

Exhibit No. _____
Issues: Grain Belt Express Clean Line LLC's Financial Ability
Witness: Prescott Hartshorne
Type: Direct Testimony
Sponsoring Party: Grain Belt Express Clean Line LLC
Case No.: EA-2016-0358
Date of Testimony: August 30, 2016

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2016-0358

DIRECT TESTIMONY OF

PRESCOTT HARTSHORNE

ON BEHALF OF

GRAIN BELT EXPRESS CLEAN LINE LLC

August 30, 2016

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1 **I. WITNESS INTRODUCTION**

2 **Q. Please state your name, business address and present position?**

3 A. My name is Prescott Hartshorne. I am Director, US Business Development at National
4 Grid USA Service Company, which, together with its parent company, National Grid plc,
5 and National Grid plc's other subsidiaries, I will refer to as National Grid. Additionally, I
6 am the Project Manager for National Grid's investment in Clean Line Energy Partners
7 LLC ("Clean Line"). My business address is 40 Sylvan Road, Waltham, MA.

8 **Q. Is National Grid an investor in Clean Line?**

9 A. Yes. Through its subsidiary GridAmerica Holdings, Inc., National Grid has made a
10 substantial development stage equity investment in Clean Line, the ultimate parent
11 company of Grain Belt Express Clean Line LLC ("Grain Belt Express" or "Company").

12 **Q. Please describe your educational background and business experience.**

13 A. I have been with National Grid since 2014. I have over 20 years of experience in
14 financial transactions related to the energy field. Prior to National Grid, I was Vice
15 President, Executive Advisor at Concentric Energy Advisors, where I led client
16 engagements in strategy, valuation, transaction support, and regulatory support. Prior to
17 that, I had similar consulting positions with FTI Consulting, Inc., Arthur Andersen LLP,
18 and Navigant Consulting, Inc. I hold a bachelor's degree (Hobart College – Economics)
19 and an M.B.A. (Cornell University) with a concentration in finance.

20 **Q. What are your duties and responsibilities in your present position with National**
21 **Grid?**

22 A. I am responsible for all aspects of developing and managing energy investments on
23 behalf of National Grid shareholders, including electric transmission, natural gas pipeline

1 and other investments. Not including the Clean Line projects, National Grid's existing
2 transmission development projects comprise a greater than \$7 billion portfolio.

3 **Q. What is your role with Clean Line?**

4 A. As the Project Manager for National Grid's investment in Clean Line, I have day-to-day
5 responsibility for National Grid's decisions with regard to its investment, and I have led
6 National Grid's support of Clean Line's construction plan activities.

7 **II. PURPOSE AND COVERAGE OF TESTIMONY**

8 **Q. What is the purpose of your direct testimony?**

9 A. On behalf of Grain Belt Express, I will describe the transmission business and financial
10 wherewithal of National Grid, which is a principal investor in Clean Line. I will describe
11 National Grid's investment in Clean Line as well as why National Grid decided to invest
12 in Clean Line and thereby to invest in its transmission projects, such as the Grain Belt
13 Express Clean Line transmission project ("Grain Belt Express Project" or "Project"). I
14 will describe why National Grid believes that Clean Line and Grain Belt Express will be
15 able to successfully bring the Project to completion, including financing and managing
16 the construction of the Project.

17 **III. DESCRIPTION OF NATIONAL GRID**

18 **Q. Please describe the business of National Grid.**

19 A. National Grid's regulated subsidiaries deliver electricity to approximately 3.5 million
20 electricity customers in New York, Massachusetts and Rhode Island. Through these
21 subsidiaries, National Grid jointly owns and operates approximately 8,800 miles of high
22 voltage transmission spanning upstate New York, Massachusetts, New Hampshire,
23 Rhode Island and Vermont. National Grid also operates approximately 105 miles of
24 underground electric transmission cable and 491 substations. Additionally, National Grid

1 is the largest distributor of natural gas in the northeastern United States, serving
2 approximately 3.6 million customers in New England and upstate New York. Other
3 operating subsidiaries of National Grid are involved in liquid natural gas storage.
4 National Grid also invests and participates in the development of natural gas pipelines
5 and other energy-related projects. National Grid plc is based in the United Kingdom and
6 is one of the largest investor-owned energy companies in the world with more than
7 25,000 employees, approximately \$75 billion in assets, and over \$22 billion in annual
8 revenues.

9 **Q. Does National Grid have experience with high voltage direct current (“HVDC”)**
10 **transmission lines?**

11 A. Yes. National Grid has extensive experience building, owning and operating large
12 HVDC electricity transmission facilities in the United States, in the United Kingdom, and
13 in Europe.

- 14 • National Grid built, operates and owns a majority share of the U.S. portion of a 2,000
15 MW HVDC interconnector that operates at 450 kV between New England and
16 Canada.
- 17 • National Grid owns one-half of BritNed Link, a 156-mile, bi-pole HVDC electricity
18 interconnector with 1,000 MW capacity each way that connects the Isle of Grain,
19 United Kingdom to Massvlakte, Netherlands.
- 20 • Interconnexion France-Angleterre (“IFA”) is a 2,000 MW, 42-mile HVDC
21 interconnector between England and France that includes 27 miles of undersea cable.
22 Commissioned in 1986, IFA is part of a joint agreement between National Grid and
23 France’s Transmission Service Operator, RTE. National Grid jointly owns and

1 operates IFA. National Grid and FTE are also developing a second 1,000 MW 125
2 mile link between England and France (“IFA2”).

- 3 • National Grid and Scottish Power Transmission are jointly developing the Western
4 HVDC Link, which is a 260-mile, 600 kV, 2,200 MW subsea HVDC cable on the
5 western side of the United Kingdom that will connect Scotland with England and
6 Wales. The commercial operation date for this project is 2017.
- 7 • National Grid is working with the Belgian system operator to develop a 1,000 MW
8 HVDC 87-mile interconnection between the UK and Belgium. The project is
9 currently under construction and is targeted for completion in 2019.
- 10 • National Grid is working with the transmission service operator in Norway to develop
11 a 450-mile, 1,400 MW HVDC electricity interconnector between Norway and the
12 UK, which would be the world’s longest subsea interconnector. The project is
13 targeted for completion in 2021.

14 **IV. NATIONAL GRID’S INVESTMENT IN CLEAN LINE**

15 **Q. Why did National Grid invest in Clean Line at the development stage of its**
16 **transmission projects?**

17 A. National Grid has a long-term strategy of developing and operating high quality energy
18 infrastructure, including electric transmission assets. National Grid considers many
19 factors when it evaluates whether to invest in the development of a new transmission
20 project, including the economic viability of the project and the prospects for the project to
21 attract debt financing for construction. But perhaps most important is the ability of
22 management to bring the project to commercial operation, including the ability to work

1 well with customers, regulators and other stakeholders while managing all aspects of the
2 development and construction process.

3 Clean Line’s HVDC transmission projects currently under development,
4 including the Grain Belt Express Project, are, in National Grid’s view, viable,
5 economically attractive transmission investments. Each project was designed to meet a
6 certain market and public need. Each is overseen by a capable project management staff,
7 with strong support from a deep and experienced home office. Clean Line’s transmission
8 projects will move renewable power from the central United States to load centers where
9 National Grid believes that there is and will continue to be a strong demand from load-
10 serving entities and consumers for low-cost energy from renewable resources in order to
11 diversify their supply portfolios, satisfy Renewable Energy Standards or Renewable
12 Portfolio Standards as applicable (“RES/RPS”), help to reduce greenhouse gas emissions,
13 and simply reduce the cost of electricity supply. This belief has been supported in
14 Missouri by the long-term Transmission Service Agreement that Grain Belt Express
15 recently entered into with the Missouri Joint Municipal Electric Utility Commission
16 (“MJMEUC”) for capacity on the Project.

17 Notably, in National Grid’s view, the Grain Belt Express Project will tap into
18 some of highest capacity factor wind resources in the U.S. and facilitate access to those
19 resources for customers with RES/RPS compliance needs and, more generally, a demand
20 for electricity from low-cost renewable resources. The challenge of closing the gap
21 between the collective RES/RPS requirements and goals of electric utilities in the states
22 in Grain Belt Express’ target delivery regions, on the one hand, and existing and
23 projected accessible, cost-effective sources of renewable supply to meet such

1 requirements and goals in the absence of substantial increases in transmission capacity,
2 on the other hand, greatly enhances the prospects for the Project being commercialized
3 and successfully brought to completion.

4 Another reason that National Grid invested in Clean Line is that Clean Line and
5 Grain Belt Express have an experienced and skilled management team that has
6 successfully developed, managed and constructed large scale renewable energy projects
7 throughout the United States. National Grid has the right to designate two out of seven
8 members of Clean Line's Board of Directors. These rights, among others, provide
9 National Grid with the ability to assist in and help direct the development and
10 commercialization of Clean Line's portfolio of HVDC transmission projects, including
11 the Grain Belt Express Project.

12 The combination of Clean Line's experienced and skilled management team and
13 National Grid's assessment of the viability of HVDC transmission projects such as the
14 Grain Belt Express Project all contributed to National Grid's decision to invest in Clean
15 Line.

16 **Q. What is National Grid's investment in Clean Line?**

17 A. National Grid, through its wholly owned subsidiary GridAmerica Holdings Inc., has
18 invested \$55.7 million in Clean Line.

19 **Q. In addition to the financial support through its equity investment, is National Grid
20 providing other support to Clean Line in the development of its transmission
21 projects?**

22 A. Yes. As one of the largest transmission operators in the U.S., National Grid has made its
23 engineering, procurement, licensing, operations, safety, construction, and project

1 management skills and resources in transmission generally, and in HVDC transmission in
2 particular, available to Clean Line as Clean Line develops its projects, including the
3 Grain Belt Express Project. In addition to having two members on Clean Line's Board,
4 National Grid has observer rights to make its specialists available to provide input and
5 feedback to Clean Line management. For example, National Grid's construction team
6 has provided support to Clean Line on construction management issues, and has advised
7 Clean Line on plans for compliance with North American Electric Reliability
8 Corporation reliability standards.

9 Although National Grid will continue to provide support and expertise to Clean
10 Line on specific issues in the development of its projects, National Grid does not take an
11 active role in the day-to-day management of Clean Line, Grain Belt Express, or Clean
12 Line's other subsidiaries. National Grid is confident in the abilities of Clean Line's
13 experienced management team to handle ongoing management and development of its
14 activities and projects.

15 **V. FINANCING ABILITY**

16 **Q. Is National Grid confident in Grain Belt Express' ability to finance the construction**
17 **of the Grain Belt Express Project?**

18 A. Yes, National Grid believes Clean Line and Grain Belt Express are capable of raising the
19 needed capital to finance the construction of the Grain Belt Express Project, and made its
20 investment in Clean Line based in part on that conclusion. First, the Grain Belt Express
21 Project is economically attractive, as it provides a valued service to customers as
22 exemplified by the contract with MJMEUC. Grain Belt Express has already identified
23 significant customer interest in the project through its open solicitation for capacity,

1 which has resulted in requests for more than 20,000 megawatts of service. Moreover, the
2 experienced management team of Clean Line and Grain Belt Express has developed a
3 credible project development and financing plan, consistent with principles of project
4 financing. Finally, the project finance market has sufficient liquidity to finance the cost
5 of the Project, with North American power deals increasing more than five percent in
6 2015 from the prior year.¹

7 National Grid, which is experienced and knowledgeable in the transmission
8 business, would not have invested \$55.7 million in Clean Line if it did not have
9 confidence in Clean Line's and Grain Belt Express' ability to raise the capital needed for
10 the construction of the Grain Belt Express Project.

11 **VI. GRAIN BELT EXPRESS' CONSTRUCTION MANAGEMENT**

12 **Q. Is National Grid confident in Grain Belt Express' ability to manage the construction**
13 **of the Grain Belt Express Project?**

14 A. Yes. Members of Clean Line's and Grain Belt Express' management team have
15 experience in managing the construction of large projects in the energy industry,
16 including transmission, and bringing the projects into commercial operation. Further,
17 Grain Belt Express will contract with qualified, experienced contractors and suppliers to
18 design and construct the Project and to supply key components and materials. For
19 example, by engaging Quanta Services, Inc., and its affiliate PAR Electrical Contractors,
20 Inc., to provide construction support for the Project, Grain Belt Express has the support
21 of one of the nation's leading construction contractors.

¹ Thomson Reuters, 2015 League Tables, *Project Finance International*, p. 45 (January 27, 2016)

1 More generally to the topic of construction management, National Grid has and
2 will continue to make available to Clean Line and Grain Belt Express National Grid's
3 engineering, procurement, licensing, construction, and project management skills and
4 resources in transmission construction. These are areas where National Grid's experience
5 and expertise can be especially beneficial to Clean Line and Grain Belt Express in the
6 management of construction of the Project.

7 **Q. Does this conclude your prepared direct testimony?**

8 A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Grain Belt Express)
Clean Line LLC for a Certificate of Convenience and)
Necessity Authorizing it to Construct, Own, Control,)
Manage, Operate and Maintain a High Voltage, Direct)
Current Transmission Line and an Associated Converter)
Station Providing an Interconnection on the Maywood-)
Montgomery 345 kV Transmission Line)

Case No. EA-2016- 0358

AFFIDAVIT OF PRESCOTT HARTSHORNE

Commonwealth
STATE OF Massachusetts
COUNTY OF Middlesex ^{SS}

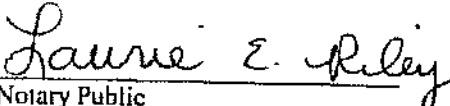
Prescott Hartshorne, being first duly sworn on his oath, states:

1. My name is Prescott Hartshorne. I am Director – US Business Development at National Grid USA Service Company.
2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Grain Belt Express Clean Line LLC consisting of 11 pages, having been prepared in written form for introduction into evidence in the above-captioned docket.
3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.



Prescott Hartshorne

Subscribed and sworn before me this 25th day of August, 2016.



Notary Public

My commission expires: 9/23/2016

