, and geothermal energy.

Mr. Kottler received a Bachelor of Arts from Rice University and a Juris Doctor from the University of California at Los Angeles.

Regulatory Decisions Regarding Managerial, Financial and Technical Experience

The management team of Clean Line also supports Clean Line's other projects. For both the Plains & Eastern Project and other Clean Line projects, several state regulatory commissions have found the company to have the requisite capability to construct transmission infrastructure in their respective states.

From the Oklahoma Corporation Commission regarding the Plains & Eastern Project:

On October 28, 2011, the Oklahoma Corporation Commission ("OCC") granted the application of Plains and Eastern Clean Line Oklahoma LLC for authority to operate as an electric transmission public utility in Oklahoma (Cause No. PUD 2010075). The OCC affirmed the Administrative Law Judge's recommendation that Plains and Eastern Clean Line Oklahoma LLC "possesses the financial, managerial, and technical experience to build, own, and operate transmission in Oklahoma."[3]

From Kansas Corporation Commission regarding the Grain Belt Express Clean Line transmission project:

On December 7, 2011, the Kansas Corporation Commission ("KCC") granted the application of Grain Belt Express Clean Line LLC to operate as a public utility in the State of Kansas (Docket No. 1-GBEE-624-COC). The KCC found that "…there is sufficient competent evidence demonstrating that Clean Line has the managerial, financial, and technical experience to construct, operate, and maintain the line."[4]

From the Indiana Utility Regulatory Commission regarding the Grain Belt Express Clean Line transmission project:

On May 22, 2013, the Indiana Utility Regulatory Commission ("IURC") granted Grain Belt Express Clean Line LLC the authority to operate as a transmission-only public utility in the State of Indiana (Cause No. 44264). Among other things, the IURC found that "Petitioner submitted extensive evidence of its technical, managerial, and financial capability to construct, own and operate the Project.[5]

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[3] Order No. 590530, Cause No. PUD 201000075, *In the Matter of the Application of Plains and Eastern Clean Line LLC, to Conduct Business as an Electric Utility in the State of Oklahoma*, Exhibit A, 2.

[4] Order Approving Stipulation & Agreement And Granting Certificate, Docket No: 11-GBEE-624-COC, *In the Matter of the Application of Grain Belt Express Clean Line LLC for a Limited Certificate of Public Convenience to Transact the Business of a Public Utility in the State of Kansas*, 25.

[5] Order of the Commission, Cause No. 444264, Petition of Grain Belt Express Clean Line LLC for: *(1) a Determination of its Status as a "Public Utility" under Indiana Law; (2) a Determination that it has the Technical, Managerial, and Financial Capability to Operate as a Public Utility in Indiana; (3) Authority to Operate as a Public Utility in Indiana, including Authority to Exercise all Rights and Privileges of a Public Utility Accorded by Indiana Law; (4) Authority to Transfer Functional Control of Operation of its Transmission Facilities to be Constructed in Indiana to a Fully Functioning Regional Transmission Organization; (5) a Determination that the Commission should Decline to Exercise Certain Aspects of its Jurisdiction over Petitioner Clean Line LLC; (6) Authority to Locate its Books and Records Outside the State of Indiana; (7) Consent by the Commission to Boards of County Commissioners for Petitioner Clean Line LLC to Occupy Public Rights of Way, to the Extent it may be Necessary; and (8) all other Appropriate Relief*, 18-19.

From the Illinois Commerce Commission regarding the Rock Island Clean Line transmission project:
On November 25, 2014, the Illinois Commerce Commission ("ICC") granted Rock Island Clean Line public utility status in the state of Illinois. Among other things, the ICC found that "….Rock Island is capable of efficiently managing and supervising the construction process and has taken sufficient action to ensure adequate and efficient construction and supervision of the construction; that Rock Island is capable of financing the proposed construction without significant adverse financial consequences for the utility or its customers; and that the construction of the proposed transmission line Project will promote the public convenience and necessity; . . . [and that] pursuant to Section 8-406 of the Act, a Certificate of Public Convenience and Necessity should be issued to Rock Island as ordered below."[6]

National Grid

National Grid, Clean Line's major investor, has extensive experience in developing, constructing, owning and operating transmission networks, including HVDC transmission, in the United States, in the United Kingdom and in Europe.

National Grid built, operates and owns a majority share of the U.S. portion of a 2,000 MW HVDC interconnector that operates at 450kV between New England and Canada.

National Grid owns half of BritNed Link, a 156-mile, bi-pole HVDC electricity interconnector with 1,000 MW capacity each way that connects the Isle of Grain, UK to Massvlakte, Netherlands.

Interconnexion France-Angleterre (IFA) is a 2,000 MW, 42-mile HVDC interconnector between England and France that includes 27 miles of undersea cable. Commissioned in 1986, IFA is part of a joint agreement between National Grid and France's Transmission Service Operator, RTE. National Grid jointly owns and operates IFA. National Grid and Scottish Power Transmission are jointly developing the Western HVDC Link, which is a 250-mile, 600 kV, 2,200 MW subsea HVDC cable on the western side of the UK that will connect Scotland with England and Wales. The commercial operation date for this project is 2016.

National Grid is also currently working with the transmission service operators in Belgium and Norway to develop a 450-mile, 1,000 – 1,500 MW HVDC electricity interconnector between those countries and Great Britain, with a projected commercial operation date of 2018 or 2019.

The Clean Line management team consults regularly with the construction management and technical teams of National Grid, who implemented the BassLink HVDC transmission project between mainland Australia and Tasmania and the BritNed HVDC transmission project between the United Kingdom and the Netherlands. National Grid has made, and has committed that it will continue to make, its construction management resources available to aid Clean Line and its project companies whenever necessary.

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[6] Order, Docket No. 12-0560, *Petition for an Order granting Rock Island Clean Line LLC a Certificate of Public Convenience and Necessity pursuant to Section 8-406 of the Public Utilities Act as a Transmission Public Utility and to Construct, Operate and Maintain an Electric Transmission Line and Authorizing and Directing Rock Island pursuant to Section 8-503 of the Public Utilities Act to Construct an Electric Transmission Line*, 222.

Strategic Partnerships with Manufacturers and Service Providers

Finally, Clean Line has contracted with industry-leading, experienced, contractors and consultants to assist in the design and construction of the Project. Additional information on each of the companies that will be used to support the proposed project, to the extent such entities are known at this time, is below.

Fluor Enterprises, Inc.

Clean Line has signed a Development Agreement with Fluor for Fluor to provide construction advisory and development services for the Project. As part of this arrangement, Fluor – with Pike Energy Solutions as a subcontractor to Fluor – has been providing initial permitting and EPC development support services for the Project. As further described in Section 3.4.1 of this Part 2 Application, Fluor provides support on routing, engineering, construction feasibility, subcontractor outreach, and other activities leading to the construction of the transmission line. The selection of Fluor for provision of construction advisory and development services was the result of a competitive process with participation from multiple engineering and construction firms. Fluor was selected because of their strong combination of technical and financial qualifications.

Fluor is a Fortune 500 engineering, procurement, construction maintenance and project management company. Founded in 1912 and employing over 41,000 people worldwide, Fluor has completed hundreds of energy, infrastructure, and industrial projects on six continents. Fluor has extensive project experience in the Southeast, including large-scale linear projects such as the Conway Bypass Design-Build and the Carolinas and SCG Pipeline Projects. Pike Energy Solutions is part of Pike Corporation, which was founded in 1945. Pike Energy Solutions provides engineering, construction and maintenance services for distribution and transmission power lines, substations, and renewable energy projects. Pike provided EPC services for SC Electric & Gas, V.C. Summer Nuclear Station Infrastructure Expansion.

POWER Engineers

POWER has performed engineering for the transmission line design of the Project. As further described in Section 3.4.1, engineering activities for the Project completed by POWER include: conductor optimization studies, selection of a family of transmission structures, desktop geotechnical analysis of the study area, and conceptual foundation design. POWER provides ongoing transmission line engineering support for the Project and has developed preliminary design criteria and structure designs and provided engineering support in the route development process. POWER reviews all design criteria and optimizes designs for efficient procurement and construction.

POWER Engineers is a global consulting engineering firm that provides engineering/design, construction, asset management, and other services to the power generation and power delivery industries. POWER has successfully completed engineering designs and reviews on hundreds of transmission and substation projects across the country and the globe, including HVDC transmission projects.

TransGrid Solutions
Clean Line has developed the design specifications for the HVDC converter stations for the Project with assistance from TGS. Clean Line will work with TGS to finalize a performance specification for the Project. The TGS team has substantial experience in HVDC engineering and design and has been involved in a large percentage of the HVDC projects around the world that are either currently in service or under construction. TGS has completed a technical specification for the Project's HVDC system, and on the basis of this specification, multiple vendors have submitted proposals to supply the converters for the Project. TGS will also consult as an owner's engineer during the HVDC vendor selection process and afterward during the design process.

Contract Land Staff
Clean Line is working with Contract Land Staff ("CLS") on activities related to land and right-of-way acquisition, including but not limited to collecting and managing parcel data, preparing for and attending public meetings, coordinating market appraisals, contacting and negotiating with landowners, and acquiring all easements necessary for the construction of the Project. CLS has significant experience in right-of-way acquisition. CLS has been involved in planning, managing and executing hundreds of right-of-way acquisition and land management projects covering over 25,000 miles across the country. CLS is managed and staffed to support all phases of right-of-way activities including set up, implementation of project procedures, project management, records management, title examination, civil and environmental safety support, right-of-way acquisition inclusive of agent training, and ministerial support.

General Cable Technologies Corporation
Clean Line has signed an agreement contemplating that General Cable will supply all of the overhead transmission conductor for the Project. General Cable would manufacture the conductor at its facility in Malvern, Arkansas. Clean Line intends for General Cable to source the steel wire for the conductor from Bekaert Corporation Van Buren which operates a manufacturing facility in Van Buren, Arkansas. There are more than 400 Arkansans employed at the General Cable Malvern and Bekaert Steel Van Buren facilities.

General Cable is a Fortune 500 Company with over 14,500 employees and that is one of the largest wire and cable manufacturers in the world. General Cable's power and control cables serve an extensive range of markets including solar, wind, and power generation. General Cable has been supplying cable domestically since 1844. Founded in 1880 and employing 27,000 employees worldwide, Bekaert is a world market and technology leader in steel wire transformation and coatings.

Pelco Structural, LLC
Clean Line has signed an agreement with Pelco Structural contemplating that Pelco Structural will supply tubular monopole transmission structures for the Project. Pelco Structural will manufacture these structures at its facility located in Claremore, Oklahoma. Approximately 100 Oklahomans are employed at this facility. Pelco Structural is a manufacturer of custom steel-pole designs and fabrications with over 40 years of experience in marketing, designing, and manufacturing steel poles, including multi-section transmission pole designs that satisfy high strength and height requirements.

SEVES-Sediver USA

Clean Line has signed an agreement with SEVES USA, Inc. whereby Sediver (a business unit within SEVES) will supply High Resistivity Toughened Glass insulators for the Plains & Eastern Project. Sediver will manufacture all of the insulators for the Project. Sediver was among the first manufacturers to develop insulators for HVDC overhead transmission line applications. To date, Sediver has more than six million toughened glass insulators in service on DC transmission lines around the world on voltages up to ±800 kV and is by far the world-leading DC insulator supplier to transmission grids.

8 Technical Design Information

Provide a technical description including the number of circuits, with identification as to whether the circuit is overhead or underground, the operating voltage and frequency, and the conductor size, type, and number of conductors per phase. Technical diagrams that provide clarification of any of the above items should be included.

As described in greater detail in Section 1 (Project Description) of the Part 2 Application, the Project includes a ±600 kV overhead high-voltage direct current transmission line, AC/DC converter stations and associated connection facilities located southeast of Guymon in Texas County, Oklahoma, and northeast of Memphis in Shelby County, Tennessee, as well as an AC collection system located in the Oklahoma and Texas Panhandle region. An intermediate converter station located in Pope County or Conway County, Arkansas, with the capacity to deliver an additional 500 MW via an interconnection with MISO in Arkansas, is also under consideration by DOE as part of its review of the Project pursuant to NEPA.

The Plains & Eastern Project Design Criteria, including technical specifications, can be found in Appendix 8-A. The HVDC line includes one ±600 kV HVDC overhead transmission line. The line will have two poles, one on either side of a transmission structure, each containing triple-bundled, 2156 kcmil "Bluebird" ACSR conductor (or an area-equivalent trapezoidal conductor 2162.5 kcmil "Bluebird" ACSR/TW). The Project will utilize a dedicated metallic return (DMR) conductor for imbalance currents and also during monopolar operation (e.g., during a maintenance outage of one pole). The DMR will be double-bundled (split to either side of the structure) 1780 kcmil "Chukar" ACSR conductor.

Figure 2.1-1 in the Draft EIS shows a typical converter station layout. Tables 2.1-1, 2.1-2 and 2.4-2 in the Draft EIS provide the typical facility dimensions and anticipated land requirements for the Oklahoma, Tennessee and Arkansas converter stations, respectively, during construction and operations and maintenance. Each converter station will be similar to a typical AC substation, but with additional equipment to convert between AC and DC. Ancillary facilities such as communications equipment and cooling equipment will be required at each converter station. Each converter station will include a DC switchyard, DC smoothing reactors, DC filters, valve halls (which contain the power electronics for converting AC to DC and vice versa), AC switchyard, AC filter banks, AC circuit breakers and disconnect switches, and transformers.

The Project will include an AC collection system, which will consist of between four and six AC transmission lines with voltages of up to 345 kV and will connect the Oklahoma converter station to wind energy facilities in the Oklahoma and Texas Panhandle regions. The AC collection system includes right-of-way for the transmission lines, tubular or lattice steel structures used to support the transmission line, electrical conductor, communications/control and protection facilities (optical ground wire and fiber optic regeneration sites), and access roads for construction, operations and maintenance of the transmission line.

Interconnections with SPP, TVA and MISO are under review in coordination with the interconnecting transmission owner. AC transmission lines will connect each converter station

to the existing grid. Based on interconnection studies performed to date, the interconnection with the electric grid in Oklahoma will be at 345 kV, and the interconnection with the electric grids in Arkansas and Tennessee will be at 500 kV. Additional information on the interconnection studies is provided in Section 10 of this Part 2 Application.

All technical information for the Project in this Part 2 Application is subject to further engineering and environmental review. Clean Line will complete final design for the HVDC transmission line after a final route has been chosen and following the completion of detailed engineering studies and right-of-way acquisition activities. The final design and location of the transmission line will be consistent with the project description and analysis contained in the Environmental Impact Statement.

a. *If the proposed interconnection is an overhead line, the applicant must also provide: the wind and ice loading design parameters, a full description and drawing of a typical supporting structure including strength specifications, the structure spacing with typical ruling and maximum spans, the conductor spacing, and the designed line-to-ground and conductor side clearances. Technical diagrams that provide clarification of any of the above items should be included.*

Wind and ice loading conditions and design parameters for the HVDC transmission line are provided in the Design Criteria, Appendix 8-A to the Part 2 Application.

Clean Line provided to DOE typical structure descriptions and drawings for their NEPA analysis. Structure descriptions are included in Section 2.1.2.2.2 of the Draft EIS. Structure drawings are included in Figures 2.1-19 through 2.1-25 in the Draft EIS. However, since that information was provided, Clean Line engaged in ongoing engineering work for the Project. Attached as Appendix 8-B are detailed drawings and designs for lattice structures and tubular poles, including conductor spacing. Span lengths are provided in Appendix AA to the Design Criteria. Clearance calculations are available in Appendix A to the Design Criteria.

Typical structures for AC interconnection between the converter stations and the existing grid include both 345 kV and 500 kV lattice structures and tubular pole structures. The dimensions of these respective structures are summarized in Tables 2.1-1, 2.1-2 and 2.4-2 of the Draft EIS. The typical pole structures for AC interconnection are depicted in Draft EIS Figures 2.1-5 through 2.1-16.

Clean Line anticipates that the AC collection system lines will be located within a radius approximately 40 miles from the Oklahoma converter station. Clean Line based the 40-mile radius on preliminary studies of engineering constraints and wind resource data, industry knowledge, and economic feasibility. Wind farms will connect to the AC collection system by way of a direct tap, a bus ring, or a small substation (about 2 to 5 acres in size) with transformer and switching equipment. The type and size of these AC connections have not been finalized at this time; the final design of these facilities will depend on a number of factors including their location, the number of connections, and the nameplate capacity and voltage of generation facilities.

b. If an underground or underwater interconnection is proposed, the applicant must also provide: the burial depth, the type of cable and a description of any required supporting equipment, and the cathodic protection scheme. Technical diagrams that provide clarification of any of the above items should be included.

Not applicable.

c. A general area map with a scale not greater than 1 inch=40 kilometers (1 inch=25 miles) showing the overall system, and a detailed map at a scale of 1inch=8 kilometers (1 inch=5 miles) showing the physical location, longitude and latitude, of the facility in each impacted state. The maps, plans, and description of the facilities shall distinguish the existing facilities or parts thereof from those to be constructed.

General area and detailed maps of the Project are included as Appendix 8-C.

9 Landowners

a. Describe any efforts to coordinate with Southwestern regarding land acquisition or information relating to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended.

Clean Line has held initial discussions with Southwestern on Clean Line's plans for right-of-way acquisition pursuant to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. These discussions will continue as the Project progresses. The *Right-of-Way Acquisition Plan under the Uniform Act for the Plains & Eastern Clean Line Transmission Project*, attached as Appendix 9-A, outlines the guidelines and procedures related to the Uniform Act that Clean Line intends to follow for the Project. Subject to further conversations with Southwestern this document will be further revised and refined. The *Proposed Participation Agreement Term Sheet for the Plains & Eastern Clean Line*, attached as Appendix 4-A, provides additional detail on the nature of Southwestern's proposed participation in the Project.

b. Describe how many potentially-affected landowners have been contacted by the applicant and any steps taken to obtain property interests (rights-of-way (ROWs)/easements/sales agreements) from potentially-affected landowners.

Landowner outreach is the foundation of the development process for all Clean Line's projects. Clean Line has engaged a wide variety of stakeholders—including landowners, local businesses, public officials, and conservation groups—to solicit feedback early and often throughout the development process of the Plains & Eastern Project. These efforts have been undertaken through a combination of on-the-ground community outreach, mailings, organized workshops, office hours and public meetings, as well as individual meetings with local officials and other stakeholders.

Over the past several years, Clean Line has held numerous community roundtable meetings, which served to provide an overview of the Project, discuss the routing team's siting criteria and methodology, and collect feedback on routing efforts and information about the Project area under study. Clean Line incorporated feedback from these meetings into the identification of a proposed network of potential routes for the transmission line. In 2012 and 2013, Clean Line held a series of open house meetings across the Project area in Oklahoma, Arkansas and Tennessee. These meetings were open to the general public. The purpose of these meetings was to provide information regarding the Project, present routing work conducted to date, and gather feedback from the public on that routing work as well as additional information about the area under study for the Project. Clean Line provided notice of these meetings through a combination of press releases, notices in local newspapers, Project website updates, social media notices, radio spots, and e-mail. In many cases, Clean Line requested that email recipients forward the email to anyone else who the recipient believed might be interested in the Project to achieve broader dissemination. Over 1,000 stakeholders attended those open house meetings. From May to August 2014, Clean Line held 30 additional public open house meetings in Oklahoma and Arkansas to receive additional feedback from landowners, to answer questions and to provide more information about the Project. Clean Line representatives met

with over 500 stakeholders at these meetings, answering questions regarding routing, the NEPA environmental review process, compensation and other topics.

Clean Line identified a 200-foot-wide representative right-of-way for DOE's environmental review in the Draft EIS. During 2014, Clean Line representatives actively contacted individual landowners with property in the representative right-of-way and some adjacent properties in Oklahoma and Arkansas that had been identified as potentially affected by the Project. The purpose of that contact was to (i) introduce the Project to the landowners; (ii) request survey permission for environmental, boundary, geotechnical and other surveys; and (iii) gather feedback from landowners on the Project and routing. As of this Part 2 Application, Clean Line representatives have personally contacted the owners of 87% of parcels along the representative right-of-way. Contacts have been made by phone and in person. To date, Clean Line has limited easement acquisition efforts in Arkansas and Oklahoma to a few instances. During the course of the outreach efforts outlined above, Clean Line has acquired easements on 16 parcels in Oklahoma and Arkansas. In advance of a Record of Decision, Clean Line may continue to negotiate and acquire easements, at its sole risk and cost.

In Tennessee, Clean Line has directly contacted landowners with property located in the Proposed Right-of-Way filed with the Tennessee Regulatory Authority (the "Tennessee Proposed Right-of-Way"). The Tennessee Proposed Right-of-Way is an approximately 200-foot-wide area within the 1,000-foot Applicant Proposed Route that is studied as a part of the Draft EIS and is the result of several years of routing work. Clean Line representatives made numerous attempts to personally contact each landowner along the Tennessee Proposed Right-of-Way via US mail, by phone and by physically visiting them. To date, representatives have successfully contacted the owners of 49 of the 50 parcels along the Tennessee Proposed Right-of-Way, and have spoken or met personally with each of them to introduce and explain the Project, answer questions and negotiate easements.

Following DOE's release of the Draft EIS, Clean Line mailed specific information about the Project and contact information for Project representatives to each landowner of record with property located in one of the following areas identified in the Draft EIS:

- the Applicant Proposed Route,
- one of the alternative routes for the HVDC line,
- one of the possible corridors identified for the AC collection system, and
- the siting areas for the Arkansas converter station and Arkansas AC interconnection.

A copy of one of those letters—for a landowner along the Applicant Proposed Route in Texas County, Oklahoma—is attached as Appendix 9-B. Clean Line mailed almost 8,000 informational letters as part of this effort. In addition, on December 15, 2014, Clean Line issued a press release to print media in and near the Project area, as well as in Oklahoma City, Tulsa, Little Rock and Memphis. A copy of the press release is attached as Appendix 9-C. Multiple news outlets have covered the release of the Draft EIS. Clean Line also sent a message by email to the mailing list for the Project. The email was sent to over 4,000 recipients. A copy of the email message is attached as Appendix 9-D. Since the release of the Draft EIS and the circulation of the letter described above, Clean Line representatives have responded to over

250 landowner inquiries, largely from landowners who want to discuss the Project and request additional information.

c. Describe how many ROWs/liens have been obtained and/or sales agreements have been negotiated from potentially-affected landowners. The description should reflect either the number of miles of proposed line or the percentage of the total proposed line (including alternative routes) that have been negotiated to date.

As described above, the focus of early contact with landowners along the right-of-way in Oklahoma and Arkansas has been to answer questions and to provide information about the Project. The execution of a handful of easements has been a byproduct of those conversations in specific circumstances. With the NEPA review still underway, the final location of the easement necessary for the Project is subject to change based on the outcome of the environmental review process, landowner input, field survey, engineering and other factors. Of the approximately 720 miles of the Project, Clean Line has voluntarily negotiated easement agreements with approximately 20 miles, or 3% of the total mileage. Following DOE's Record of Decision, Clean Line will use reasonable, good faith efforts to acquire voluntarily all of the necessary right-of-way for the Project in Oklahoma, Arkansas and Tennessee.

In Tennessee, Clean Line has negotiated and signed voluntary easement agreements with the owners of 40 of the 50 parcels along the Tennessee Proposed Right-of-Way. Clean Line continues to contact and make progress in negotiations with the owners of the remaining 10 parcels.

Clean Line's policy is to negotiate easement agreements on a voluntary basis and will make every reasonable effort to obtain agreements that are fair and reasonable to both parties in a timely and efficient manner. This policy has proven effective in reaching voluntary easement agreements in Tennessee and will guide Clean Line's efforts to seek easement agreements across the Project area. This policy is described further in Section 9.d. below.

d. Describe the status of any such property interest negotiations still in progress. The description should reflect either the number of miles of proposed line or the percentage of the total proposed line (including alternative routes) that is represented by these ongoing negotiations.

In Tennessee, discussions continue to progress with the owners of the remaining 10 parcels on which voluntary agreements have not been signed. In Oklahoma and Arkansas, Clean Line has focused its efforts on landowner outreach with some limited easement acquisition. Clean Line anticipates increasing its efforts to acquire easements voluntarily in these states in 2015. Following DOE's Record of Decision, Clean Line will use reasonable, good faith efforts to acquire voluntarily all of the necessary right-of-way for the Project in Oklahoma, Arkansas and Tennessee. Clean Line will provide periodic updates to DOE and Southwestern on landowner outreach and right-of-way acquisition activities, and, following DOE's Record of Decision, Clean Line will provide these updates no less frequently than monthly.

Clean Line understands that every landowner has specific interests and concerns relating to his or her land. Clean Line's development process allows for an appropriate amount of time for

negotiations with each landowner along the route. Clean Line is committed to conducting transmission line easement negotiations in a manner that is comprehensive in its respect for the private property rights of landowners to support voluntary transmission line easement acquisition. Clean Line seeks to negotiate all easement agreements on a voluntary basis and is committed to working with landowners to minimize impacts of the Project to their properties. All easement acquisition initiated by Clean Line will be performed in accordance with the Uniform Act. The *Right-of-Way Acquisition Plan under the Uniform Act for the Plains & Eastern Clean Line Transmission Project*, attached as Appendix 9-A, outlines in greater detail guidelines and procedures related to the Uniform Act that Clean Line intends to follow for the Project.

The compensation package Clean Line has employed in its acquisition efforts to date reflects input from many individual landowners and landowner organizations and presents landowners with compensation not typically offered by most utilities. The three major components of the compensation package are: (1) a payment to the landowner for the transmission line easement, (2) a payment for each transmission line structure on the landowner's property, and (3) additional payments as compensation for specific issues that may arise.

Clean Line pays 100% of fair market value of the fee value of the land within the easement area as determined by independent appraisals or market studies. Structure compensation is calculated based on the type of structure selected by Clean Line and the number of structures located on a specific property. Clean Line is offering the landowner, at his or her option, either a one-time payment or a recurring annual payment for each structure on the landowner's property. If the landowner elects annual payments, Clean Line will make the annual structure payment as long as structures are located on the property. The payment amount for the annual structure payments will increase by two percent per year after the first structure payment is made. The third component of the compensation structure takes into account specific issues related to the parcel. Clean Line will pay for lost agricultural production as a result of the construction and operation of the Project, such a crop damages, removal of commercially marketable timber, need for field repair, temporary (during construction) or permanent impacts to center pivot irrigation systems that would reduce the effective area of the irrigation equipment or require new equipment, and other landowner-specific issues.

10 Reliability, Interconnection, and System Planning Considerations

a. Submit all reliability, interconnection, and system planning studies and agreements for the proposed project. These studies should assess both system and local needs, as well as mitigation plans identifying specific solutions to satisfy reliability standards. For all studies and reports, please describe any assumptions used in the study or report. This submittal should include as much of the following information as possible to help expedite the review process. If any such information is unavailable, or otherwise will not be provided, please provide an explanation for why such information will not be provided or, if applicable, a schedule for when such information will be available.

Since the July 2010 Proposal submitted to DOE, Clean Line has made substantial progress toward each of the Interconnection Agreements necessary to ensure reliable operation of the power system following completion of the Project. As described in further detail below, existing system operators at the sending and delivery points of the Project have concluded—based on extensive study work—that Project operation, in conjunction with certain specific system upgrades, will not negatively impact system reliability under both normal and contingency conditions. Detailed design of identified system upgrades is underway. Working with the interconnecting utilities and RTO/ISOs, Clean Line will conclude remaining study work and execute Interconnection Agreements prior to placing the Project in service and will provide those studies and agreements to DOE once they are complete.

i. Identification of points of interconnection (also known as points of receipt (POR) and points of delivery (POD)), including the identification of all Transmission Owners at the points of interconnection.

Within SPP, the Project will connect at the to-be-constructed Southwestern Public Service Company[1] Optima substation in Texas County, Oklahoma. In MISO, the Project will connect to the existing system by way of a direct tap or small switchyard along the existing Entergy Arkansas, Inc. Arkansas Nuclear One-Pleasant Hill 500 kV AC transmission line 500 kV in Pope County, Arkansas. In the TVA region, the Project will connect to the existing TVA Shelby substation in Shelby County, Tennessee.

ii. Identification of the registered NERC Reliability Coordinator(s), NERC Planning Coordinator(s), and Balancing Authorities for the project study area.

The Project area is encompassed within the following NERC Reliability Coordinator areas: Southwest Power Pool, Midcontinent Independent System Operator, and Tennessee Valley Authority. Each of those entities is also a NERC Planning Authority. The Project area is encompassed within the following NERC Balancing Authorities: Southwest Power Pool's "Consolidated Balancing Area," Southwestern Power Administration, Midcontinent Independent System Operator, and Tennessee Valley

[1] Southwestern Public Service Company ("SPS") is a wholly owned subsidiary of Xcel Energy, Inc.

Authority.

iii. Identification of the FERC Order 1000 Planning Region(s) in which the project will reside, regardless of whether the project will be submitted for cost allocation or not.

The Project will not be submitted into an RTO planning process for purposes of cost allocation. No such process exists for a merchant project that encompasses several planning regions. The Project will reside in the Southwest Power Pool, the Midcontinent Independent System Operator, and the Southeast Regional Transmission Planning ("SERTP") FERC Order 1000 Planning Regions.

iv. Identification of specific reliability studies to be conducted, for each point of interconnection and those required by SPP and MISO, as well as the identification of the entity that will be conducting the study. These studies will include but not be limited to:

1. *Feasibility Study*
2. *System Impact Study*
3. *Facility Study*
4. *Other studies as required by the interconnection owner or RTO*

Interconnection with SPP and Xcel

On the western side of the Project, Clean Line has worked with SPP to ensure that the Project can reliably interconnect with SPP's grid. The connection to the Xcel Energy transmission system in SPP will provide commutating voltage to the Project, which supports robust conversion at the western converter station. In November 2012, SPP's Transmission Working Group unanimously confirmed that the Project's Criterion 3.5 studies[2] meet the SPP planning requirements and are consistent with coordinated planning practices of SPP to ensure grid reliability.[3] The studies were performed in conjunction with SPP staff as well as affected parties, including TVA, Oklahoma Gas & Electric, Xcel Energy - SPS, Entergy, Sunflower, Westar and many other entities and were independently verified by SPP consultants. The acceptance of these studies marked the successful conclusion of a study process that began in May 2010. The studies will be refreshed after detailed HVDC equipment design has been completed by a chosen HVDC manufacturer. Xcel Energy has conducted a Facilities Study of the Project's interconnection with the future Optima 345kV substation. That study is attached as Appendix 10-A.

[2] The reports associated with Project's SPP Criteria 3.5 Studies include the following: the Plains & Eastern Clean Line Dynamic Stability Report, the Steady State Analysis for SPP Criteria 3.5 Studies - Plains & Eastern Clean Line, and the Excel SPP HVDC Impact Study. The first two studies are available on Clean Line's website here: http://www.plainsandeasterncleanline.com/site/page/interconnection-studies. The Excel SPP HVDC Impact Study is available on SPP's website here: http://www.spp.org/publications/Plains%20and%20Eastern%20Interconnection%20Additional%20Material.zip (last accessed January 8, 2015).

[3] Southwest Power Pool Transmission Working Group Meeting Minutes, (November 7-8, 2012). Available here: http://www.spp.org/publications/TWG%2011.7%20&%208.12%20Minutes%20&%20Attachments.pdf (last accessed Jan 7, 2015).

Interconnection with MISO and Entergy Arkansas

An intermediate converter station located in Pope County or Conway County, Arkansas, with the capacity to deliver an additional 500 MW via an interconnection with MISO in Arkansas, is also under consideration by DOE as part of its review of the Project pursuant to NEPA. Clean Line submitted an interconnection request to MISO dated October 30, 2013, to study a 500 MW injection at a tap of Entergy Arkansas' existing Arkansas Nuclear One-Pleasant Hill 500 kV AC transmission line. MISO has completed a Feasibility Study of this request and provided a Feasibility Study Report to Clean Line dated February 10, 2014 (attached as Appendix 10-B). MISO's Feasibility Study identified no transmission system constraints based on the Project's interconnection request. In the first quarter of 2015, the Project will enter MISO's Definitive Planning Phase, which is a two-study process including a SIS and Facilities Study. During the DPP MISO, in conjunction with Entergy Arkansas and other affected parties, will perform these studies and identify any external affected parties. After the MISO interconnection studies, Clean Line will execute a three-party Interconnection Service Agreement with MISO and Entergy Arkansas.

Interconnection with TVA

The Tennessee converter station will interconnect to TVA's existing Shelby 500 kV substation. TVA is studying the Project's interconnection of up to 3,500 MW to the TVA system in accordance with the TVA Large Generator Interconnection Procedures (LGIP).4 In March 2014, TVA delivered a final Interconnection System Impact Study report to Clean Line, attached as Appendix 10-C. The Interconnection Facilities Study Agreement was signed on July 15, 2014, and the TVA Facilities Study is underway. As part of TVA's Interconnection SIS process, Memphis, Light, Gas & Water also performed an Affected SIS, the results of which are attached as Appendix 10-D.

Also as a result of TVA's Interconnection SIS, MISO kicked-off an Affected SIS on October 9, 2014. The Affected SIS serves to identify network upgrades, if any, of facilities within the MISO system as a result of the Project's injection within the TVA system. Phase I of the Affected SIS is anticipated to be complete in January 2015. A second phase would involve a stability study and facilities study, if required. It is anticipated that MISO will accommodate this second phase of the Affected SIS within the MISO interconnection study process (the previously described DPP) when it begins in early 2015.

v. *Once completed, the applicant shall submit the reliability studies and interconnect agreements that have been identified in the plan.*

Clean Line will submit reliability studies and interconnection agreements as soon as practicable after they are completed. These studies include an Interconnection Agreement with Xcel and SPP, an Interconnection Agreement with Entergy Arkansas and MISO, and an Interconnection Agreement with TVA.

[4] Tennessee Valley Authority, Standard Large Generator Interconnection Procedures (March 1, 2014). Available here: https://www.oasis.oati.com/TVA/TVAdocs/TVALGIP2014.pdf (last accessed January 7, 2015).

vi. Provide any other studies that have been conducted to evaluate interconnection, congestion, load, etc.

Please see Appendix 2-G, a production cost analysis that evaluates the Project's impact on congestion and utility cost to serve load.

b. Submit additional project specific information necessary for evaluation of the proposed reliability study plan. This should include as much of the following information as possible to help expedite the review process:

Clean Line is currently in the process of evaluating bids from HVDC equipment providers for the manufacture and construction of the converter stations that will be installed for the Project. The bids under evaluation include detailed equipment specifications that are proposed for installation at each of the Project's point-of-interconnections. In addressing the questions below, Clean Line has provided the best information available to date; that being said, the winning bid from the chosen HVDC equipment provider will be the basis for a detailed design after which a full notice-to-proceed will be issued by Clean Line to begin manufacture of the required equipment.

i. Single-line diagram(s) showing the proposed interconnection, including any relaying and metering facilities.

A single-line diagram sourced from the HVDC specification prepared by TGS is attached as Appendix 10-E. Final design for relaying and metering facilities has not been determined at this time. A draft communications layout from the Xcel Energy Facilities Study is shown below.

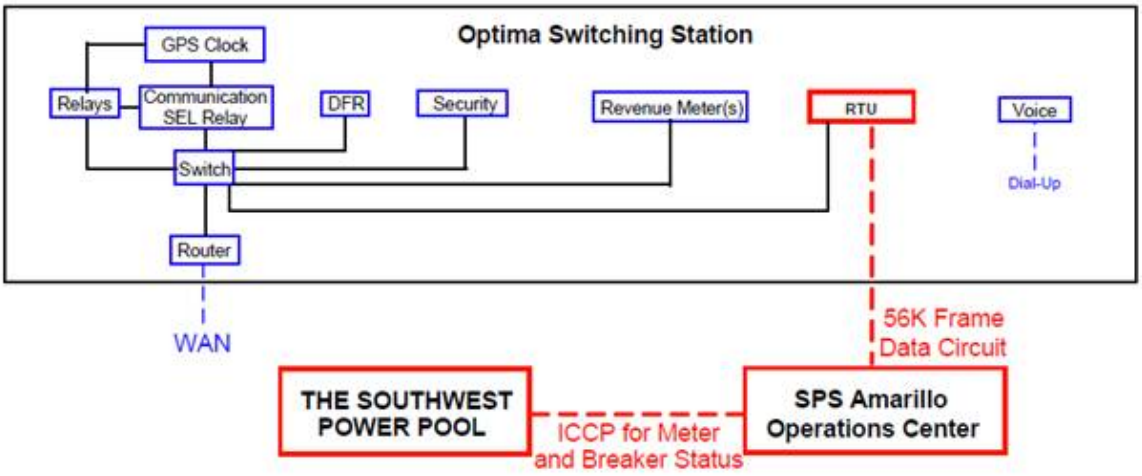

Figure 5: Draft Communications Layout from Xcel Energy Facilities Study

The final arrangements for relaying and metering facilities will be determined once interconnection agreements have been executed, as well as upon completion of any necessary seams agreements with interconnecting RTOs, ISOs, and/or utilities.

ii. Drawing(s) indicating the physical arrangements of existing and proposed facilities.

Final physical arrangements for the converter stations will be determined upon final design of the converter stations by the selected HVDC vendor, and final layout of the direct assignment facilities will be provided upon conclusion of Facilities Studies. A typical HVDC converter station layout is provided in the Draft EIS, Figure 2.1-1. In addition, prospective configurations of the modified Shelby substation in Tennessee (from the TVA SIS) and the future Optima substation in Oklahoma (from the Xcel Energy Facilities study) are attached as Appendix 10-F.

iii. Geographic location of the proposed interconnection, including land ownership pattern, if available. If a tap, indicate adjacent structure numbers.

Oklahoma Converter Station

The western terminus of the Project will interconnect to the existing transmission system operated by SPP, southeast of Guymon in Texas County, Oklahoma. To facilitate this interconnection, Xcel Energy/Southwestern Public Service Company will construct a new 345 kV substation called Optima. A double-circuit 345 kV transmission line up to 3 miles in length will interconnect the proposed converter station with the Optima Substation. Those interconnection facilities are described in more detail in Section 2.5.2 of the Draft EIS.

A map of the Oklahoma Converter Station Siting Area and the AC Interconnection Siting Area is included in Confidential Appendix 10-G.

Tennessee Converter Station

The eastern converter station will interconnect to the existing transmission system operated by TVA at the existing Shelby Substation, located in Shelby County, Tennessee. In addition to interconnection facilities, TVA's final Interconnection System Impact Study, identified substation and transmission upgrades to existing TVA system facilities to accommodate interconnection of the Project to the transmission system in Tennessee. The upgrades to the TVA transmission system are described in more detail in Section 2.5.2 of the Draft EIS.

Clean Line anticipates that the AC interconnection facilities will be contained wholly within the Tennessee converter station siting area, which is shown in Figure 2.1-4 of the Draft EIS. The interconnection to the TVA transmission system will consist of 500 kV AC transmission lines up to a mile long and/or associated new electrical hardware.

A map of the Tennessee Converter Station Siting Area is included in Confidential Appendix 10-H.

Arkansas Converter Station

During the NEPA scoping period, DOE received comments expressing concern that Arkansas will not have an interconnection to the Project. Based on these comments, DOE requested that Clean Line evaluate the feasibility of an additional converter station in Arkansas. The Arkansas converter station would be an intermediate converter station

and will not replace the Oklahoma or Tennessee converter stations. Based on Clean Line's feasibility evaluation, the Arkansas converter station would be sited in either Pope County or Conway County, Arkansas. Clean Line's preliminary design and environmental studies support the location of the Arkansas converter station in Pope County.

The Arkansas converter station would have a capacity of 500 MW and have land requirements similar to the Oklahoma and Tennessee converter stations. With the implementation of this alternative, the delivery capability of the Project would be increased to 4,000 MW.

The interconnection between the converter station and the MISO system in Arkansas would include a 500 kV AC transmission line approximately 6 miles long to an interconnection point along the existing Arkansas Nuclear One-Pleasant Hill 500 kV AC transmission line by way of a direct tap or small switchyard. The interconnection facilities would be located within a small switching/tap station of approximately 5 acres in size.

A map of the Arkansas Converter Station Alternative Siting Area and the AC Interconnection Siting Area is included in Confidential Appendix 10-I.

iv. Description of the proposed routing, approximate lengths and conductor size of transmission line additions or modifications, and dimensions and configurations of new structures.

Section 1 and Section 8 of this Part 2 Application provide a detailed description of the Project (including line length and a description of facilities) and a technical description of the Project (including conductor size and the dimensions and configurations of structures).

v. Description and ratings (both normal and emergency) of any proposed breakers, switches, metering, associated communications, relaying and other related equipment.

The HVDC Specification Development Report, attached as Appendix 10-J, provides the rating of proposed breakers at all points of interconnection as 63 kA. This rating, as well as ratings for the other equipment described above, will be finalized as part of final design with the selected HVDC vendor and with the interconnecting utilities. The final ratings of proposed breakers, switches, metering, associated communications, relaying and other equipment for the AC collection system have not been determined at this time.

vi. Description of transformer voltage and rating (both normal and emergency), winding connections, impedance if available, and proposed method of protection.

Transformer specifications can be found in Section 6 of the HVDC Specification Development Report, attached as Appendix 10-J. Final ratings and design will be

determined by the selected HVDC vendor. Transformer voltages and ratings, winding connections, impedances, and protection equipment specifications for the AC collection system have not been finalized at this time.

vii. Proposed construction schedule.

Construction of the Project will require coordination of activities to build the HVDC transmission line as well as other project facilities, including the converter stations and AC lines. Construction activities for the Project are summarized in the Draft EIS, Section 2.4.1.

In addition to the HVDC transmission line, several AC transmission lines will be constructed. These will include: a) approximately 4-6 lines with voltages up to 345 kV that make up part of the AC Collection System, b) the 345 kV AC line that will interconnect the Oklahoma Converter Station to the Optima Substation, c) the 500 kV AC line that would interconnect the Arkansas converter station to the Arkansas Nuclear One-Pleasant Hill 500 kV AC transmission line, and d) the 500 kV AC lines connecting to the TVA Shelby Substation in Tennessee. Clean Line proposes to locate the Tennessee converter stations adjacent to the TVA Shelby Substation so that the AC facilities are expected be contained within Clean Line and TVA's facility sites.

Construction activities for the HVDC and AC transmission lines will be similar in that they all involve building new overhead high voltage lines. The construction effort for the transmission lines will be staged in several geographic segments to facilitate oversight and coordination of activities. Construction teams in each segment will carry out the same basic activities as listed in the schedule. Many of the activities in the different segments will be executed in parallel, although some segments could begin and/or end earlier or later than others. Major activities include:

- right-of-way preparation including clearing and grading for the right-of-way and structure sites as well as any access roads and equipment staging areas that are needed;
- construction of access roads;
- excavation and installation of structure foundations;
- assembly and erection of structures;
- stringing of conductors and optical ground wires; and
- clean up and reclamation of agricultural land and all construction areas to original use.

The construction of the converter stations will be undertaken in parallel. The major activities include:

- civil works (clearing and grubbing, grading, and construction of access roads; fencing; compaction and foundation installation; installation of underground

electrical raceways and grounds);

- steel-structure erection and area lighting;
- installation of insulators, bus bar, and high-voltage equipment;
- installation of control and protection equipment;
- placement of final crushed-rock surface; and
- testing and electrical energization.

Both the transmission lines and the converter stations will require certain activities that will begin before mobilization of construction crews. These include:

- surveys for biological and cultural resources,
- land surveying and staking, and
- fabrication (off-site) of long lead time construction supplies (for example, large transformers, conductor wire and structures).

A proposed schedule of major construction activities is provided below and attached to this Application as Appendix 10-K. On-site construction activities are targeted to begin for the converter stations in the second quarter of 2016 and for the HVDC transmission line July of 2016. Wind generation companies will construct the new wind farms that will connect to the Oklahoma converter station. Clean Line anticipates construction of the wind farms will begin in the fourth quarter of 2016 and finish October of 2018. Commissioning of the Project will begin in the third quarter of 2018 and the Project will be placed in service by the end of 2018. This proposed schedule is subject to adjustment and the actual construction durations and completion dates will be dependent on a number of factors including weather and availability of labor.

viii. Appropriate revenue and telemetering equipment specifications. The data should include load control boundary metering, current and potential transformer ratios and register and contact initiator ratios with multipliers.

Details about revenue metering and telemetry will be one of the outputs from the ongoing Facilities Study that TVA is conducting as well as the DPP – Facilities Study that MISO will conduct in 2015. The Xcel Facilities Study, provided as Appendix 10-A to the Part 2 Application, is complete and includes a discussion of revenue metering (1.10) and telemetering (1.11, 1.12, and 1.13).

ix. Copies of relevant environmental impact assessments, reports, or projections; or description of anticipated scope of environmental review, other than the federal NEPA review currently being conducted by the Department of Energy.

Please see Draft EIS, Appendix C, "Potential Federal and State Permits and Consultation

Required for the Project" pages C-1 through C-4.[5] The table included therein describes the potential environmental reviews other than the federal NEPA review currently being conducted. The environmental review(s) associated with each applicable permit, license, compliance or review will be performed pursuant to their relevant laws and regulations.

x. Base case and benchmark models, including any modifications to base cases to create benchmark models.

Subject to the procedures outlined in 18 CFR 388.113, Clean Line will work with Southwestern and DOE to provide available study models and reports.

Southwest Power Pool

The SPP Criterion 3.5 studies were conducted with stakeholder participation at the SPP Transmission Working Group ("TWG"). The TWG proposed and approved the models used as well as the assumptions and scenarios for study. The models and assumptions are outlined in the Plains & Eastern Clean Line Dynamic Stability Report, the Steady State Analysis for SPP Criteria 3.5 Studies - Plains & Eastern Clean Line and the Excel SPP HVDC Impact Study.[6]

Midcontinent Independent System Operator

The MISO interconnection process is described in Attachment X of the MISO FERC Electric Tariff[7] and is also further described in MISO Business Practice Manual 15.[8] The determination of which models will be used for the Definitive Planning Phase of the MISO interconnection process will be based on the most up-to-date steady state and dynamic models available at the start of the DPP study. It is anticipated that these models will be the MISO Transmission Expansion Plan (MTEP) 2014 power flow and stability models including all approved Multi-Value Projects (MVPs). The MISO feasibility study was conducted with the MTEP 2012 models representing 2017. These models, which included all MISO Multi-Value Projects that have been approved to that date, were built on May 15, 2013.

Tennessee Valley Authority

The power flow models used for the TVA Interconnection SIS were the 2010 Series

[5] Draft EIS, Appendix C, "Potential Federal and State Permits and Consultation Required for the Project" pages C-1 through C-4 is also attached as Appendix 10-L.

[6] The Plains & Eastern Clean Line Dynamic Stability Report, the Steady State Analysis for SPP Criteria 3.5 Studies - Plains & Eastern Clean Line are available on Clean Line's website here: http://www.plainsandeasterncleanline.com/site/page/interconnection-studies. The Excel SPP HVDC Impact Study is available on SPP's website here: http://www.spp.org/publications/Plains%20and%20Eastern%20Interconnection%20Additional%20Material.zip (last accessed January 8, 2015).

[7] Midcontinent Independent System Operator, Attachment X, Generator Interconnection Procedures (GIP), effective November 14, 2014. Available here: https://www.misoenergy.org/Library/Repository/Tariff%20Documents/Attachment%20X.pdf (last accessed January 7, 2015).

[8] Midcontinent Independent System Operator, Generator Interconnection Business Practices Manual (effective October 31, 2014). Available for direct download here: https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=19210 (last accessed January 7, 2015).

"Long Term Study Group (LTSG) DBU" cases for the 2016 summer peak, winter, and spring demand and generation dispatch. The stability model utilized was "a 2015 summer off-peak case provided by TVA." Memphis Light Gas & Water utilized the same models as the TVA Interconnection SIS.

Midcontinent Independent System Operator Affected System Impact Study

It is expected that the models used for Phase I are the MTEP13 power flow models with all MVPs modeled and the TVA upgrades identified in the TVA Interconnection SIS included. The specific model used was not provided to Clean Line as the MISO Affected SIS is performed through coordination of the MISO and TVA seam and not under agreement with Clean Line. Once the Project enters the MISO DPP with the Arkansas interconnection, the MTEP14 models will be used for the Phase II process and will be incorporated into the MISO DPP.

11 Regulatory Requirements

a. Provide information about all regulatory filings (FERC, state, or local) and any technical conferences or other discussions with regulatory or administrative staff from FERC, state, or local bodies with possible regulatory authority over the project.

Pursuant to DOE's request, Clean Line provides the following information:

Regulatory Filings

FERC Amended Negotiated Rate Authority

In August 2014, FERC issued an order that granted negotiated rate authority to Plains and Eastern Clean Line LLC and Plains and Eastern Clean Line Oklahoma LLC to subscribe up to 100% of the line's transmission capacity through direct negotiation with anchor tenants.[1]

Oklahoma Corporation Commission

In June 2010 Plains and Eastern Clean Line Oklahoma LLC applied to the Oklahoma Corporation Commission to conduct business as a public utility. In October 2011 the Oklahoma Corporation Commission found that Plains and Eastern Clean Line Oklahoma LLC met all of the legal requirements for a public utility. [2] As an Oklahoma public utility, Plains and Eastern Clean Line Oklahoma LLC can construct, own and operate transmission lines within the state of Oklahoma. Under the terms of that approval, Clean Line has regularly submitted progress reports to the Oklahoma Corporation Commission.[3]

Tennessee Regulatory Authority

On April 4, 2014, Plains and Eastern Clean Line LLC filed a Petition for a Certificate of Convenience and Necessity Approving a Plan to Construct a Transmission Line and to Operate as an Electric Transmission Utility in the State of Tennessee. The Tennessee Regulatory Authority (TRA) held an evidentiary hearing on November 4, 2014 in Nashville, Tennessee, to receive verbal testimony to supplement the written testimony filed in Clean Line's docket.

Arkansas Public Service Commission

In May 2010, Plains and Eastern Clean Line LLC filed an application for a Certificate of Public Convenience and Necessity requesting utility status in Arkansas. In January 2011, the PSC denied the application without prejudice and cited the language of the relevant statutes limiting the jurisdiction of the PSC, pointing out the circularity involved in the statutory language, stating that "[t]he difficulty the Commission now faces is that the law governing public utilities was not drafted to comprehend the changes in the utility industry such as this one – where a non-utility, private enterprise endeavors to fill a void in the transmission of renewable power that is much needed but for which the Commission is unable to afford any regulatory oversight." However, the order emphasized that the PSC is not opposed to independent transmission construction and praised Clean Line's efforts as "laudable" and stated that "its

[1] 148 FERC ¶ 61,122, Docket No. ER14-2070-000 (2014). Clean Line had previously received negotiated rate authority from FERC to subscribe up to 75% of the Project's transmission capacity.
[2] Order No. 590530, Cause No. PUD 201000075, *In the Matter of the Application of Plains and Eastern Clean Line LLC, to Conduct Business as an Electric Utility in the State of Oklahoma.*
[3] Reports have been filed under Cause No. PUD 201100205, 201200151, 201200281, 201300061, and 201400148.

work is to be commended."[4]

Technical Conferences or Other Comments

FERC Post-Workshop Comments

In March 2012, Clean Line Energy Partners LLC filed comments regarding FERC Docket No. AD12-9-000, Allocation of Capacity on New Merchant Transmission Projects and New Cost-Based, Participant Funded Transmission Projects.[5] On February 28, 2012, FERC Staff convened a workshop that provided interested parties with the opportunity to discuss issues related to the new ownership and capacity sales models that have emerged for developing, owning, and operation electric transmission infrastructure. Parties also were invited to submit comments to address issues raised during the workshop. On March 28, 2012, Clean Line filed comments with FERC discussing the need for the anchor tenant process to allow for customization and negotiation that is not possible in an open season and advocating that the Commission allow developers to sell 100% of the their capacity through an anchor tenant process subject to certain conditions.

Comments to DOE Congestion Study

On October 20, 2014, Clean Line filed comments regarding the draft *National Electric Transmission Congestion Study* published by DOE in August 2014.[6] In those comments, Clean Line provided an update to the project descriptions of the Project and the Grain Belt Express Clean Line and advocated for continued identification of Type 1 Conditionally Constrained Areas.

Comments to DOE Quadrennial Energy Review

On September 8, 2014, Clean Line submitted comments to the Quadrennial Energy Review Task Force providing additional information about HVDC technology and its potential to play an essential role in unlocking the nation's lowest-cost renewable energy resources and advancing an affordable, cleaner energy future.

Oklahoma Administrative Rulemaking

In March 2012, Clean Line filed comments with the Oklahoma Corporation Commission regarding proposed rules amending Chapter 35 of Title 165 of the Oklahoma Administrative Code. Those comments maintained that annual transmission reporting requirements ought to apply equally to all utilities, including both integrated utilities engaged in transmission and to transmission-only utilities

Other Clean Line Discussions with Regulatory or Administrative Staff from Federal, State, or Local Bodies with Possible Regulatory Authority over the Project

In addition to those listed above, Clean Line representatives have met with federal, state and local agencies that ultimately may have permitting or other regulatory authority over the

[4] Order No. 9, Docket No. 10-041-U, *In the Matter of the Application of Plains and Eastern Clean Line LLC for a Certificate of Public Convenience and Necessity to Construct, Own and Operate as an Electric Transmission Public Utility in the State of Arkansas*, pp. 9-10.

[5] 142 FERC ¶ 61,038, Docket No. AD12-9-000, *Allocation of Capacity on New Merchant Transmission Projects and New Cost-Based, Participant-Funded Transmission Projects* (2012).

[6] US Department of Energy, *National Electric Transmission Congestion Study*, Draft for Public Comment, August 2014.

Project. A list of federal, state and local permits or authorizations that may be required for the Project is included in the Draft EIS as Appendix C and attached to this Part 2 Application as Appendix 10-L. Review(s) associated with each applicable permit, license, compliance or review will be performed pursuant to their relevant laws and regulations.

Prior to the beginning of DOE's formal review process under NEPA, Clean Line engaged in a multi-step coordination process to solicit specific input and feedback on routing methodology and work product. A detailed description of that process is provided in Section 4 of the Project Siting Narrative, Appendix B to the DOE Alternatives Development Report.[7] Clean Line conducted two rounds of meetings with federal and state resource agency representatives in Oklahoma, Arkansas, and Tennessee in February and March 2011 and again in September 2012. The goals of the 2011 meetings were to initiate preliminary agency outreach, present a Project overview and anticipated schedule, discuss the Routing Team's siting criteria and methodology, and gather additional information to inform the remainder of the route selection process. Clean Line solicited input on potential permits, environmental concerns, the Study Area, and routing work conducted to date. The September 2012 meetings included a brief overview of the Project, a Project status update, a review of the route selection process to date, and a map review session during which agency officials were asked to comment on routing opportunities and sensitivities.

DOE is acting as the lead agency for the review of the Project under NEPA and preparation of the Plains & Eastern EIS. As the Applicant, Clean Line has been invited by DOE to participate and provide technical support in certain meetings and discussions between DOE and other agencies that are participating in the NEPA review as either cooperating or coordinating agencies. The cooperating agencies for the Plains & Eastern EIS are identified in Chapter 1 of the Draft EIS, Table 1.2-1. Other federal and state agencies also have participated in routing and siting activities related to their jurisdiction, authority, or expertise. Section 1.3 of the Draft EIS describes the roles and responsibilities of federal agencies other than those identified as cooperating agencies. Further, information on communications and discussions between DOE and other federal, state or local agencies in preparation of the Draft EIS is provided in Appendix B to the Draft EIS.

Clean Line also has been engaged in meetings as part of its role in DOE's consultations on the potential effects of the Project with Native American tribes under Section 106 of the National Historic Preservation Act ("NHPA") and the U.S. Fish and Wildlife Service ("USFWS") pursuant to Section 7(a)(2) of the Endangered Species Act ("ESA"). Clean Line has been designated by DOE as a non-federal representative for purposes of the consultation with U.S. Fish and Wildlife Service on the Project pursuant to section 7(a)(2) of the Endangered Species Act. In its role as the designated non-federal representative, Clean Line has met and corresponded with representatives from USFWS Regions 2 and 4 as part of the informal consultation on the Project, including on matters related to the preparation of a Biological Assessment.

In addition, Clean Line has been designated by DOE as the non-federal representative for purposes of the NHPA Section 106 consultation. In its role as designated non-federal

[7] Tetra Tech, *DOE Alternatives Development Report* (December 2013). Tetra Tech prepared this document for the US Department of Energy and is a reference to the Draft EIS.

representative, Clean Line has met and corresponded with representatives from the Oklahoma Historical Society, the Arkansas Historic Preservation Program, the Tennessee Historical Commission, and the Texas Historical Commission several times since 2012 regarding the effect of the Project on historic properties. In addition, Clean Line has participated with DOE, as part of DOE's government-to-government consultation, in several meetings with federally-recognized Indian Tribes that may attach traditional religious and cultural significance to historic properties that may be affected by the Project, as well as meetings with other federal agencies participating in the Section 106 consultation. DOE, Clean Line and representatives for the state historical preservation offices and the federally-recognized Indian Tribes are continuing to meet regularly to develop a Programmatic Agreement addressing the effects of the Project on historic properties.

b. Explain whether the proposed project is part of a regional planning effort or a FERC Order 1000 effort.

As discussed in detail Sections 2 and 3 earlier in the Part 2 Application, Clean Line is engaged in interconnection processes with SPP, MISO and TVA, the regional grid operators to which the Project will interconnect. These interconnection processes are conducted consistent with applicable tariff requirements of SPP, MISO and TVA and include planning assessments related to the reliable interconnection and operation of the Clean Line facilities with reach respective system. At the point in time that the relevant interconnection agreement is complete, the Plains & Eastern Project will be explicitly incorporated into and part of the TVA, SPP and MISO transmission plans.

As an interregional and merchant transmission project, the Project is not explicitly a part of a FERC Order 1000 effort. Notably, as discussed in Section 2.6, the SPP, MISO and TVA systems do not have coordinated interregional processes under Order No. 1000 that would cover the interregional scope of the Project. Particularly, the Order No. 1000 process only requires interregional planning between adjacent control areas. Moreover, FERC has not yet approved a program for interregional planning between SPP and MISO. The Plains & Eastern Project responds to the clear interregional need for new transmission capacity from generators in SPP to load within MISO and TVA and the Southeast. In doing so, the Project is addressing the type of interregional needs identification and implementation of solutions that FERC has sought to foster under Order No. 1000. That being said, since there is no existing framework for coordinated planning between SPP, MISO and TVA on such interregional needs, the scope of the interregional coordination that is currently underway does not cover projects like the Plains & Eastern Project.

c. Explain whether the proposed line will provide transmission service under stated cost-of- service rates or under negotiated rates.

As described in the answer to request 11.d. below, FERC has granted Clean Line's request to sell up to 100% of the line's capacity at negotiated rates, subject to FERC's acceptance of a compliance filing and rate schedule. The August 14, 2014 Order is attached as Appendix 11-A.

d. Explain if the project will be made available for open transmission access or is intended to be utilized primarily by an anchor tenant.

In an Order dated August 14, 2014, FERC granted Clean Line's request to sell transmission service at negotiated rates, subject to FERC's acceptance of a compliance filing and rate schedule. The Order is attached as Appendix 11-A. Clean Line is permitted to subscribe up to 100% of the line's capacity through bilateral transactions, pursuant to an open solicitation process for capacity allocation in which any eligible customer can participate. The Order requires that Clean Line file an open access transmission tariff or give functional control to another transmission provider which has an open access transmission tariff. Further, as part of its provision of FERC jurisdictional transmission service, Clean Line will be required to file quarterly reports of transmission service transactions, to comply with applicable affiliate rules and to abide by FERC's Standards of Conduct to the extent any affiliate takes transmission service.