

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

In the Matter of the Joint Application of)
Invenergy Transmission LLC, Invenergy)
Investment Company LLC, Clean Line)
Energy Partners LLC, Grain Belt Express) Docket No. 19-GBEE-253-ACQ
Clean Line LLC and Grain Belt Express)
Holding LLC for an Order Approving)
the Acquisition by Invenergy)
Transmission LLC of Grain Belt Express)
Clean Line LLC)

DIRECT TESTIMONY OF KRIS ZADLO

SENIOR VICE PRESIDENT, INVENERGY LLC

ON BEHALF OF JOINT APPLICANTS

December 28, 2018

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE OF TESTIMONY 1

II. OVERVIEW OF INVENERGY 5

III. TECHNICAL AND MANAGERIAL QUALIFICATIONS OF INVENERGY TO OWN AND OPERATE THE PROJECT 7

IV. DISCUSSION OF THE KANSAS MERGER STANDARDS 10

V. CONCLUSION..... 15

1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

2 **Q. Please state your name and business address.**

3 **A.** My name is Kris Zadlo and I am the Senior Vice President, Commercial Analytics,
4 Regulatory Affairs and Transmission for Invenergy LLC. My business address is One
5 South Wacker Drive, Suite 1800, Chicago, IL 60606.

6 **Q. Please explain the relationship of Invenergy LLC to Invenergy Transmission LLC.**

7 **A.** Invenergy LLC is an affiliate of Invenergy Transmission LLC (“Invenergy
8 Transmission”), the proposed purchaser of Grain Belt Express Clean Line LLC (“GBE”).
9 Invenergy LLC and Invenergy Transmission have a common parent company, Invenergy
10 Investment Company LLC (“Invenergy Investment”). Invenergy Transmission is a
11 special purpose entity that currently relies on the personnel of Invenergy LLC and the
12 financial resources of Invenergy Investment. I will refer to all three entities collectively
13 as “Invenergy.”

14 **Q. Please discuss your educational background and work experience.**

15 **A.** I received a Master of Science in Electrical Engineering from Purdue University in 1990
16 and a Bachelor of Science from Rose-Hulman Institute of Technology in 1989. I am a
17 licensed professional engineer in the State of Illinois (license number 062-049149). I am
18 employed by Invenergy and am responsible for managing services provided to all
19 Invenergy projects with respect to their commercial activities pertaining to transmission
20 assets. These responsibilities include managing technical and regulatory issues, as well
21 as supporting filings before the Federal Energy Regulatory Commission (“FERC”).
22 Previously, I was employed with Calpine Corporation (“Calpine”) as Vice President of
23 Transmission. I worked for Calpine for 8 years. Prior to Calpine I worked for

1 Commonwealth Edison Company of Chicago (“Commonwealth Edison” or “ComEd”) as
2 Technical Studies Director. I worked for 10 years at Commonwealth Edison, holding
3 various positions in transmission planning, generation planning, operations, and strategic
4 analysis. My C.V. is attached hereto as **Exhibit KZ-1**.

5 **Q. Please describe your utility experience.**

6 **A.** I started my career at Commonwealth Edison in Chicago where I worked for 10 years in
7 various positions in Transmission Planning and Strategic Analysis. As Technical Studies
8 Director, I was responsible for transmission engineers that performed stability and
9 voltage studies and maintained the equipment rating data base for the entire transmission
10 system. I personally wrote Commonwealth Edison’s “Guidelines for Interconnection of
11 Generation” and “Guidelines for Dynamic Scheduling.” I also wrote ComEd’s first
12 “Interconnection for Photovoltaic Power System.”

13 Over my career I have overseen the interconnection of over 6,000 megawatts
14 (“MWs”) of utility scale generation of various technologies. In 2001-2002, I was part of
15 a small group of industry experts that crafted FERC’s Large Generator Interconnection
16 Procedures which were issued in 2003.

17 **Q. Please describe your experience in implementing new technologies.**

18 **A.** I founded Invenergy’s energy storage business in 2012. In 2015 Invenergy’s Grand Ridge
19 Energy Center received two prestigious industry awards, Power Engineering’s Renewable
20 Energy Project of the Year and Energy Storage North America Innovation Award. Since
21 2012 our storage program has grown to seven facilities totaling 160 MW/390 MWh of
22 built or contracted projects.

1 Earlier in my career, I worked with General Electric (“GE”) to develop a Trailer
2 Mounted Combustion Turbine (TM2500) to help meet a critical energy need in the City
3 of Chicago in 2000. The project was developed in 10 months, was the first deployment
4 of its kind, and was the beginning of a new product line for GE. In both cases I was able
5 to create or implement new utility scale technologies for safe and useful deployment.

6 **Q. Have you previously testified before the regulatory commission of any state or the**
7 **Federal Energy Regulatory Commission?**

8 **A.** Yes. I have previously testified before the Wisconsin Public Service Commission, the
9 Missouri Public Service Commission (“MPSC”), and FERC. My most recent testimony
10 at FERC was at the April 3-4, 2018 technical conference concerning the coordination of
11 affected systems in the generator interconnection process. As it pertains to GBE, I filed
12 testimony with the MPSC on November 12, 2018 and December 10, 2018 in Case No.
13 EA-2016-0358 and I testified before the MPSC in the evidentiary hearing in that case on
14 December 18, 2018. A complete list of proceedings in which I have testified is attached
15 hereto as **Exhibit KZ-2**.

16 **Q. What is the purpose of your testimony in this proceeding?**

17 **A.** I will provide an introduction to Invenergy, including its history, organization, business
18 model, and electric asset ownership and operating philosophy. I will describe Invenergy
19 Transmission’s pending acquisition of GBE (the “Transaction”). GBE is currently owned
20 by Grain Belt Express Holding LLC (“GBE Holding”), which is a wholly-owned
21 subsidiary of Clean Line Energy Partners LLC. GBE is developing the Grain Belt
22 Express Clean Line Project (“GBE Project” or “Project”), an approximately 780-mile,
23 overhead, multi-terminal ±600 kilovolt (“kV”) high voltage direct current (“HVDC”)

1 transmission line and associated facilities that will connect over 4,000 MW of low-cost,
2 wind-generated power in western Kansas. I will discuss the operational and managerial
3 qualifications of Invenenergy to acquire, own, and operate the Project. I will also discuss
4 how the proposed Transaction meets the Commission's Merger Standards and how the
5 public interest will be promoted by the Commission's approval of the Transaction.

6 **Q. Please describe Invenenergy's pending acquisition of GBE.**

7 **A.** On November 9, 2018 Invenenergy Transmission entered into a Membership Interest
8 Purchase Agreement (the "MIPA") with GBE Holding to acquire GBE, which is the
9 owner of all of the assets comprising the GBE Project. The MIPA is attached to the
10 application as **Exhibit B**, and contains a requirement that the change in ownership in
11 GBE from GBE Holding to Invenenergy Transmission be approved by both the Kansas
12 Corporation Commission ("KCC" or "Commission") and the Missouri Public Service
13 Commission ("MPSC") as conditions precedent to closing the acquisition. The related
14 Development Management Agreement ("DMA") that provides development funding
15 through the projected closing date of the MIPA is attached as **Exhibit C** to the
16 Application.

17 **Q. Please explain the difference between the MIPA and the DMA.**

18 **A.** The MIPA goes into effect only after regulatory approval in Kansas and Missouri is
19 secured. The DMA is currently the governing document that covers the present
20 development costs and will terminate at the conclusion of the regulatory process.

1 **Q. What is your understanding of GBE's and the Project's regulatory status before the**
2 **KCC?**

3 **A.** On December 7, 2011, GBE received a certificate of convenience and necessity to
4 operate as a public utility in Kansas in Docket No. 11-GBEE-624-COC. On July 15,
5 2013, GBE filed an application for a siting permit in Docket 13-GBEE-803-MIS, such
6 permit being necessary for GBE to construct the Kansas portion of the Project. On
7 November 11, 2013, the Commission approved the siting application with various
8 conditions, including a requirement that construction begin by November 7, 2018. Since
9 that time, there have been complications in other states, and construction has not yet
10 commenced. Prior to the siting authority sunset date, however, on September 6, 2018,
11 GBE and Commission Staff filed a Joint Motion to extend the sunset date. On October 4,
12 2018, the Commission issued an order extending the sunset provision until March 1,
13 2019. On December 6, 2018, that order was superseded, and the Commission extended
14 the sunset term until December 2, 2019, in order to allow the Commission to
15 appropriately rule on Invenergy's application to acquire the Project and time to consider
16 the extension.¹

17 **II. OVERVIEW OF INVENERGY**

18 **Q. Please provide an overview of Invenergy.**

19 **A.** The Invenergy family of companies is headquartered in Chicago, Illinois. It was founded
20 in 2001 and is North America's largest privately held company that develops, owns, and
21 operates large-scale renewable and other clean energy generation, energy storage
22 facilities, and electric transmission facilities across North America, Latin America, Japan

¹ See Order Canceling Procedural Schedule and Granting Limited Extension of Sunset Provision, Docket No. 13-GBEE-803-MIS (Dec. 6, 2018).

1 and Europe. Invenenergy's expertise includes a complete range of fully integrated in-house
2 capabilities, including: Project Development, Permitting, Transmission, Interconnection,
3 Energy Marketing, Finance, Engineering, Project Construction, Operations and
4 Maintenance. To date, the Company has developed more than 20,220 MW of large-scale
5 wind, solar, natural gas, and energy storage facilities. This includes more than 12,400
6 MW of projects in operation, with more than 7,800 MW contracted or in construction.

7 **Q. Please provide an overview of Invenenergy's leadership and business philosophy.**

8 **A.** Invenenergy's senior executives—each with more than 25 years in the energy generation
9 industry—have worked together for more than two decades. Invenenergy's founder,
10 president and CEO Michael Polsky, is a recognized and respected industry leader and is
11 the majority owner of Invenenergy and its affiliated companies. Profiles of Invenenergy's
12 Senior Management and Project Management teams are attached as **Exhibit KZ-3**.

13 Invenenergy values integrity, commitment to business partners and host
14 communities, and environmental responsibility. Invenenergy is also committed to U.S.
15 military veterans, who make up approximately 11% of Invenenergy's nearly 900
16 employees. Invenenergy is also committed to an inclusive workplace and to being a
17 responsible community partner. The Invenenergy Impact Program builds ongoing,
18 permanent relationships to connect with host communities and strengthen Invenenergy's
19 local presence. Invenenergy engages with local organizations, providing volunteers,
20 resources, and donations to a variety of causes including education, emergency medical
21 services, veteran services and environmental stewardship. In 2017 Invenenergy's energy
22 centers in the United States and Canada donated more than \$436,900 to local schools and
23 charitable organizations.

1 **Q. Please provide an overview of Invenergy’s financial abilities.**

2 **A.** Invenergy has extensive experience and success in raising capital for large scale energy
3 projects. The financial abilities of Invenergy are discussed in more detail in the Direct
4 Testimony of Andrea Hoffman, Senior Vice President of Financial Operations.

5 **III. TECHNICAL AND MANAGERIAL QUALIFICATIONS OF INVENERGY TO**
6 **OWN AND OPERATE THE PROJECT**

7 **Q. Please briefly describe Invenergy’s qualifications to efficiently manage and**
8 **supervise the construction process for the Grain Belt Express Project.**

9 **A.** Invenergy routinely develops projects with a view toward long-term ownership,
10 performance, profitability and operations. Invenergy has built its core competencies
11 around power plant operations and maintenance (“O&M”). Invenergy operates its power
12 plant fleet through the wholly owned subsidiary, Invenergy Services LLC (“Invenergy
13 Services”). Invenergy Services is staffed with experienced industry personnel and
14 currently operates 9,300 MW of natural gas and renewable generating capacity in North
15 America. Combining asset management, operations, maintenance, and commercial
16 execution functions allows Invenergy Services to provide a single, comprehensive
17 solution to overall management of the asset.

18 **Q. Does Invenergy have experience developing and maintaining transmission projects?**

19 **A.** Yes. Because the core of Invenergy’s business model is project development and long-
20 term ownership and operations, the Company takes great care to ensure the longevity,
21 reliability and cost-effectiveness of its assets, especially transmission and interconnection
22 infrastructure for its projects. Since 2001, Invenergy has built all required transmission
23 and distribution lines, generator step-up transformers (“GSUs”), and substations for its

1 facilities in numerous regions, including within the regions managed by Southwest Power
2 Pool, Inc. (“SPP”), Midcontinent Independent System Operator, Inc. (“MISO”) and PJM
3 Interconnection, LLC (“PJM”). Invenergy developed, permitted and constructed this
4 infrastructure across various terrains, state and local jurisdictions, and in vastly differing
5 environmental and regulatory conditions. This experience adds to over 392 miles of
6 high-voltage transmission lines, over 1,748 miles of distribution lines, 59 substations and
7 73 GSUs of which several have been built for utilities.

8 **Q. Does Invenergy have experience working with landowners to get necessary land**
9 **rights?**

10 **A.** Invenergy excels at building infrastructure by working diligently with landowners to
11 build trustworthy relationships, ensuring that the landowners’ interests are protected, and
12 their concerns are taken into account. Invenergy has negotiated leases with over 13,000
13 landowners, constituting over 10 million acres.

14 **Q. Who are the individuals at Invenergy that will manage and direct the construction**
15 **and operation of the Project and what are their specific duties and qualifications?**

16 **A.** Chris Carter is Director, Renewable Project Management for Invenergy and has 16 years
17 of experience in right-of-way issues, material procurement, contract negotiation, and
18 construction of electrical transmission and substations. He will be supported by Bryan
19 Schueler, the Executive Vice President and Chief Development Officer for Invenergy and
20 a 20-year veteran of the power industry. The team will also include Art Fletcher, Senior
21 Vice President, Renewable Engineering and Project Management for Invenergy, who
22 brings 29 years of experience in managing heavy civil and power construction projects

1 domestically and abroad. Profiles of the foregoing individuals are provided in **Exhibit**
2 **KZ-3**.

3 **Q. Please describe Invenergy's approach to project management and construction,**
4 **including the hiring an engineering, procurement and construction ("EPC")**
5 **contractor.**

6 **A.** Invenergy has contracted for construction work on its renewable energy projects in a
7 variety of manners ranging from executing full EPC contracts to executing individual
8 specialty contracts with engineering, construction, and supply firms. Each project is
9 assessed on a basis of risk and economics with the chosen means of execution based upon
10 the most favorable overall result for the project. For renewable projects, Invenergy
11 typically executes separate major component procurement contracts, electrical
12 engineering contracts, balance of plant type construction contracts, and high-voltage
13 substation and transmission line contracts. These contracts are executed and managed by
14 Invenergy project management teams based in Chicago and Invenergy site management
15 teams based in the field. Art Fletcher will oversee all project engineering and
16 construction activities, including the management of a top tier construction firm
17 contracted to build the facility.

18 **Q. Please describe Invenergy's experience with transmission interconnection issues.**

19 **A.** Invenergy has extensive experience with the SPP, MISO and PJM interconnection
20 queues. Invenergy has developed 5 projects totaling approximately 840 MWs in the SPP
21 footprint and currently has over 109 active requests in the SPP queue. Invenergy has also
22 developed 23 projects totaling approximately 5,160 MWs in the MISO footprint.
23 Invenergy is an active participant in MISO's Interconnection Process Working Group and

1 currently has over 60 active requests in the queue. Finally, Invenenergy has developed 7
2 projects totaling approximately 2,700 MWs in the PJM footprint and currently has over
3 65 active requests in the PJM queue.

4 **IV. DISCUSSION OF THE KANSAS MERGER STANDARDS**

5 **Q. Are you familiar with the Kansas Merger Standards that the Commission uses in its**
6 **evaluation of proposed merger applications?**

7 **A.** Yes. It is my understanding that, in its review of merger applications, the Commission
8 has traditionally applied the following eight standards and their respective subparts:

9 (a) The effect of the transaction on consumers, including:

10 (i) The effect of the proposed transaction on the financial condition of
11 the newly created entity as compared to the financial condition of
12 the stand-alone entities if the transaction did not occur;

13 (ii) Reasonableness of the purchase price, including whether the
14 purchase price was reasonable in light of the savings that can be
15 demonstrated from the merger and whether the purchase price is
16 within a reasonable range;

17 (iii) Whether ratepayer benefits resulting from the transaction can be
18 quantified;

19 (iv) Whether there are operational synergies that justify payment of a
20 premium in excess of book value;

21 (v) The effect of the proposed transaction on the existing competition.

22 (b) The effect of the transaction on the environment.

23 (c) Whether the proposed transaction will be beneficial on an overall basis to
24 state and local economies and to communities in the area served by the
25 resulting public utility operations in the state. Whether the proposed
26 transaction will likely create labor dislocations that may be particularly
27 harmful to local communities, or the state generally, and whether measures
28 can be taken to mitigate the harm.

29 (d) Whether the proposed transaction will preserve the jurisdiction of the
30 KCC and the capacity of the KCC to effectively regulate and audit public
31 utility regulations in the state.

- 1 (e) The effect of the transaction on affected public utility shareholders.
- 2 (f) Whether the transaction maximizes the use of Kansas energy resources.
- 3 (g) Whether the transaction will reduce the possibility of economic waste.
- 4 (h) What impact, if any, the transaction has on the public safety.

5 **Q. Please describe the effect of the Transaction on consumers generally.**

6 **A.** The proposed Transaction will benefit consumers by improving the ability of GBE to
7 complete the Project. In granting GBE a certificate to operate as a public utility, the
8 Commission found that completion of the Project would be in the public interest. The
9 Project will allow for expanded development of renewable resources in Kansas, while
10 limiting the cost of transmission that is recoverable from Kansas ratepayers.

11 **Q. Please describe specifically the effect of the proposed Transaction on the financial
12 condition of the newly created entity as compared to the financial condition of the
13 stand-alone entities if the Transaction did not occur, and how this affects consumers.**

14 **A.** The proposed Transaction is an acquisition of GBE by Invenergy, and not a merger.
15 Therefore, there is no newly created entity resulting from the proposed Transaction.
16 However, the financial condition of GBE and the Project will significantly improve as a
17 result of the Transaction. As discussed in the Direct Testimony of Andrea Hoffman,
18 Invenergy is a financially sound company with a proven track record of financing large
19 energy projects. GBE will benefit from Invenergy's financial stability and financing
20 capabilities.

21 **Q. Please describe the reasonableness of the purchase price.**

22 **A.** The purchase price was reached through an arm's length negotiation between two
23 sophisticated parties who determined it to be in their best interest to enter into the

1 transaction. Further, Invenergy will not be recovering any of the costs of the Transaction
2 through rates paid by Kansas ratepayers, therefore there should not be any concerns
3 regarding the purchase price.

4 **Q. Please describe the ratepayer benefits resulting from the proposed Transaction that**
5 **can be quantified.**

6 **A.** GBE does not have retail ratepayers. Instead, GBE only has wholesale customers and
7 FERC will retain exclusive jurisdiction over the rates GBE may charge for use of the
8 Project.

9 **Q. Please describe whether the proposed Transaction involved a payment of a premium**
10 **in excess of book value and whether there are operational synergies that justify**
11 **payment of such a premium.**

12 **A.** This concern is not applicable to the Transaction due to the nature of the arms-length
13 negotiations between privately owned entities without retail ratepayers. Nevertheless, if
14 any premium was paid, the operational and managerial needs of GBE fit easily within
15 Invenergy's existing capabilities and experience.

16 **Q. Please describe the effect of the proposed Transaction on the existing competition,**
17 **and how this affects consumers.**

18 **A.** The Transaction will not affect existing competition in Kansas because GBE operates
19 pursuant to a limited transmission rights only certificate in areas specifically authorized
20 by the Commission. Further, use of the Project will remain under SPP's functional
21 control, and so the Transaction is not expanding or limiting the powers and scope of GBE
22 such that it would have any effect on existing competition. Indirectly, the improved
23 ability of GBE to complete the Project will benefit consumers, as the Project creates the

1 opportunity for greater delivery of energy by opening up the market for more developers
2 to harvest Kansas wind resources, which should drive down rates in wholesale energy
3 markets.

4 **Q. Please describe the effect of the proposed Transaction on the environment.**

5 **A.** Invenergy has no plans to significantly alter any portion of the Project as it currently
6 stands, and GBE will remain subject to the Kansas Department of Health and
7 Environment regarding all applicable environmental standards and regulations.
8 Accordingly, the change in ownership will have no direct effect on the environment.
9 Indirectly, the improved ability of GBE to complete the Project is a benefit to the
10 environment, as the Project will enable more of Kansas' abundant wind resources to be
11 harvested and moved efficiently to load centers, resulting in more generation produced
12 from renewable sources.

13 **Q. Please describe whether the proposed Transaction will be beneficial on an overall
14 basis to state and local economies and to communities in the area served by the
15 resulting public utility operations in the state.**

16 **A.** The Project will be beneficial on an overall basis for numerous reasons. It provides the
17 infrastructure to sell low-cost Kansas wind to the surrounding states, boosting the
18 economy of Kansas.² Additionally, the Project is anticipated to create more than 1,500
19 jobs during its construction. Further, the construction and operation of the Project is
20 expected to result in sales and use tax revenue, ongoing property tax, and ongoing
21 payments to local landowners through lease payments.³ Finally, the Project will open up

² See Order Granting Siting Permit, ¶¶ 22, 23, 33, Docket No. 13-GBEE-803-MIS (Nov. 7, 2013) (hereinafter *13-803 Order*).

³ See *id.* at ¶¶ 22-23, 25-26.

1 opportunities in areas with currently untapped resources due to transmission constraints
2 from which future generation can be harvested and sold.⁴

3 **Q. Will the proposed Transaction create any labor dislocations?**

4 A. There will be no labor dislocations as a result of the proposed Transaction. As discussed
5 above, the Transaction has a positive impact on jobs in Kansas.

6 **Q. Please describe whether the proposed Transaction will preserve the jurisdiction of**
7 **the KCC and the capacity of the KCC to effectively regulate and audit public utility**
8 **regulations in the state.**

9 A. The Transaction will have no effect on the jurisdiction of the KCC over applicable
10 portions of the Project.

11 **Q. Please describe the effect of the proposed Transaction on affected public utility**
12 **shareholders.**

13 A. The Joint Applicants are all privately owned.

14 **Q. Please describe how the transaction maximizes the use of Kansas energy resources.**

15 A. The HVDC technology employed by the Project is the most cost-effective and efficient
16 way to move large amounts of renewable energy over a long distance. High capacity
17 factor wind energy sourced from western Kansas is the cheapest form of renewable
18 energy in the Midwest. Consequently, the Project's delivered energy cost to neighboring
19 states, including the costs of transmission, will be less expensive than alternatives to meet
20 the demand for both renewable and non-renewable energy resources, and will promote
21 the use of plentiful Kansas energy resources.

⁴ See *id.* at ¶ 24.

1 **Q. Please describe whether the transaction will reduce the possibility of economic**
2 **waste.**

3 **A.** The proposed Transaction will reduce the possibility of economic waste by improving the
4 ability of the GBE Project to reach completion. The Transaction reduces the possibility
5 of wasting the efforts and resources that have been put toward the GBE Project to date.
6 Additionally, the Transaction reduces the possibility of lost economic opportunity for
7 further development of wind resources in Kansas.⁵

8 **Q. Please describe what impact the transaction has on the public safety.**

9 **A.** The upstream change in ownership will have no effect on the public safety of the Project.
10 GBE will continue to comply with all applicable safety rules and regulations. Further,
11 Invenergy's track record demonstrates Invenergy's commitment to ensuring public safety
12 through all its projects, and such care will be undertaken for the GBE Project.

13 **V. CONCLUSION**

14 **Q. In your opinion, is approval of the proposed Transaction in the public interest for**
15 **the State of Kansas?**

16 **A.** Absolutely. This Commission has already found that the GBE Project is in the public
17 interest and the proposed Transaction brings the GBE Project closer to reality.⁶ The
18 proposed Transaction does not substantially alter any of the previously approved aspects
19 of the Project. Meanwhile, Invenergy has an established record of developing, financing,
20 constructing, and operating large-scale energy projects and will bring that experience to
21 bear on the GBE Project.

⁵ See *id.* at ¶¶ 22-26.

⁶ See *13-803 Order* at ¶ 57; Order Approving Stipulation & Agreement And Granting Certificate, ¶ 65, Docket No. 11-GBEE-624-COC (Dec. 7, 2011).

1 **Q. Does this conclude your testimony?**

2 Yes.

VERIFICATION

The undersigned, Kris Zadlo, upon oath first duly sworn, states that he is the Senior Vice President, Commercial Analytics, Regulatory Affairs and Transmission for Invenergy LLC, that he has reviewed the foregoing testimony and is familiar with the contents thereof, and that the statements contained therein are true and correct to the best of his knowledge and belief.

Kris Zadlo

Kris Zadlo
Senior Vice President, Commercial
Analytics, Regulatory Affairs and
Transmission
Invenergy LLC

Subscribed and sworn to before me this 28th day of December, 2018.

Diane M. Dati

Notary Public



My appointment expires: 7-21-21

KRIS ZADLO, PE

1 South Wacker, Suite 1900, Chicago, IL 60606

Senior Energy Executive with Business Development, Strategic Planning and Regulatory Affairs expertise. Well versed in the development and design of both classic and renewable utility scale projects. Experienced in all phases of project development, from initial feasibility analysis and conceptual design, through financing and construction. Effective at building teams that generate excellent business results within both large corporate environments and small entrepreneurial fast-growing companies.

Core qualifications include:

- Strategic Analysis and Development
- Joint Venture Partnerships
- Energy Sales and Marketing
- Business Development
- Market Analytics
- Energy Storage Development
- Transmission Analysis and Planning
- Project Financing
- Regulatory Affairs
- Providing Written & Oral Testimony

Masters of Science • Electrical Engineering • Purdue University • West Lafayette, IN
Bachelor of Science (Cum Laude) • Electrical Engineering • Rose-Hulman • Terre Haute, IN

Professional Experience

Invenergy, Chicago, IL (2008 to Present)

Senior Vice-President (2008 – Present) responsible for **Commercial Analytics, Regulatory Affairs, Storage Development and Transmission Planning**

Responsible for the interconnection of over 4,650MW of utility scale projects (2,320 MW of wind and solar generation and 2,275MW of natural gas generation) throughout the US. Created an Energy Storage Department that was responsible for the development and construction of 65MW of battery projects. Responsible for creating a Commercial Analytics team that performs market analysis and strategic plans. Created and responsible for Regulatory Affairs.

- Responsible for starting Invenergy's storage development program
- Created a strategic joint venture partnership with key battery vendors
- Won 2015 Energy Storage project of the year
- Provided market assessments and assist in the Sales and Marketing, Financing and Construction of new projects.
- Responsible for Market Analytics
- Created and directing a Regulatory Affairs Group which advocates on behalf of Invenergy's 15,000MWs of projects throughout the US.
- Recruited and hired high quality regulatory personnel to Invenergy.

Kris Zadlo

- Created a technical process to review and assess the interconnection capability for new development opportunities. Provided strategic direction on where to develop and site new projects.
- Responsible for Invenergy joining both national and regional trade associations and maximize and leverage the membership to company's benefit.
- Provided regulatory testimony and advocated on behalf of the company.
- Served as Vice Chairman of AWEA's Transmission Committee.

Calpine Corporation and SkyGen, Houston, TX & Chicago, IL (2000-2008)

Vice-President, Transmission Operations (2006-2008)

Promoted as a part of a new management team charged with bringing Calpine out of bankruptcy. Responsible for creating a new transmission department which successfully supported over 21,000MWs of operating assets as well as the trading organization.

- Directly responsible for creating \$60M in realized and planned revenue.
- Responsible for developing company's post-bankruptcy strategic electrical transport plan.
- Provided oversight of the company's pre-petition electrical firm transport contracts.
- Provided testimony & appeared as a witness in Bankruptcy Court.

Director, Transmission Management (2000-2006)

Responsible for the interconnection of 4,550MW of natural gas generating facilities while creating new revenue streams and eliminating transmission constraints.

- Directly responsible for creating over \$112M in realized and planned revenue (2002-2011).
- Actively involved in development, marketing and divestiture of over thirty generation assets.
- Directed technical and commercial assessments of new & existing generation assets.
- Directed filings of required tariffs and protests at state commissions & FERC.
- Provided testimony & appeared as witness in both state commissions & FERC proceedings.
- Developed procurement strategies for transmission service & rights in all major US markets.
- Negotiated and financially optimized new electrical interconnection agreements.
- Acted as IPP sector representative on MISO Advisory Committee for 2003-2006.

Commonwealth Edison, Chicago, IL (1990 to 2000)

Technical Studies Director (2000)

Responsible for leading or directing various technical assessments.

- Responsible for developing company's voltage & stability procedures and compliance for its 80 connected generating units.
- Responsible for evaluating all new technologies promoted for system enhancement.
- Responsible for the equipment rating database.

Kris Zadlo

IPP Interconnection Manager (1998-2000)

Developed and interconnection process and standards and was responsible for interconnecting new generators to the electrical grid.

- Developed and directed the construction of 100MW peaking generation facility in Illinois.
- Coordinated all interconnection activities of new generators within Northern Illinois region.
- Produced new & updated regulations for generator interconnection to the system.

Early Positions Included:

Principal Engineer – Transmission Studies (1996-1998)

General Engineer – Integrated Resource Planning (1994-1996)

Engineer - System Planning Department (1990-1994)

Foreign Language - Fluent in Polish - Served as a technical translator for partnership with Polish Power Grid Company sponsored by the United States Energy Association.

List of industry speaking engagements, court testifying and published works upon request.

Kris Zadlo's Testimony History

#	Jurisdiction	Case or Docket Number	Entity Initiating Proceeding	Subject Matter
1	FERC	ER01-176	Broad River Energy Center	Generator Interconnection
2	FERC	ER03-624	Ontelaunee Energy Center	Ancillary Service Rate
3	FERC	ER03-1015	Pine Bluff Energy Center	Ancillary Service Rate
4	FERC	ER03-1114	Carville Energy Center	Ancillary Service Rate
5	Wisconsin Public Utility Commission	05-AE-118	Wisconsin Electric Power Corporation	Generation Construction Certification
6	FERC	ER04-889	Parlin Energy Center	Ancillary Service Rate
7	FERC	ER04-978	Newark Energy Center	Ancillary Service Rate
8	FERC	ER04-1055	Riverside Energy Center	Ancillary Service Rate
9	FERC	ER04-1059	RockGen Energy Center	Ancillary Service Rate
10	FERC	ER05-677	Osprey Energy Center	Ancillary Service Rate
11	FERC	ER05-912	Sutter Energy Center	Ancillary Service Rate
12	FERC	ER05-1093	Hermiston Energy Center	Ancillary Service Rate
13	FERC	ER05-1102	Goldendale Energy Center	Ancillary Service Rate
14	FERC	ER05-1361	Fox Energy Center	Ancillary Service Rate
15	FERC	ER03-765	Oneta Energy Center	Ancillary Service Rate
16	FERC	ER06-1128	Mankato Energy Center	Ancillary Service Rate
17	NY Bankruptcy Court	05-60200 (BRL) 06-01683 (BRL)	Nevada Power	Law Suit
18	Missouri Public Service Commission	EA-2016-0358	Grain Belt Express Clean Line LLC	Certificate of Convenience and Necessity

Invenergy

Qualifications and Experience Of Invenergy LLC's Management Team

Senior Management

Michael Polsky, Founder and Chief Executive Officer: With more than 30 years of experience in the energy industry, Michael Polsky is widely recognized as a pioneer and industry leader in the cogeneration and independent power industry in North America. Polsky founded Invenergy, a leading clean energy company, 15 years ago. Previously, in 1991, Polsky founded SkyGen Energy – a developer, owner, and operator of natural gas-fueled generating plants – which was purchased by Calpine Corporation in 2001. Before forming SkyGen, Polsky co-founded and was President of Indeck Energy Services Inc. Polsky holds an MSME Degree from Kiev Polytechnic Institute and an MBA from the University of Chicago. In 2002, Polsky endowed a center for Entrepreneurship at the University of Chicago Graduate School of Business which is named after him.

Jim Murphy, Invenergy President and Chief Operating Officer: Jim Murphy has more than 30 years of financial and management experience in the energy industry. He has managed the negotiation and execution of more than \$15 billion in private equity and debt investments, power plant acquisitions and sales, and project debt and equity financing. He is a founding member of Invenergy LLC and responsible for the general management of the company, corporate and project finance, risk management, and asset optimization. Murphy is currently a member of the Board of Directors of the American Wind Energy Association (“AWEA”). Prior to the formation of Invenergy, he was Chief Financial Officer at SkyGen Energy LLC, a Vice President with financial advisory and investment firm The Deerpath Group, Inc. and a manager with Arthur Andersen. He earned a BS from the University of Illinois, magna cum laude, and is a Certified Public Accountant.

Jim Shield, Executive Vice President and Chief Commercial Officer: With more than 25 years of experience in all aspects of the power generation industry, Jim Shield is responsible for the development, marketing, engineering, and construction of Invenergy's wind, solar, and thermal energy projects worldwide. During his career, Shield has developed over 10,000 MW of power projects and negotiated over 3,000 MW of long-term energy off-take agreements. Prior to joining Invenergy, Shield held various positions, including Senior Vice President-East Region with Calpine Corporation. Prior to that role, he was a key contributor in building SkyGen Energy from a start-up company and a project manager at Indeck Energy Services. Shield has a BS in Mechanical Engineering from the University of Michigan and an MBA from DePaul University. He is a Registered Professional Engineer in the State of Illinois.

Bryan Schueler, Executive Vice President and Chief Development Officer: A 25-year veteran of the power industry, Bryan Schueler is responsible for project development at Invenergy. He has experience in plant operations and engineering, as well as the development, permitting, and construction of biomass, wind, landfill gas, and natural gas projects. Over the course of two decades, Schueler has successfully managed the development and construction of more than 20 wind farms and more than 2,500 MW of natural gas-fired facilities. Before joining Invenergy, Schueler was a project director at Calpine, fulfilling the same role he held earlier at SkyGen. Previously, he was a performance engineer at a 1,000 MW coal station for Commonwealth Edison. Schueler has a BS in Mechanical Engineering from Purdue University and an MBA from the University of Illinois.

Project Management Team

Art Fletcher, Senior Vice President, Renewable Engineering and Project Management: Art Fletcher is responsible for leading the engineering and project management groups through development and construction of Invenergy's wind, solar, and energy storage projects. He has 30 years of experience in managing heavy civil and power construction projects domestically and abroad. During his ten years with Invenergy, he has overseen the construction of over 6,000 MW wind, solar, storage and natural gas-fueled energy generation projects. A registered Professional Engineer in the state of Illinois, Fletcher graduated from the University of Illinois at Urbana-Champaign with a BS in Aeronautical and Aerospace Engineering and holds a Masters Degree in Geoenvironmental Engineering from the Illinois Institute of Technology.

Christopher M. Carter, Director, Renewable Project Management: Chris Carter is responsible for directing project management teams for Invenergy's renewable energy projects. He has 16 years of experience in contract negotiation, material procurement, right-of-way issues, utility interconnections, and construction of electrical transmission and substations. Carter is a licensed Professional Engineer, with a BS in Civil Engineering from Texas A&M University and a Masters Degree in Project Management from Northwestern University.