

Exhibit No.     

Issues: Project Overview

Witness: Kris Zadlo

Type: Direct Testimony

Sponsoring Party: Invenergy Transmission LLC

Case No. EM-2019-0150

Date Testimony Prepared: February 1, 2019

**MISSOURI PUBLIC SERVICE COMMISSION**

**CASE NO. EM-2019-0150**

**DIRECT TESTIMONY OF KRIS ZADLO**

**SENIOR VICE PRESIDENT, INVENERGY LLC**

**ON BEHALF OF JOINT APPLICANTS**

**FEBRUARY 1, 2019**

Exhibit No.      **3**

Date 4-23-19 Reporter TW

File No. EM-2019-0150

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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 responsible for managing services provided to all Invenergy projects with respect to their  
19 commercial activities pertaining to transmission assets. These responsibilities include  
20 managing technical and regulatory issues, as well as supporting filings before the Federal  
21 Energy Regulatory Commission (“FERC”). Previously, I was employed with Calpine  
22 Corporation (“Calpine”) as Vice President of Transmission. I worked for Calpine for 8  
23 years. Prior to Calpine I worked for Commonwealth Edison Company of Chicago

1 (“Commonwealth Edison” or “ComEd”) as Technical Studies Director. I worked for 10  
2 years at Commonwealth Edison, holding various positions in transmission planning,  
3 generation planning, operations, and strategic analysis. My C.V. is attached hereto as  
4 **Schedule 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’s Innovation Award. Since  
21 2012 our storage program has grown to twelve facilities totaling 307 MW/965 MWh of  
22 built or planned 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 Missouri Public Service Commission  
9 (“Commission” or “PSC”), the Wisconsin Public Service Commission, the Kansas  
10 Corporation Commission (“KCC”), and FERC. My most recent testimony at FERC was  
11 at the April 3-4, 2018 technical conference concerning the coordination of affected  
12 systems in the generator interconnection process. As it pertains to GBE, I filed testimony  
13 with this Commission on November 12, 2018 and December 10, 2018 in Case No. EA-  
14 2016-0358 (the “CCN Proceeding”) and I testified at the evidentiary hearing on  
15 December 18, 2018. I also filed direct testimony at the KCC on December 28, 2018 in  
16 Docket No. 19-GBEE-253-ACQ. A complete list of proceedings in which I have testified  
17 is attached hereto as **Exhibit KZ-2**.

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

19 **A.** I will provide an introduction to Invenergy, including its history, organization, business  
20 model, and electric asset ownership and operating philosophy. I will describe Invenergy  
21 Transmission’s proposed acquisition of GBE (the “Transaction”). GBE is currently  
22 owned by Grain Belt Express Holding LLC (“GBE Holding”), which is a wholly-owned  
23 subsidiary of Clean Line Energy Partners LLC. GBE is developing the Grain Belt

1 Express Clean Line Project (“GBE Project” or “Project”), an approximately 780-mile,  
2 overhead, multi-terminal ±600 kilovolt (“kV”) high voltage direct current (“HVDC”)  
3 transmission line and associated facilities that will connect over 4,000 MW of low-cost,  
4 wind-generated power in western Kansas. I will discuss the operational and managerial  
5 qualifications of Invenergy to acquire, own, and operate the Project. I will also discuss  
6 how the proposed Transaction is not detrimental to the public interest and how the public  
7 interest will, in fact, be promoted by the Commission’s approval of the Transaction.

8 **Q. Please describe Invenergy’s pending acquisition of GBE.**

9 **A.** On November 9, 2018 Invenergy Transmission entered into a Membership Interest  
10 Purchase Agreement (the “MIPA”) with GBE Holding to acquire GBE, which is the  
11 owner of all of the assets comprising the GBE Project. The MIPA is attached to the  
12 application as **Exhibit F**, and contains a requirement that the change in ownership in  
13 GBE from GBE Holding to Invenergy Transmission be approved by both the KCC and  
14 this Commission as conditions precedent to closing the acquisition. The related  
15 Development Management Agreement (“DMA”) that provides development funding  
16 through the projected closing date of the MIPA is attached as **Exhibit G** to the  
17 Application.

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

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

1 **Q. What is your understanding of GBE's regulatory status before the PSC?**

2 **A.** On August 30, 2016, GBE applied for a certificate of convenience and necessity ("CCN")  
3 from the PSC. On August 16, 2017, the PSC denied the application on the grounds that  
4 GBE failed to obtain all county assents to the Project required by Section 229.100, Mo.  
5 Rev. Stat., following the decision in an unrelated case, *In re Ameren Trans. Co. of Ill*  
6 (*"ATXI"*).<sup>1</sup> Several parties appealed the Commission's denial of the application, and on  
7 July 17, 2018, the Missouri Supreme Court issued a unanimous opinion<sup>2</sup> that reversed the  
8 Commission's Report and Order denying the application for a CCN. In particular, the  
9 Missouri Supreme Court ruled that the Commission's reliance on *ATXI* was in error, and  
10 that *ATXI* should not be followed to the extent that it held that an applicant for a CCN is  
11 required to obtain county assents pursuant to Section 229.100 before the PSC can grant a  
12 CCN. The Missouri Supreme Court issued an Order remanding the case to the  
13 Commission on September 24, 2018.

14 **Q. What is the status of the remand proceeding?**

15 **A.** The Commission conducted additional proceedings on remand in 2018, in order to  
16 address any material changes in the evidence and facts previously presented with regard  
17 to GBE's request for a CCN.<sup>3</sup> As part of the remand proceedings, GBE informed the  
18 Commission of the pending Transaction and provided evidence of Invenenergy's technical  
19 and financial ability to manage the Project going forward. The record in the CCN  
20 Proceeding is now closed, and GBE is awaiting the Commission's report and order.

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<sup>1</sup> 523 S.W.3d 21 (Mo. App. W.D. 2017) (hereafter, "*ATXI*")

<sup>2</sup> *Grain Belt Express Clean Line LLC v. PSC*, 2018 WL 3432778, No. SC 96993 (Mo. en banc 2018).

<sup>3</sup> Case No. EA-2016-0358, Order Setting Procedural Conference at 1 (Sept. 28, 2018).

1 **II. OVERVIEW OF INVENERGY**

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

3 **A.** The Invenergy family of companies is headquartered in Chicago, Illinois. It was founded  
4 in 2001 and is North America's largest privately held company that develops, owns, and  
5 operates large-scale renewable and other clean energy generation, energy storage  
6 facilities, and electric transmission facilities across North America, Latin America, Japan  
7 and Europe. Invenergy's expertise includes a complete range of fully integrated in-house  
8 capabilities, including: Project Development, Permitting, Transmission, Interconnection,  
9 Energy Marketing, Finance, Engineering, Project Construction, Operations and  
10 Maintenance. To date, the Company has developed more than 20,220 MW of large-scale  
11 wind, solar, natural gas, and energy storage facilities. This includes more than 12,400  
12 MW of projects in operation, with more than 7,800 MW contracted or in construction.

13 **Q. Please provide an overview of Invenergy's leadership and business philosophy.**

14 **A.** Invenergy's senior executives—each with more than 25 years in the energy generation  
15 industry—have worked together for more than two decades. Invenergy's founder,  
16 president and CEO Michael Polsky, is a recognized and respected industry leader and is  
17 the majority owner of Invenergy and its affiliated companies. Profiles of Invenergy's  
18 Senior Management and Project Management teams are attached as **Schedule KZ-2**.

19 Invenergy values integrity, commitment to business partners and host  
20 communities, and environmental responsibility. Invenergy is also committed to U.S.  
21 military veterans, who make up approximately 11% of Invenergy's nearly 1,000  
22 employees. Invenergy is also committed to an inclusive workplace and to being a  
23 responsible community partner. The Invenergy Impact Program builds ongoing,



1 permanent relationships to connect with host communities and strengthen Invenergy's  
2 local presence. Invenergy engages with local organizations, providing volunteers,  
3 resources, and donations to a variety of causes including education, emergency medical  
4 services, veteran services and environmental stewardship. In 2018, Invenergy and its  
5 energy centers invested \$865,000 in charitable causes including local schools,  
6 environmental sustainability, support for U.S. military veterans, and other causes that  
7 support communities.

8 **Q. Please provide an overview of Invenergy's financial abilities.**

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

12 **III. TECHNICAL AND MANAGERIAL QUALIFICATIONS OF INVENERGY TO**  
13 **OWN AND OPERATE THE PROJECT**

14 **Q. Please briefly describe Invenergy's qualifications to efficiently manage and**  
15 **supervise the construction process for the Grain Belt Express Project.**

16 **A.** Invenergy routinely develops projects with a view toward long-term ownership,  
17 performance, profitability and operations. Invenergy has built its core competencies  
18 around power plant operations and maintenance ("O&M"). Invenergy operates its power  
19 plant fleet through a wholly-owned subsidiary of Invenergy Investment, Invenergy  
20 Services LLC ("Invenergy Services"). Invenergy Services is staffed with experienced  
21 industry personnel and currently operates 9,663 MW of natural gas and renewable  
22 generating capacity primarily in North America but also including projects in South  
23 America and Europe. Combining asset management, operations, maintenance, and

1 commercial execution functions allows Invenergy Services to provide a single,  
2 comprehensive solution to overall management of the asset.

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

4 **A.** Yes. Because the core of Invenergy's business model is project development and long-  
5 term ownership and operations, the Company takes great care to ensure the longevity,  
6 reliability and cost-effectiveness of its assets, especially transmission and interconnection  
7 infrastructure for its projects. Since 2001, Invenergy has built all required transmission  
8 and distribution lines, generator step-up transformers ("GSUs"), and substations for its  
9 facilities in numerous regions, including within the regions managed by Southwest Power  
10 Pool, Inc. ("SPP"), Midcontinent Independent System Operator, Inc. ("MISO") and PJM  
11 Interconnection, LLC ("PJM"). Invenergy developed, permitted and constructed this  
12 infrastructure across various terrains, state and local jurisdictions, and in vastly differing  
13 environmental and regulatory conditions. This effort has led to the construction of over  
14 392 miles of high-voltage transmission lines, over 1,748 miles of distribution lines, 59  
15 substations and 73 GSUs of which several have been built for utilities.

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

18 **A.** Invenergy excels at building infrastructure by working diligently with landowners to  
19 build trustworthy relationships, ensuring that the landowners' interests are protected, and  
20 their concerns are taken into account. Invenergy has negotiated over 16,000 leases,  
21 constituting over 7 million acres.

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

1 A. Chris Carter is Director, Renewable Project Management for Invenergy and has 16 years  
2 of experience in right-of-way issues, material procurement, contract negotiation, and  
3 construction of electrical transmission and substations. He will be supported by Bryan  
4 Schueler, the Executive Vice President and Chief Development Officer for Invenergy and  
5 a 20-year veteran of the power industry. The team will also include Art Fletcher, Senior  
6 Vice President, Renewable Engineering and Project Management for Invenergy, who  
7 brings 29 years of experience in managing major civil and power construction projects  
8 domestically and abroad. Profiles of the foregoing individuals are provided in **Schedule**  
9 **KZ-3**.

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

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

1 construction activities, including the management of a top tier construction firm  
2 contracted to build the facility.

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

4 **A.** Invenergy has extensive experience with the SPP, MISO and PJM interconnection  
5 queues. Invenergy has developed 5 projects totaling approximately 840 MWs in the SPP  
6 footprint and currently has over 109 active requests in the SPP queue. Invenergy has also  
7 developed 23 projects totaling approximately 5,160 MWs in the MISO footprint and  
8 currently has over 60 active requests in the queue. Finally, Invenergy has developed 7  
9 projects totaling approximately 2,700 MWs in the PJM footprint and currently has over  
10 65 active requests in the PJM queue.

11 **Q. Has the PSC Staff previously investigated the qualifications of Invenergy?**

12 **A.** Yes, in the CCN Proceeding, the Revised Staff Supplemental Rebuttal Report stated  
13 "Staff has no reason to dispute that Grain Belt, and subsequently Invenergy, are qualified  
14 to own, operate, control and manage the Project subject to the agreed upon conditions in  
15 Staff Exhibits 205 and 206."<sup>4</sup>

16 **IV. DISCUSSION OF WHY THE TRANSACTION IS NOT DETRIMENTAL TO THE**  
17 **PUBLIC INTEREST**

18 **Q. Are you familiar with the standard that that the Commission uses in its evaluation**  
19 **of proposed transaction?**

20 **A.** Yes. I am not an attorney, but it is my understanding that, in its review of transactions,  
21 the Commission applies the "not detrimental to the public interest standard."

22 **Q. In your opinion, is the proposed Transaction detrimental to the public interest?**

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<sup>4</sup> Case No. EA-2016-0358, Ex. 208 at 6 (Revised Staff Supplemental Rebuttal Report).

1 A. It is not. The traditional concerns about potential detriments to Missouri retail rates or  
2 retail services are not present with this Transaction because GBE will not have any retail  
3 customers in Missouri and GBE will not be rate-regulated by the PSC. Moreover, the  
4 regional transmission organizations through which the Project will traverse have  
5 responsibility for seeing that the Project is safely and reliably integrated into the electric  
6 grid.

7 **Q. What other factors demonstrate that the proposed Transaction is not detrimental to**  
8 **the public interest?**

9 A. The Transaction will facilitate the continued development of the Grain Belt Express  
10 Project and all of its associated benefits. The benefits of the Project were discussed at  
11 length in the CCN Proceeding. These benefits include:

- 12 • An estimated 1,500 jobs during the three to four years of construction;
- 13 • A continuing source of property tax revenues to the political subdivisions where  
14 the facilities are located;<sup>5</sup>
- 15 • A participant-funded model, such that GBE assumes all financial risk of building  
16 and operating the transmission line, with no costs anticipated to be recovered  
17 through the rates of regional transmission organizations;<sup>6</sup>
- 18 • An estimated \$9.5–\$11 million in annual savings for customers of Missouri Joint  
19 Municipal Electric Utility Commission (“MJMEUC”), which will receive up to  
20 250 MW of capacity from the Project through an existing Transmission Services  
21 Agreement;<sup>7</sup>
- 22 • Additional access to high-capacity-factor Kansas wind resources to fulfill the  
23 growing demand for renewable energy in Missouri.<sup>8</sup>

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<sup>5</sup> *Id.* at 5-6.

<sup>6</sup> CCN Proceeding, Ex. 100 at 17 (Skelly Direct); Ex. 104 at 3, 8 (Berry Direct)

<sup>7</sup> CCN Proceeding, Ex. 480, p. 3, ln. 3-7 & Sch. JG-12 (Grotzinger Supp. Direct).

<sup>8</sup> CCN Proceeding, Ex. 800 at 5 (Dauphinais Rebuttal).

1           The proposed Transaction does not alter any physical aspects of the Project and will bring  
2           the above stated benefits closer to reality by providing GBE with enhanced financial  
3           resources, as discussed in the Direct Testimony of Ms. Hoffman.  Additionally,  
4           Invenergy has an established record of developing, financing, constructing, and operating  
5           large-scale energy projects and will bring that experience to bear on the GBE Project.

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

7           Yes.



## **KRIS ZADLO, PE**

1 South Wacker, Suite 1900, Chicago, IL 60606

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**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

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### **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
19	Kansas Corporation Commission	19-GBEE-253-ACQ	Grain Belt Express Clean Line LLC	Application for Approval of Acquisition

# 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.