

**BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS  
600 North Robert Street  
St. Paul, Minnesota 55101**

**FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION  
121 Seventh Place East, Suite 350  
St. Paul, Minnesota 55101-2147**

**In the Matter of the Petition of Northern  
States Power Company d/b/a Xcel Energy  
for Approval of Competitive Resource  
Acquisition Proposal and Certificate of  
Need**

**MPUC Docket No. E-002/CN-12-1240**

**OAH Docket No. 8-2500-0760**

**DIRECT TESTIMONY  
OF  
JAMES SHIELD**

**Filed on Behalf of  
Invenergy Thermal Development LLC**

**September 27, 2013**

**Direct Testimony of James Shield**  
**OAH Docket No. 8-2500-0760**  
**MPUC Docket No. E-002/CN-12-1240**

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1   **I.     INTRODUCTION**

2   Q.    Please state your name, employer, business address, and current position.

3   A.    My name is James Shield and I am the Executive Vice President and Chief Development  
4        Officer for Invenergy LLC (together with Invenergy Thermal Development LLC referred  
5        to as “Invenergy”), One South Wacker Drive, Suite 1900, Chicago, IL 60606.

6

7   Q.    What are your present responsibilities?

8   A.    I am responsible for the development, marketing, engineering, and construction of  
9        Invenergy’s wind, solar, and thermal energy projects worldwide.

10

11  Q.    Describe your educational background, as well as your business and professional  
12        experience.

13  A.    During my career, I have developed over 8,500 MW of power projects and negotiated  
14        over 3,000 MW of long-term energy off-take agreements. Prior to joining Invenergy, I  
15        held various positions with Calpine Corporation, including Senior Vice President-East  
16        Region. Prior to my time at Calpine, I was a key contributor in building SkyGen Energy  
17        from a start-up company, and a project manager at Indeck Energy Services. I received a  
18        Bachelor of Science in Mechanical Engineering from the University of Michigan and a  
19        Masters of Business Administration from DePaul University.

20

1 Q. What is the purpose of your testimony?

2 A. I will provide an overview of Invenergy and our Cannon Falls Peaking Expansion  
3 (“Cannon Falls Expansion”) and Hampton Energy Center (“Hampton”) proposals,  
4 submitted earlier in this proceeding. I have included those proposals again as  
5 Attachments 1 and 2, respectively. My testimony relates primarily to Sections 1 through  
6 3 and 14 of each proposal. I also provide an overview discussion of how the Invenergy  
7 Proposals best meet the need for new power identified by the Minnesota Public Utilities  
8 Commission (“Commission”) in the recent Xcel Resource Plan docket, Commission  
9 Docket No. E-002/RP-10-825 (“825 Docket”).

10

11 Q. What other witnesses will provide testimony on behalf of Invenergy?

12 A. Invenergy also presents testimony from Invenergy’s Vice President, Development Dan  
13 Ewan. Mr. Ewan discusses the technical, economic and environmental aspects of the  
14 Cannon Falls Expansion and Hampton proposals (collectively, the “Invenergy  
15 Proposals”). He also sponsors the remaining sections of the proposals as well as the  
16 Strategist template information previously filed by Invenergy in this docket and provides  
17 further discussion of how the Invenergy Proposals best meet the needs for new power  
18 identified by the Commission in the 825 Docket.

19

20 Q. How is your testimony organized?

21 A. My testimony is organized in the following sections:

- 1           •     An Executive Summary section, providing an Overview of the Cannon Falls  
2                   Expansion and Hampton proposals and why they best fit the needs identified by  
3                   the Commission;
- 4           •     An overview of Invenergy, including its experience, its portfolio of assets and key  
5                   personnel;
- 6           •     A summary of the key features of the Cannon Falls Expansion and Hampton  
7                   proposals; and
- 8           •     A summary of how the Invenergy Proposals satisfy certain of the key criteria the  
9                   Commission will consider in selecting the best resource(s) to meet the identified  
10                  need.

11

12 **II. EXECUTIVE SUMMARY**

13 Q. Please provide a brief overview of the history of this proceeding and how Invenergy  
14 came to be involved.

15 A. The current docket grew out of the 825 Docket and a Northern States Power Company  
16 d/b/a Xcel Energy (“Xcel”) Certificate of Need docket related to repowering and addition  
17 of capacity at its Black Dog generating station (Commission Docket No. E-002/CN-11-  
18 184). Specifically, in the 825 Docket, the Commission found:

19

20                   Xcel will need an additional 150 MW in 2017, increasing up to 500 MW  
21                   by 2019. Moreover, a broad range of resources could contribute to  
22                   meeting this need, justifying solicitation of a broad range of proposals. In

1 particular, Xcel should invite proposals for meeting all of the forecasted  
2 need, or any part of it. Xcel should invite proposals for adding peaking  
3 resource, intermediate resources, or a combination of the two. (825  
4 Docket, Commission Order, March 5, 2013, page 6.)

5  
6 Given this finding, the Commission also initiated the current docket, so that a competitive  
7 acquisition process could be used to first solicit bids and then to select the resource best  
8 meeting this identified need.

9  
10 Invenergy has a strong history of providing resources requiring the size, type and  
11 implementation timing identified by the Commission as needed to serve Xcel and its  
12 customers. For example, Invenergy has provided power to Xcel from its existing Cannon  
13 Falls peaking facility (described further, below) under a Commission-approved long term  
14 power purchase agreement (“PPA”). Given Invenergy’s strong history, and its successful  
15 relationship with Xcel, the Commission and the Cannon Falls community, Invenergy  
16 chose to participate in the current docket by offering an expansion of its Cannon Falls  
17 facility and a new facility at Hampton, to meet the needs identified by the Commission.

18  
19 Q. Why do you believe Invenergy’s proposal should be selected by the Commission to meet  
20 the resource needs it has identified for Xcel?

21 A. Invenergy’s Proposals best meet the criteria used by the Commission in resource  
22 selection and approval proceedings. In this docket, as in similar such prior dockets, the

1 Commission stated that it intends to apply the Certificate of Need criteria in judging the  
2 various resource options proposed. Invenergy’s Proposals best meets those criteria by  
3 best meeting the resource size, type and implementation timing determined by the  
4 Commission to be needed, while also best serving ratepayer, environmental and societal  
5 interests. As will be shown in Invenergy’s testimony, our proposed facilities provide a  
6 low cost option for Xcel, while also providing greater certainty of cost than Xcel’s “self-  
7 build” proposal. In addition, Invenergy’s facilities provide other benefits, which include:  
8 providing flexible and fast peaking energy to accommodate renewable intermittency,  
9 being located near a major load pocket where reliability is most important, being in close  
10 proximity to gas and power infrastructure keep interconnection costs low, and providing  
11 low technology risk as Invenergy proposes proven technology with GE 7FA’s. Given  
12 these benefits, the proposals of Calpine, Geronimo and Great River Energy and the “self-  
13 build” proposal of Xcel do not provide more reasonable or prudent alternatives for Xcel’s  
14 customers and for the State than the Invenergy facilities.

15  
16 **III. OVERVIEW OF INVENERGY AND THE HAMPTON ENERGY CENTER AND**  
17 **CANNON FALLS PROJECTS**

18 **A. Invenergy**

19 Q. Please provide an overview of Invenergy’s qualifications to provide the resources  
20 identified by the Commission as needed by Xcel.

21 A. Invenergy develops, owns, and operates power generation facilities in North America and  
22 Europe. We have a proven track record of establishing and maintaining longstanding,

1 profitable relationships with utilities, suppliers, and the communities in which its projects  
2 are located, including here in Minnesota with Xcel, Greater Minnesota Transmission and  
3 the Cannon Falls community.

4  
5 Invenergy has developed over 7,500 MWs of utility-scale renewable and natural gas-  
6 fueled power generation facilities in the United States, Canada, and Europe. This  
7 includes more than 5,700 MWs of projects in operation, with more than 1,800 MWs  
8 under contract or in construction. Invenergy is also North America's largest independent  
9 wind power generation company. Invenergy's senior executives - each with an average  
10 experience of 25 years in energy generation - have worked together as a core group for  
11 over two decades. Invenergy founder, President, and CEO Michael Polsky is a  
12 recognized and respected industry leader, and is the majority owner of Invenergy and its  
13 affiliated companies.

14  
15 Invenergy's expertise includes a complete range of fully integrated in-house capabilities:  
16 Project Development, Permitting, Transmission, Interconnection, Energy Marketing,  
17 Finance, Engineering, Project Construction, Operations and Maintenance. Invenergy is  
18 headquartered in Chicago, with regional offices in Denver and Toronto.

19  
20 Regarding Invenergy's thermal qualifications, Invenergy has a large portfolio of natural  
21 gas-fueled electric generating facilities in the U.S. and Canada. This portfolio includes  
22 green field projects initiated by Invenergy, as well as facilities acquired and completed by



1 it. Operating projects in North America total 2,245 MW and include Cannon Falls  
2 Energy Center, Spindle Hill Energy Center (Colorado), Hardee Power Station (Florida),  
3 Grays Harbor Energy Center (Washington), and St. Clair Energy Center (Ontario).

4  
5 In addition to these operating projects, Invenergy is developing new environmentally-  
6 friendly natural gas-fueled electric generating facilities across North America. These  
7 projects are being designed to provide economic and reliable power, with minimal impact  
8 on air and water resources. The table below includes all thermal projects owned and  
9 operated by Invenergy and its affiliates.

10  
11 **Invenergy Thermal Projects**

12

Project	Location	Status	Size
Cannon Falls	Minnesota	Operating	357.0 MW
Grays Harbor	Washington	Operating	620.0 MW
Hardee	Florida	Operating	370.0 MW
Spindle Hill	Colorado	Operating	314.0 MW
St. Clair	Ontario	Operating	584.0 MW
Nelson	Illinois	In Construction	584.0 MW
Total:			2,829.0 MW

13  
14 The Cannon Falls Energy Center commenced commercial operations in 2008. The  
15 project is a 357 MW peaking facility, consisting of two simple cycle, dual fuel GE 7FA  
16 combustion turbines. The output of this project is sold to Xcel under a long-term power  
17 purchase agreement reviewed and approved by this Commission.

1           Invenergy acquired the partially constructed 620 MW Grays Harbor Energy project in  
2           2005. Invenergy closed project financing in 2007 to complete the construction of the  
3           project, and achieved commercial operation in the second quarter of 2008. The Grays  
4           Harbor plant consists of two GE 7FA gas turbines, two HRSG's and a single steam  
5           turbine. The output is currently under contract with a financial institution.

6  
7           The Hardee Power Station is located in Bowling Green, Florida, approximately 40 miles  
8           east of Tampa. All of the plant's capacity and energy is sold to Seminole Electric  
9           Cooperative. The Hardee Power Station is a 370 MW facility consisting of a 220 MW  
10          combined cycle system and 150 MW peaking system. The combined cycle system  
11          consists of two GE Frame 7EA combustion turbines with bypass stacks, heat recovery  
12          steam generators and an 80 MW GE steam turbine. The peaking system is comprised of  
13          two GE 7EA combustion turbines.

14  
15          In 2007, Invenergy entered commercial operation with the Spindle Hill Facility, a 314  
16          MW peaking facility consisting of two simple cycle, dual fuel GE 7FA combustion  
17          turbines in Frederick, Colorado. The output of Spindle Hill is sold to Public Service  
18          Company of Colorado (another Xcel company) under a long-term PPA.

19  
20          Invenergy completed the construction and commissioning of the 584 MW St. Clair  
21          project located in St. Clair Township, Ontario, Canada in 2009. Invenergy entered into a  
22          long-term power purchase agreement with the Ontario Power Authority for all of the

1 capacity and energy from the project. St. Clair is configured as two 1 x 1 combined cycle  
2 units each consisting of a GE 7FA gas turbine, HRSG, and steam turbine.

3  
4 In 2004, Invenergy completed the acquisition of the partially constructed Nelson Power  
5 Generating Facility located in Illinois. The Nelson facility, originally designed as a four  
6 unit 1,160 MW power project designed around General Electric 7FA gas turbine  
7 technology, will be completed as a 584 MW combined cycle facility configured as two 1  
8 x 1 combined cycle units. Construction is underway with commercial operation of the  
9 facility scheduled for 2015.

10  
11 In addition to the thermal generation portfolio, Invenergy also has a substantial wind  
12 energy portfolio. This portfolio consists of 3,479 MWs of operating projects, 603 MWs  
13 of projects in construction, and over 500 MWs of projects under contract.

14  
15 Invenergy has also expanded its clean energy portfolio to include solar energy generation.  
16 Invenergy's first operational solar project, completed in 2012, is the 20 MW Grand Ridge  
17 Solar facility in Illinois. Grand Ridge Solar is contracted on a long-term basis with  
18 Commonwealth Edison. Invenergy has recently completed two 10 MW solar projects in  
19 Ontario and those projects are now in commercial operation. While Invenergy did not  
20 propose wind or solar resources in this docket, given the identified need for peaking or  
21 intermediate resources, Invenergy looks forward to providing such resources to  
22 Minnesota utilities and their customers in the years ahead.

1 Q. Can the Commission have confidence in Invenergy's financial strength and ability to  
2 stand behind its proposal?

3 A. Absolutely. Invenergy is a privately held project development company that has a long  
4 history of success developing, financing, constructing, and operating utility scale power  
5 plants in North America. Invenergy has extensive finance experience and its affiliates  
6 have funded more than \$10 billion in corporate and power project financings in the last  
7 seven years.

8

9 Q. Can you also discuss the key project management personnel who would be responsible  
10 for delivering on the Invenergy Proposals?

11 A. Yes. Invenergy employs an experienced staff of professionals, all with a track record of  
12 success. In addition to myself and Mr. Ewan, key personnel for the Cannon Falls  
13 Expansion and Hampton projects will include the following individuals.

14

15 Kris Zadlo serves as Invenergy's Vice President, Regulatory and Transmission. With  
16 more than twenty years of electric power industry experience, Kris oversees Invenergy's  
17 national and regional commercial activities pertaining to regulatory affairs and  
18 transmission. He is responsible for developing near- and long-term regulatory and  
19 transmission strategies for Invenergy. Previously, Kris was Vice President of  
20 Transmission for Calpine Corporation and earlier held various management positions  
21 during his ten years at Commonwealth Edison Company of Chicago. A Registered  
22 Professional Engineer in the State of Illinois, Kris graduated cum laude from Rose-

1 Hulman Institute with a Bachelor of Science in Electrical Engineering. He received a  
2 Masters in Electrical Engineering from Purdue University.

3  
4 Steven Ryder, Senior Vice President, Finance, heads Invenergy's financing, as well as the  
5 firm's equity and debt portfolio, for the company's wind, natural gas, and solar assets.  
6 He previously served in other managerial capacities at Invenergy, overseeing project  
7 accounting, financial reporting, and asset management functions. Ryder has more than  
8 two decades of experience, having served earlier as a Vice President at GE Energy  
9 Financial Services (GE Capital), and having worked at the International Finance  
10 Corporation (IFC), the U.S. Agency for International Development (USAID), and Lucent  
11 Technologies. A Chartered Financial Analyst, Ryder earned a Bachelor of Science in  
12 Electrical Engineering from Tufts University and a Masters in Public Affairs from  
13 Princeton University.

14  
15 Alex George, Senior Vice President, Operations leads the operations and asset  
16 management of Invenergy's growing portfolio of wind and thermal energy plants. He has  
17 nearly 30 years of broad experience in the power industry, having led the commissioning,  
18 operation, and asset management of more than 5,600 MW of natural gas generation and  
19 1,800 MW of wind generation during his career. Prior to joining Invenergy in 2002,  
20 George was Vice President of Operations and Asset Management at Calpine. Before  
21 then, as one of the original team members at Sky Gen, he was Vice President of  
22 Operations and Asset Management. Previously, George was a professional engineer at

1 both CRS Sirrinc Engineers and Sargent & Lundy. He has a BS in Mechanical  
2 Engineering from the University of Illinois and an MBA from the University of Illinois-  
3 Chicago.

4  
5 **B. Cannon Falls Expansion**

6 Q. Please discuss Invenergy's proposed Cannon Falls Expansion.

7 A. The Cannon Falls Expansion calls for the development of approximately one hundred  
8 seventy-nine megawatts ("179 MW") of capacity using one simple cycle, GE 7FA  
9 Combustion Turbine Generator ("CTG") to be located at Invenergy's existing Cannon  
10 Falls facility in Goodhue County, Minnesota. The Cannon Falls Expansion is scheduled  
11 to be operational as early as January 1, 2016.

12  
13 The proposed Cannon Falls Expansion incorporates a number of features and benefits  
14 that result in a compelling value proposition for Xcel and its ratepayers. First, the  
15 Cannon Falls Expansion will include a fully dispatchable, operationally flexible and  
16 highly efficient peaking generation resource, providing reliable generating capacity to  
17 Minnesota and the Xcel system. To illustrate the reliability of the proposed generation  
18 resource, the existing Cannon Falls peaking resource has had a 96.9% Capacity  
19 Availability Factor over the last two years. After adjusting for planned outages, the  
20 Cannon Falls peaking resource has a reliability of 99.2% of the time since the  
21 commercial operation date.

22

1 Second, the Cannon Falls Expansion will be located just south of the Twin Cities  
2 metropolitan region, providing geographic diversity relative to other Xcel generation  
3 resources, predominantly-located to the northwest and southwest of the Twin Cities.

4  
5 Third, the Cannon Falls Expansion will be sited at Invenergy's existing Cannon Falls  
6 facility allowing the unit to utilize existing infrastructure such as the operations and  
7 maintenance building, fuel oil unloading and storage facilities, water treatment and  
8 storage and other miscellaneous auxiliary equipment minimizing the cost of the project  
9 and minimizing any adverse impact to the surrounding community.

10  
11 Fourth, the Cannon Falls Expansion will interconnect to the new 345 kV Hampton  
12 Substation via a combination of approximately one mile of new transmission line and  
13 eight miles of underbuild to the approved Hampton to Rochester transmission project.  
14 For its natural gas supply, the Cannon Falls Expansion will interconnect to the existing  
15 natural gas pipeline of Greater Minnesota Transmission, LLC at the existing Cannon  
16 Falls facility. Given these interconnections, the Cannon Falls Expansion will require  
17 minimal changes to existing land use.

18  
19 Fifth, Cannon Falls Expansion personnel and operations will be integrated with the  
20 existing Cannon Falls facility, resulting in cost-saving synergies. The Cannon Falls  
21 Expansion will be developed and constructed by a skilled, experienced, and well-funded

1 team that is a part of an organization that is among the top energy development  
2 companies in the United States.

3  
4 Sixth, the Project will execute a fixed price power purchase agreement (“PPA”) in which  
5 Invenergy assumes construction and operation cost risk rather than the ratepayers.  
6 Invenergy’s performance will be backed by security in the amount of \$15 million upon  
7 execution of the PPA, and such performance security shall be reduced to \$5 million for  
8 the full term of the PPA upon reaching the commercial operation date, providing  
9 assurance to the Commission, Xcel and Xcel ratepayers that Invenergy will fulfill the  
10 commitments it makes in its proposal.

11  
12 Seventh, the project has very low water needs that can be supported by local  
13 infrastructure.

14  
15 Eighth, both the Cannon Falls Expansion and Hampton can operate on fuel oil in the  
16 event of a natural gas supply disruption, further enhancing reliability.

17  
18 Finally, the local community strongly supports the Project. While power projects often  
19 raise controversy and opposition, Invenergy has a strong working relationship with the  
20 City of Cannon Falls and the City has expressed its support of Invenergy’s proposed  
21 expansion as set out in our proposal. A copy of a letter of support is included as  
22 Attachment 3.



1           **C. Hampton Energy Center**

2    Q.    Please also discuss the Hampton Energy Center Proposal.

3    A.    Invenergy’s Hampton Energy Center Proposal calls for the development of  
4           approximately three hundred fifty-seven megawatts (“357 MW”) of capacity using two  
5           simple cycle, GE 7FA Combustion Turbine Generators (“CTG”) to be located at a new  
6           site just north of Hampton in Dakota County, Minnesota. Hampton is scheduled to be  
7           operational as early as January 1, 2016, but no later than January 1, 2017. Invenergy  
8           proposes to develop the Hampton project with a design and configuration that is very  
9           similar to Invenergy’s existing Cannon Falls facility.

10  
11           Like the Cannon Falls Expansion, Hampton incorporates a number of features and  
12           benefits that make it a compelling value proposition to meet the need identified by the  
13           Commission for Xcel and its ratepayers.

14  
15           As with the Cannon Falls Expansion, Hampton will include a fully dispatchable and  
16           operationally flexible highly efficient peaking generation resource, providing reliable  
17           generating capacity. Similarly, Hampton will be located just south of the Twin Cities  
18           metropolitan region, providing geographic diversity relative to other Xcel generation  
19           resources.

20  
21           Additionally, Invenergy has optioned property that is immediately adjacent to the  
22           property where the new 345 kV Hampton Substation is being built on the 345 kV grid as

1 part of the CapX2020 transmission upgrades that are scheduled to be installed by 2015.  
2 Hampton will interconnect with the new Hampton Substation. This location will  
3 concentrate industrial land use in one area and thus require minimal changes to existing  
4 land use. It will also provide for the lowest cost grid connection and require minimal grid  
5 system upgrades.

6  
7 Hampton will also interconnect to an existing natural gas pipeline of Greater Minnesota  
8 Transmission (“GMT”) that runs less than one half mile from the proposed project site.  
9 Again this ideal location with its close proximity to gas and electrical infrastructure will  
10 minimize disruption to existing land usage and minimize overall community disturbance.

11  
12 Invenergy will also integrate Hampton personnel and operations with the existing Cannon  
13 Falls facility which is located approximately 10 miles from the proposed Hampton site,  
14 resulting in additional cost-saving synergies. As with Cannon Falls, Hampton will be  
15 developed and constructed by a skilled, experienced, and well-funded team that is a part  
16 of an organization that is among the top energy development companies in the United  
17 States.

18  
19 For Hampton, Invenergy will post performance security in the amount of \$30 million  
20 upon execution of the PPA, and such performance security shall be reduced to \$10  
21 million for the full term of the PPA upon reaching the commercial operation date.

22

1 **IV. THE NEED FOR THE FACILITIES PROPOSED BY INVENERGY**

2 **A. Commission Findings on Overall Need**

3 Q. Has the Commission already determined the need for Xcel to acquire resources with the  
4 size, type and timing of those proposed by Invenergy?

5 A. Yes. In Xcel's last resource plan docket, the Commission determined the need for Xcel  
6 to acquire an additional 150 to 500 MW of peaking or intermediate resources (or a  
7 combination of the two) in the 2017 to 2019 time frame. Invenergy has proposed exactly  
8 such resources, using proven, reliable and cost-effective natural gas-fired resources.

9  
10 In that regard, I would note that the Commission considered a Department of Commerce  
11 recommendation to direct Xcel to acquire gas-fueled resources but declined to pre-  
12 emptively prohibit consideration of non-natural gas alternatives. At the same time,  
13 however, the Commission directed Xcel to include a report on solar power as part of its  
14 next resource plan and required the report to note the expected amount of solar energy on  
15 Xcel's system, barriers Xcel sees to further solar deployment, and how solar development  
16 could contribute to peak demand management, economic development in Minnesota, and  
17 meeting Minnesota's renewable energy and environmental mandates and goals. Given  
18 this directive, and given Minnesota's new solar energy mandate (adopted after the  
19 issuance of the Commission's resource plan order), it seems premature to add significant  
20 amounts of an intermittent resource such as solar energy at this time. Rather, Xcel  
21 ratepayers will be better served by examining such options in a separate procurement  
22 proceeding focused on helping Xcel meet the new mandate as cost-effectively, reliably

1 and reasonably as possible. This proceeding, on the other hand, should identify and  
2 select the best capacity resources, already determined by the Commission to be  
3 necessary.

4

5 **B. Additional Factors Supporting The Need For Invenergy’s Proposed Facilities**

6 Q. Do other considerations also support the need for the Invenergy facilities?

7 A. Yes. When examining resource options for meeting identified needs, the Commission  
8 examines a number of factors. Included in those factors are the socially beneficial uses of  
9 the output of the facility, including its uses to protect or enhance environmental quality.  
10 As demonstrated in Invenergy’s testimony and prior filings, the Cannon Falls Expansion  
11 and Hampton both will provide low cost, reliable energy meeting Xcel’s already  
12 determined needs. Moreover, the Invenergy facilities will do so in an environmentally  
13 sound manner. Invenergy has a strong commitment to environmental stewardship and a  
14 proud track record of environmental compliance.

15

16 The Commission also typically examines whether promotional activities have given rise  
17 to the alleged need for a proposed facility. Of course, in the context of this docket, the  
18 Commission has already reviewed Xcel’s system and its activities to date and determined  
19 the need for this facility. That need is unrelated to any Xcel or Invenergy promotional  
20 activities.

21

1           The Commission also considers the effects of a proposed facility in inducing future  
2           development. With respect to Invenergy’s proposed facilities, the communities impacted  
3           by the proposed continued development at Cannon Falls and the new development at  
4           Hampton both strongly support the projects. These projects will create approximately  
5           100 to 150 construction jobs and increase local tax revenues while providing low cost  
6           reliable energy and providing a measure of stability for Xcel’s residential and business  
7           ratepayers, already being hit by rate increases.

8  
9   **V.    CERTIFICATE OF NEED CRITERIA**

10  Q.    Can you address how the Invenergy Proposals meet the Certificate of Need criteria the  
11       Administrative Law Judge (“ALJ”) and Commission will consider in this proceeding?

12  A.    Yes. Mr. Ewan provides a full discussion, but I will briefly address each of the criteria.

13  
14       **A.    The Probable Result of Denial Would be an Adverse Effect Upon the Future**  
15       **Adequacy, Reliability, or Efficiency of Energy Supply**

16       There should be no question that the Xcel system has a need for additional capacity, as  
17       already determined by the Commission in the 825 Docket. That docket already  
18       considered issues such as conservation and existing resources in determining a need for  
19       150 MW of capacity in 2017 and up to 500 MW in 2019.

1           The Invenergy Proposals meet that need by providing highly reliable, efficient peaking  
2           resources and utilizing existing resources to minimize any adverse impacts of  
3           development of these proposals.

4

5           **B.     A More Reasonable and Prudent Alternative to the Invenergy Proposals**  
6           **Have Not Been Submitted**

7           Only Invenergy and Xcel offer peaking resources, which best fit Xcel’s needs. As Mr.  
8           Ewan discusses, in comparison to the Xcel’s utility self-build proposals, Invenergy’s  
9           Proposals offer ratepayers the benefit of greater price certainty and greater long-term  
10          flexibility.

11

12          **C.     Invenergy’s Facilities will Provide Benefits to Society in a Manner**  
13          **Compatible With Protecting the Natural and Socioeconomic Environments**

14          Invenergy’s reliable and efficient peaking facilities will meet Minnesota’s capacity needs  
15          without adversely impacting the natural environments. Moreover, construction of the  
16          Invenergy facilities will benefit the socioeconomic environment by creating jobs,  
17          generating tax revenues and providing a stable source of capacity for Xcel residential and  
18          business ratepayers at a time when they are facing significant rate increases.

19

1           **D.     Invenergy Will Comply With Relevant Policies, Rules, and Regulations of**  
2                   **Other State and Federal Agencies and Local Governments**

3           Finally, Invenergy will fully comply with the relevant policies, rules and regulations of  
4           other Federal, State and Local governments. The support Invenergy has received from  
5           the Cannon Falls community is testament to the strong relationships we build with  
6           government officials in our communities.

7

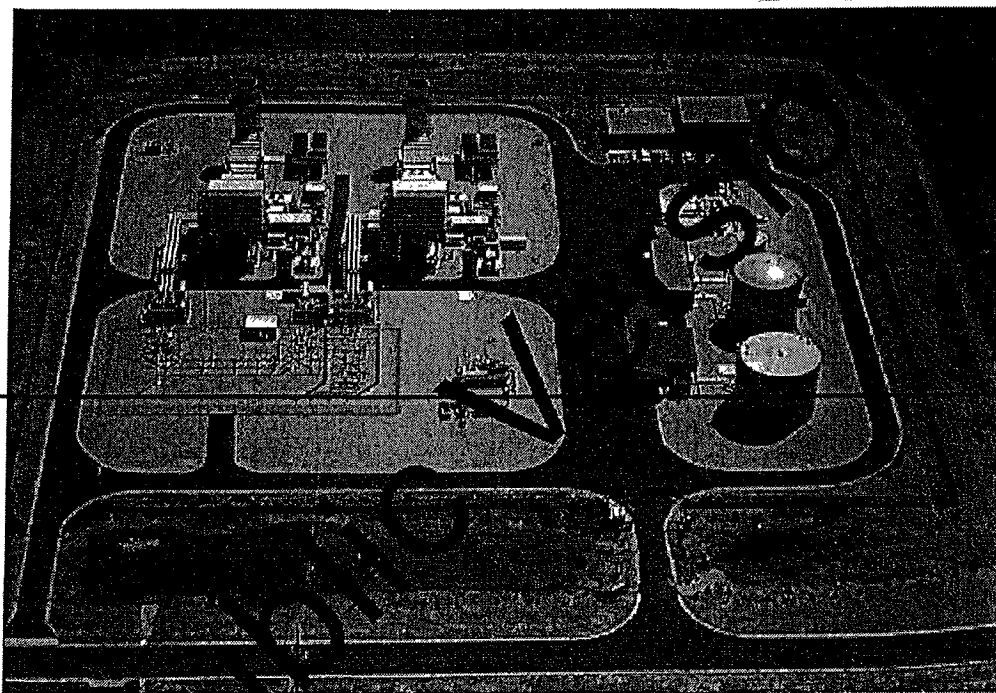
8   Q.     Does this conclude your Direct Testimony?

9   A.     Yes, it does.

10  
11   8350465v2  
12

## Cannon Falls Peaking Expansion

# Invenergy



## Cannon Falls Peaking Expansion

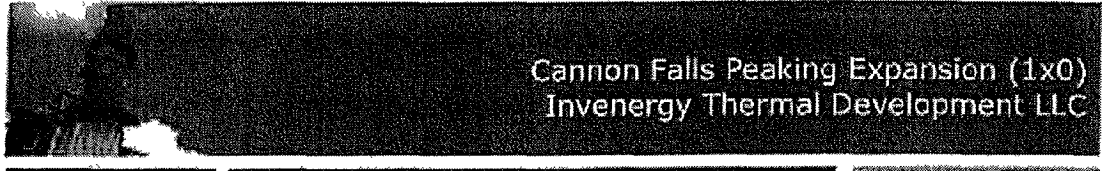
Goodhue County, Minnesota

Prepared for:

**Northern States Power Company**

April 15, 2013





Cannon Falls Peaking Expansion (1x0)  
Invenergy Thermal Development LLC

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PUBLIC VERSION

Invenergy

Cannon Falls Peaking Expansion (1x0)  
Invenergy Thermal Development LLC

**1.0 Bidder Contact Information**

Corporate Name: Invenergy Thermal Development LLC  
State of Incorporation: Delaware Limited Liability Company  
Corporate Address: One South Wacker Drive, Suite 1900  
Chicago, IL 60606

Parent's Corporate Name: Invenergy Investment Company LLC  
Parent's Corporate Address: One South Wacker Drive, Suite 1900  
Chicago, IL 60606

Primary Contact

Name: Craig Gordon  
Title: Director, Origination  
Phone: 312-582-1467  
Fax: 312-224-1444  
E-mail: cgordon@invenergyllc.com

Confidential Bid Proposal and Proprietary Information

*This document contains confidential and proprietary information. It has been prepared by Invenergy Thermal Development LLC and is submitted to Northern States Power Company on a confidential basis. Unless required by law, no part or any information concerning this proposal may be copied, exhibited or furnished, in whole or in part, by Northern States Power Company to an unaffiliated third party without the prior written consent of Invenergy Thermal Development LLC.*

Disclaimer

*This is a non-binding indicative proposal and does not constitute an offer or otherwise create a binding agreement or obligation to consummate any contemplated transaction, including supply of power. Any such obligation or agreement will be created only by the execution of definitive agreements, the provisions of which, if so executed, will supersede this proposal and all other agreements, if any, related to this proposal.*




## 2.0 Executive Summary

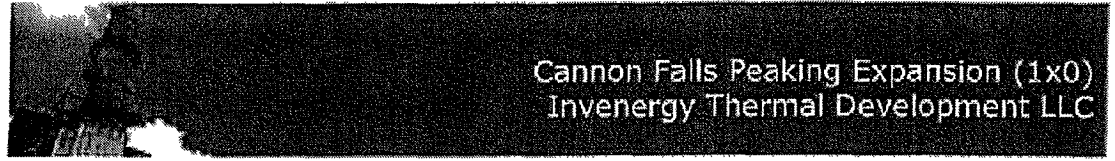
Invenergy Thermal Development LLC ("Invenergy") is pleased to present this Power Purchase Agreement ("Agreement") proposal to Northern States Power Company ("NSP"). The proposal is for the development of approximately [REDACTED] [REDACTED] using one simple cycle, GE 7FA Combustion Turbine Generator ("CTG") to be located at Invenergy's existing Cannon Falls facility in Goodhue County, Minnesota. The Cannon Falls Peaking Expansion ("Project" or "Facility") is scheduled to be operational as early as January 1, 2016, but no later than January 1, 2017.

Invenergy proposes to develop the Cannon Falls Peaking Expansion and sell the capacity and energy to NSP with terms and conditions substantially similar to the existing Power Purchase Agreement between Cannon Falls and NSP dated April 1, 2005.

The proposed Facility incorporates the following features and benefits, resulting in a compelling value proposition for NSP and its ratepayers:

[REDACTED] Project to include a fully dispatchable and operationally flexible highly efficient peaking generation resource, providing reliable generating capacity to the NSP network. To illustrate of the reliability of the proposed generation resource, the existing Cannon Falls peaking resource has had a [REDACTED]

- Project to be located just south of the Twin Cities metropolitan region, providing geographic diversity relative to other NSP generation resources located to the northwest and southwest of the Twin Cities.
- Project to be sited at Invenergy's existing Cannon Falls facility allowing the unit to utilize existing infrastructure such as the operations and maintenance building, fuel oil unloading and storage facilities, water treatment and storage and other miscellaneous auxiliary equipment minimizing the cost of the project and impact to the surrounding community.
- Project to be interconnected to the new 345 kV Hampton Substation via a combination of approximately one mile of new transmission line and eight miles of underbuild to the approved Hampton to Rochester transmission project thus requiring minimal changes to land use.



- Project to be interconnected to existing natural gas pipeline of Greater Minnesota Gas, Inc. at the Cannon Falls facility.
- Project personnel and operations to be integrated with the existing Cannon Falls facility, resulting in cost-saving synergies.
- Project to be developed and constructed by a skilled, experienced, and well-funded team that is a part of an organization that is among the top energy development companies in the United States.

Cannon Falls Site Location

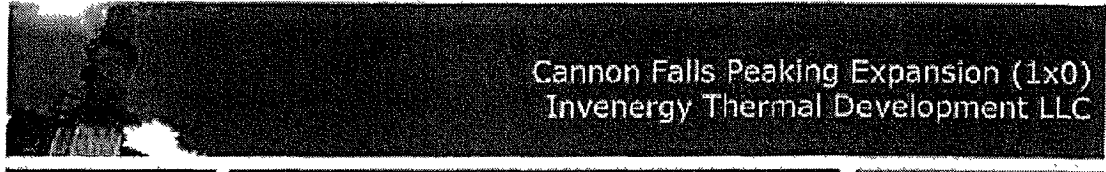


### 3.0 Developer Experience and Qualifications

#### 3.1 Invenergy Experience

Invenergy develops, owns, and operates power generation facilities in North America and Europe. It has a proven track record of establishing and maintaining longstanding, profitable relationships with utilities, suppliers, and the communities in which its projects are located.

Invenergy has developed approximately 6,600 MWs of utility-scale renewable and natural gas-fueled power generation facilities in the United States, Canada, and Europe. This includes more than 5,300 MWs of projects in operation, with more than 1,300 MWs



under contract or in construction. Invenergy is North America's largest independent wind power generation company. Invenergy's senior executives - each with an average experience of 25 years in energy generation - have worked together as a core group for over two decades. Invenergy founder, president, and CEO Michael Polsky is a recognized and respected industry leader, and is the majority owner of Invenergy and its affiliated companies.

Invenergy's expertise includes a complete range of fully integrated in-house capabilities: Project Development, Permitting, Transmission, Interconnection, Energy Marketing, Finance, Engineering, Project Construction, Operations and Maintenance. Invenergy is headquartered in Chicago, with regional offices in Denver and Toronto.

A brief narrative of key members of Invenergy's management team has been provided in Attachment 1.

### 3.2 Thermal Development Expertise

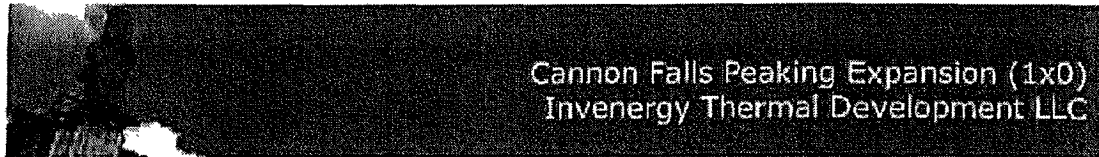
Invenergy has a large portfolio of natural gas fueled electric generating facilities in the U.S. and Canada. This portfolio includes greenfield projects initiated by Invenergy, as well as facilities acquired and completed by it.

Operating projects total 2,275 MW and include Cannon Falls Energy Center (Minnesota), Spindle Hill Energy Center (Colorado), Hardee Power Station (Florida), Grays Harbor Energy Center (Washington), and St. Clair Energy Center (Ontario).

In addition to these projects, Invenergy is developing new environmentally-friendly natural gas-fueled electric generating facilities across North America. The projects are being designed to provide economic and reliable power, with minimal impact on air and water resources. The table below includes all thermal projects owned by Invenergy Thermal LLC.

Invenergy Thermal Projects

Project	Location	Status	Size
Cannon Falls	Minnesota	Operating	357.0 MW
Grays Harbor	Washington	Operating	620.0 MW
Hardee	Florida	Operating	370.0 MW
Spindle Hill	Colorado	Operating	314.0 MW
St. Clair	Ontario	Operating	584.0 MW
Nelson	Illinois	In Construction	584.0 MW
Total:			2,829.0 MW



**Cannon Falls Energy Center**

Cannon Falls Energy Center commenced commercial operations in 2008. The project located in Cannon Falls, Minnesota is similar to Spindle Hill. It is a 357 MW peaking facility, consisting of two simple cycle, dual fuel GE 7FA combustion turbines. The output of this project is sold to NSP under a long-term power purchase agreement.

**Grays Harbor Energy Center**

The 620 MW Grays Harbor Energy project was acquired by Invenergy in 2005. Invenergy closed project financing in 2007 to complete the construction of the project, and commercial operation was achieved in the second quarter of 2008. The Grays Harbor plant consists of two GE 7FA gas turbines, two HRSGs and a single steam turbine. The output is currently under contract with a financial institution.

**Hardee Power Station**

The Hardee Power Station is located in Bowling Green, Florida, approximately 40 miles east of Tampa. All of the plant's capacity and energy is sold to Seminole Electric Cooperative. The Hardee Power Station is a 370 MW facility consisting of a 220 MW combined cycle system and 150 MW peaking system. The combined cycle system consists of two GE Frame 7EA combustion turbines with bypass stacks, heat recovery steam generators and an 80 MW GE steam turbine. The peaking system is comprised of two GE 7EA combustion turbines.

**Spindle Hill Energy Center**

In 2007, Invenergy entered commercial operation with the Spindle Hill Facility. It is a 314 MW peaking facility consisting of two simple cycle, dual fuel GE 7FA combustion turbines in Frederick, Colorado. The output of Spindle Hill is sold to Public Service Company of Colorado under a long-term PPA.

**St. Clair Energy Center**

Invenergy completed the construction and commissioning of the 584 MW St. Clair project located in St. Clair Township, Ontario, Canada in 2009. Invenergy entered into a long-term power purchase agreement with the Ontario Power Authority for all of the capacity and energy from the project. St. Clair is configured as two 1 x 1 combined cycle units each consisting of a GE 7FA gas turbine, HRSG, and steam turbine.

**Nelson Energy Center**

In 2004, Invenergy completed the acquisition of the partially constructed Nelson Power Generating Facility located in Illinois. The Nelson facility, originally designed as a four unit 1,160 MW power project designed around General Electric 7FA gas turbine




technology, will be completed as a 584 MW combined cycle facility configured as two 1x1 combined cycle units. Commercial operation of the facility is planned for 2015.

### 3.3 Wind and Solar Expertise

In addition to the thermal generation portfolio, Invenergy also has a substantial wind energy portfolio, representing 3,684 MWs globally. This portfolio consists of 3,186 MWs of operating projects, 331 MWs of projects in construction, and another 167 MWs of projects under contract.

Invenergy has also expanded its clean energy portfolio to include solar energy generation. Invenergy's first operational solar project, completed in 2012, is the 20 MW Grand Ridge Solar facility in Illinois. Grand Ridge Solar is contracted on a long-term basis with Commonwealth Edison. Invenergy is currently constructing two 10 MW solar projects in Ontario and those projects are scheduled to be completed in 2013.

### 4.0 In-service Date

Provided that all Minnesota Public Utilities Commission approvals are obtained no later than January 1, 2014, Invenergy will begin the permitting process 2014 with construction to follow in 2015. The Project should be capable of an In-service date as early as January 1, 2016 but no later than January 1, 2017. Invenergy will target an In-service date of June 1, 2016 to align with the MISO capacity planning period.

Milestone	Date
Execute Power Purchase Agreement	Summer 2013
Receive Permit Approvals	December 2014
Site Mobilization	Spring 2015
Electrical Back Feed	Fall 2015
Commercial Operation (Projected)	June 1, 2016

### 5.0 Capacity Amount

The Project capacity shall range from approximately 155 MWs in the summer to 190 MWs in the winter. Actual available capacity shall be determined by temperature and relative humidity. The Project will have a Net Capability of 178.5 MWs at the point of interconnection.



Cannon Falls Peaking Expansion (1x0)  
Invenergy Thermal Development LLC

## 6.0 Delivery

### 6.1 Market Participation

Invenergy proposes that NSP be the registered MISO Market Participant for the Project as it is for the existing Cannon Falls facility. As the Market Participant, NSP will be able to manage the Project within its existing portfolio of generating assets which should lead to overall contract cost reductions and streamlined operations.

### 6.2 MISO Module E Capacity

As the registered Market Participant with MISO, NSP shall be responsible for registering the Project as a MISO Module E Capacity resource. Invenergy will work with NSP prior to the Commercial Operations Date to ensure that the Project is eligible to participate as a capacity resource beginning in the first contract year.

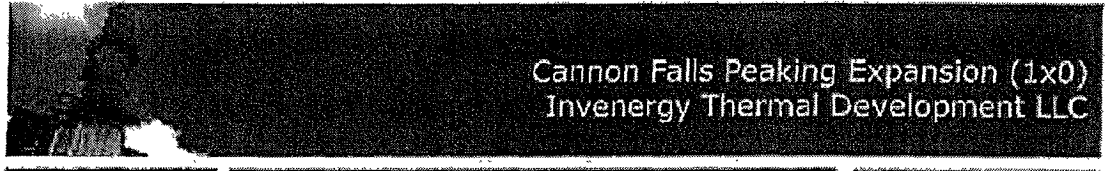
### 6.3 Energy Delivery Point

NSP shall take title to the energy from the Project at the point of interconnection, which is proposed to be the planned Hampton Substation. However, since the Hampton Substation is not currently modeled in MISO, Invenergy evaluated two proxy nodes that are on the same 345 kV transmission line as the planned substation. The Prairie Island and Blue Lake generating stations are located to the east and northwest of the planned Hampton Substation and thus can be used for an indication of how Locational Marginal Prices ("LMP") will likely relate to NSP's load zone ("NSP.NSP"). The evaluation of historical LMPs of the existing Prairie Island and Blue Lake generators to the NSP load zone indicates a strong positive correlation between the LMPs and a relatively small difference in actual real-time prices (LMP basis). Below is a table showing the correlations between each of the generators with the NSP load zone.

Hourly LMP Correlation:		
Year	Blue Lake: NSP	Prairie Island: NSP
2009	99.7%	99.1%
2010	99.0%	97.2%
2011	98.9%	98.5%
2012	94.7%	83.6%
Average	98.1%	94.6%

Source: Ventyx



Based on this evaluation, Invenergy anticipates that the Cannon Falls expansion at the Hampton Substation will have a strong positive correlation to NSP's load zone, and thus provide an effective hedge to load for NSP.

Below is a table showing the average Real-time basis between the two proxy CP Nodes and the NSP load zone. On average, the basis to the NSP load zone is relatively low. This relatively small amount of basis is indicative of low congestion risk and may eliminate the need for NSP to hedge the risk with FTRs.

Average Hourly On-Peak Basis		
Year	NSP – Blue Lake	NSP – Prairie Island
2009	\$0.49	\$1.04
2010	\$1.00	\$1.76
2011	\$0.67	\$1.69
2012	-\$0.27	*\$2.70
<b>Four-Year Average</b>	<b>\$0.47</b>	<b>\$1.80</b>

Source: Ventyx

\* On five days in July and August 2012 (7/29, 8/1, 8/23, 8/24), the average on-peak basis was abnormally high, possibly owing to poor system conditions. On average, the high temperature for those five days was 90 degrees Fahrenheit compared to the average July and August temperature of 86 degrees Fahrenheit. Since the high temperatures on the five days weren't significantly higher than the four-month average, it's unlikely that weather alone was the source of the price separation. The 2012 basis excluding those days was \$1.37, resulting in a four-year average of \$1.47.

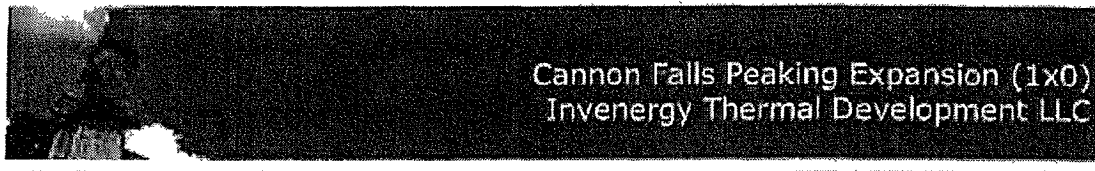
Based on the basis of the two proxy nodes, Invenergy anticipates that the proposed Cannon Falls expansion will provide NSP a cost-effective hedge. Because the Cannon Falls expansion is located in close proximity to the Twin Cities, there is minimal risk of sustained long-term basis risk, unlike other generating projects that are located further away and in more congested areas.

A monthly breakout of the LMP basis is provided in Attachment 2.

## 7.0 Resource Type

### 7.1 CTG Overview

Invenergy proposes to install one GE 7FA combustion turbine ("CTG") in a simple cycle configuration. Thermal energy is produced in the CTG through the combustion of

natural gas, and the thermal energy is converted into mechanical energy by the CTG turbine that drives the CTG compressor and electric generator. The CTG proposed for the Project is the GE 7241 ("7FA") combustion turbine generator. The approximate output of the combustion turbine is 179 MW (new and clean) at 40° F. The GE 7FA consists of a heavy duty, single shaft, combustion turbine-generator and associated auxiliary equipment. The CTG is equipped with dry low Nitrogen Oxide and Nitrogen Dioxide ("NOx") combustors designed for natural gas.

The GE fleet reliability of the 7FA gas turbine has consistently been 97 percent or better. This high reliability provides customers more days of operation per year while minimizing the overall life cycle cost of the gas turbine. The 7FA gas turbine is the industry leader in reduction of NOx and Carbon Monoxide ("CO") emissions. GE's Dry Low NOx ("DLN") 2.6 combustor produces less than 9 parts per million NOx and CO, which reduces costs by minimizing the need for exhaust cleaning systems. GE's DLN 2.6 is a proven product with hundreds of thousands of operating hours. It is assumed that there will not be a requirement for any additional emission control such as selective catalytic reduction or carbon monoxide catalyst systems.

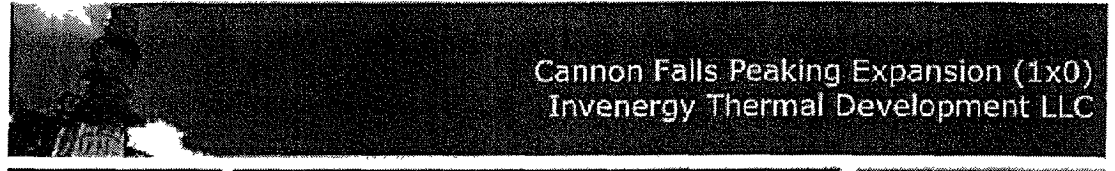
The CTG will be equipped with evaporative inlet cooling to offset some of the power loss experienced at high ambient temperatures. Evaporative inlet cooling is a process where water is evaporated in the turbine air wet. The evaporating water lowers the temperature of the compressor inlet air and increases the inlet air density. Denser air results in increased air mass flow and increased power output.

A complete, integrated digital control system will be provided and integrated into the existing centralized control room and related facilities. The Facility auxiliaries will be served through a station service transformer. The Facility will also be equipped with automatic generation control for regulation and ramping of the combustion turbine. The proposed plant includes black start capabilities.

To date, Invenergy has successfully installed eight (8) GE 7FA's in both combined cycle and peaking applications, including two peaking units for NSP and two peaking units for Public Service Company of Colorado which is an Xcel subsidiary.

## 7.2 Net Capacity Rating and Heat Rate

At base load, the single GE 7FA CTG is expected to generate approximately 178.5 MW at 40 degrees Fahrenheit (new and clean). Invenergy proposes to guarantee a predicted net heat rate of 10,900 Btu/kWh HHV when operating on natural gas at reference conditions of 95 degrees Fahrenheit and 30% relative humidity (new and clean).



**7.3 Primary Fuel and Backup Alternatives**

The primary fuel will be natural gas. The unit will also be capable of burning ultra-Low Sulfur #2 Fuel Oil as a backup. The unit will share the fuel oil unloading and storage facilities with the existing Cannon Falls units.

**7.4 Startup Time**

Start Type	Time
Cold	30 Minutes
Warm	30 Minutes
Hot	30 Minutes

**8.0 Emissions and Carbon Dioxide**

**8.1 Operating Permits**

The emission rates for this new unit will be comparable to those of the existing units at the Cannon Falls facility.

Fuel	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	Hg	CO <sub>2</sub>
Natural Gas	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Distillate Fuel Oil	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Operations based on operating at 100% load and at an ambient temperature of 45 degrees F.

A number of permits will be required for the addition of this new emission source. Invenergy anticipates a modification will need to be made to the existing Air Permit No. 04900088-001 from the Minnesota Pollution Control Agency ("MPCA"). The existing facility operates under a synthetic minor PSD air permit that limits the combined operating hours of the two existing units to 7,359 equivalent operating hours per year on a 12 month rolling sum basis where each operating mode (normal operations on natural gas or fuel oil, normal operation on power augmentation mode, and startup and shutdown on natural gas or fuel oil) is assigned a number of equivalent operating hours. This configuration allows the operator flexibility to operate the units as needed in different modes while ensuring that annual emissions from the site are not exceeded.




There are a number of possible approaches to modifying the existing permit. Our recommendation would be to simply share the presently permitted operating hours across the two existing units and the additional unit proposed here. The existing units do not operate near their existing limits and are not anticipated to do so in the future. This approach is environmentally friendly and should be easily justified with the MPCA. Alternatively, we could request that the permit be modified to add the additional unit and that a similar structure will be utilized whereby we will need to limit the operating hours of the new unit. The actual limitations will not be known until discussions have occurred with the MPCA, but it is anticipated to be in the range of 3,000-4,000 hours per year on a twelve month rolling basis.

In addition to the modifications to the Air Permit, we anticipate modifications or issuance of new permits for the following key permits:

- Minnesota PUC Certificate of Need
- Minnesota Environmental Quality Board – Site Permit – MEQB Docket No. 04-85-PPS-Cannon Falls EC issued 2/22/2005
- Minnesota Pollution Control Agency Construction Stormwater Permit
- City of Cannon Falls – Planned Unit Development Permit
- FAA determination of no hazard to air navigation.

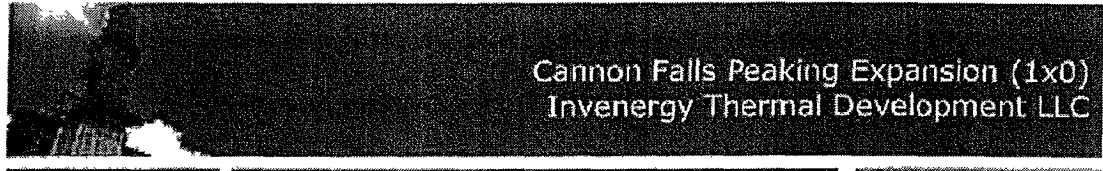
In this case Invenergy is proposing to expand the usage of a site that has been previously evaluated for its current use and we anticipate that there will be no significant obstacles to obtaining new or modified permits.

## 8.2 Environmental Compliance

Invenergy's Environmental, Health, and Safety staff will work in conjunction with facility staff to maintain compliance with all applicable local, state, and federal regulations. The facility will implement a comprehensive compliance tracking program for the facility to help maintain environmental compliance. Permit requirements will be reviewed and entered into a tracking program which will alert the appropriate staff to upcoming requirements.

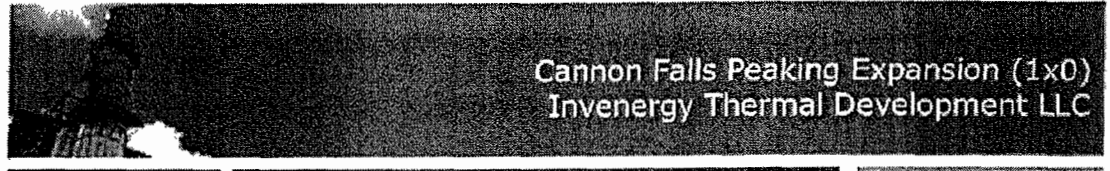
## 9.0 Capacity and Energy Pricing

Invenergy proposes to develop the Cannon Falls Peaking Expansion and sell the capacity and energy to NSP with terms and conditions substantially similar to the existing Power Purchase Agreement between Cannon Falls and NSP dated April 1, 2005. The key Commercial Terms are summarized below:



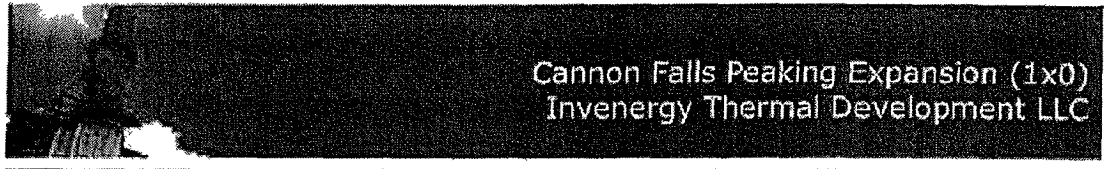
Commercial Terms	
Transaction Structure:	Power Purchase Agreement
Purchaser/Buyer:	Northern States Power Company
Seller:	Invenergy Thermal Development LLC or affiliate
Location (County, State):	Goodhue County, Minnesota
Technology:	One (1) GE 7FA CTG
Primary Fuel Type:	Natural Gas (with #2 Fuel Oil as backup)
Commercial On-Line Date:	June 1, 2016
Term:	Twenty (20) years (June 1, 2016 to May 31, 2036)
Capacity Price, (CP) (year 1):	[REDACTED]
Annual Capacity Price Escalation:	Beginning on the first anniversary of the Commercial On-Line Date and each anniversary thereafter, escalated annually by the change in the Consumer Price Index or other mutually agreeable index.
Heat Rate:	[REDACTED]
Net Capability, (NC):	[REDACTED]
Guaranteed Ramp Rate:	[REDACTED]
Point of Delivery:	[REDACTED]
Payment for Contract Capacity:	[REDACTED]

Public Information



Commercial Terms	
	[REDACTED]
Payment for Dispatchability:	[REDACTED]
Payment for Excess Capacity:	[REDACTED]
Payment for Variable O&M:	[REDACTED]
Heat Rate Adjustment:	[REDACTED]

Public



Commercial Terms	
	[REDACTED]
Payment for Turbine Starts:	[REDACTED]
	[REDACTED]
Dispatch and Scheduling:	[REDACTED]
Fuel Supply:	[REDACTED]
Environmental Emissions Costs:	[REDACTED]

**10.0 Scheduling Provisions**

As the MISO Market Participant, NSP shall be responsible for all MISO market activities including, but not limited to, daily generation offers, outage scheduling, following start/stop signals, following MISO dispatch set-points, and operating in local mode or AGC.

**11.0 Curtailments and Excuses for Reduced Delivery**

Seller shall not bear financial or any other responsibility for curtailments or reduced deliveries as NSP will be the MISO Market Participant and will be the responsible party with respect to following MISO instructions. As noted above in Section 6.3, the LMP basis has been minimal over the last four years, signaling that economic curtailments are unlikely.

**12.0 Security for Performance**

Invenergy shall post performance security in the amount of [REDACTED] upon execution of the Agreement, and such performance security shall be reduced to [REDACTED] for the full term of the Agreement upon reaching the Commercial Online Date.




## 13.0 Additional Considerations

### 13.1 Site

The proposed turbine will be located at Invenergy's existing Cannon Falls facility which is located in Goodhue County. The new turbine will be installed on land that is directly north of the existing Cannon Falls units and is presently under the control of Invenergy's Cannon Falls entity. By siting the unit at Invenergy's Cannon Falls facility, Invenergy will be able to utilize existing infrastructure such as the operations and maintenance building, fuel oil unloading and storage facilities, water treatment and storage and other miscellaneous auxiliary equipment minimizing cost and impact to the surrounding community.

### 13.2 Site Layout

The site will be laid out in a manner consistent with prudent industry standards for combustion turbine power plants. The new unit will be located parallel to the existing units in the same east to west orientation. Stormwater drainage detention will need to be re-worked.

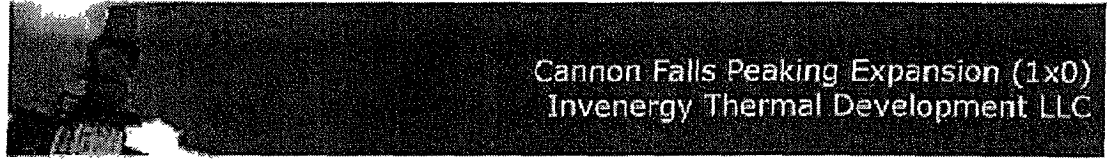
Please see Attachment 3 for the map of the proposed Project location and layout.

### 13.3 Electrical Interconnection

An Initial Feasibility Study (Queue # [REDACTED]) to confirm adequate capacity of three potential interconnection locations and to determine the timing of required upgrades has been requested, but has not yet been completed. The existing Cannon Falls facility is interconnected to the high voltage transmission system at a 115kV voltage level via an existing 115kV substation adjacent to Invenergy's Cannon Falls Facility. Invenergy is familiar with the transmission system in the area and anticipates that interconnection to the 115kV substation at Cannon Falls may necessitate the need for substantial upgrades on either the 115kV or 161kV system or both.

Invenergy is proposing an Interconnection to the new Hampton Corners 345kV Substation that will be installed approximately nine miles north of the project, just north of Hampton, MN as part of the CapX2020 Transmission Project. The Hampton to Rochester 345 kV Transmission Project (also part of CapX2020) will be installed in a corridor that runs approximately one mile west of the Cannon Falls Facility along Highway 52. We are proposing then that the new generator be interconnected to the grid via one mile of new transmission to the Hampton to Rochester corridor, then eight miles of transmission line that would be installed as a double circuit or underbuild on the proposed Hampton to Rochester line and one new breaker position at the new Hampton Substation. This configuration will benefit all parties by minimizing the impact to





surrounding land usage, minimizing upgrades to the overall electrical system and hence minimizing the overall cost of interconnection to the parties and ratepayers. Invenergy has included [REDACTED] in the project budget to account for these interconnection costs and will include an adjustment mechanism to the capacity price to the extent the interconnection costs can be completed for more or less.

Below is a table showing the expected milestone dates for the [REDACTED] interconnection request.

Interconnection Milestones	
Initial Interconnection Request – Feasibility Study	Submitted March 18, 2013
Enter Definitive Planning Phase Cycle	August 1, 2013
Execute Interconnection Agreement	Expected Q2 2014

#### 13.4 Gas Interconnection

Natural gas is supplied to the existing Cannon Falls Facility by a 16" diameter lateral pipeline that is owned and operated by Greater Minnesota Gas (GMG) that connects to Northern Natural Gas transmission pipelines approximately 13.5 miles northwest of the project site. We have been in contact with GMT and they have indicated that the existing pipeline should be capable of serving both the new unit and the existing units with only minor upgrades or operational changes. The project has estimated [REDACTED] in direct interconnection cost as the basis for this proposal.

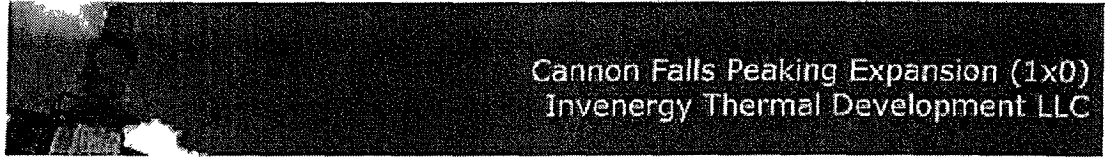
It is assumed that gas compression will not be required to meet the plant's 550 psig gas pressure requirement when connected to nearby natural gas transmission pipelines.

#### 13.5 Water Resources

The facilities relatively minor cooling needs can be met through modifications to the existing Cannon Falls infrastructure which includes a pipeline from the City of Cannon Falls.

#### 13.6 Description of O&M Plan

Invenergy is an experienced operator through its wholly owned subsidiary, Invenergy Services, which will operate the proposed facility. Invenergy Services is staffed with experienced industry personnel and currently operates 5 thermal assets (3 combined



cycle and 2 simple cycle). Additionally, Invenergy Services operates 26 wind farms and 1 solar farm, with 3 wind farms and 2 solar farms under construction.

Invenergy anticipates leveraging the existing operations staff at Cannon Falls. This efficiency is reflected in the proposed pricing.

The plant manager reports to an asset manager based in Chicago, Illinois who has overall management responsibility for the facility including contract compliance. Both the plant and asset manager draw on the resources of Invenergy for all other functions such as accounting, human resources, legal, finance and engineering.

Invenergy will contract services as needed from qualified contractors and tradesmen.

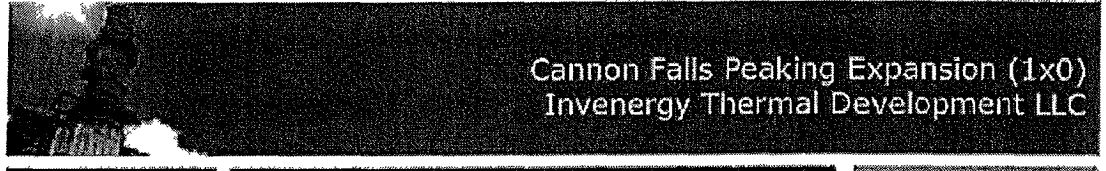
The expectation for major maintenance activities is as follows:

Combustion Inspection	12,000 hours/400 starts	18 days
Hot Gas Path	24,000 hours/900 starts	21 days
Major Maintenance	48,000 hours/1,000 starts	28 days

In the absence of a scheduled combustion turbine major maintenance activity, the plant will require an annual 10 day outage for scheduled maintenance of the balance of plant systems.

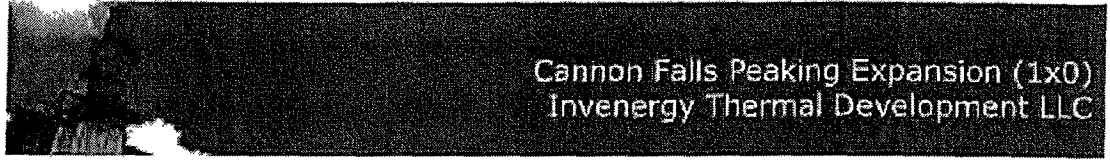
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Attachment 1: Invenergy Management Team

Cannon Falls Peaking Expansion (1x0)  
Invenergy Thermal Development LLC

**Michael Polsky- President and Chief Executive Officer** – With thirty years of experience in the energy industry, Michael Polsky is widely recognized as a pioneer and an industry leader in the cogeneration and independent power industry in North America. He founded leading clean energy company Invenergy more than ten years ago. Previously, in 1991, Polsky founded Sky Gen 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 –Executive Vice President, Chief Financial Officer, Chief Operating Officer** – Jim Murphy has more than thirty years of financial and management experience, primarily in the energy industry, having managed the negotiation and execution of more than \$10 billion in private equity and debt investments, power plant acquisitions and sales, and project debt and equity financing. He is a member of Invenergy's founding group and is responsible for the general management of the company, as well as corporate and project finance, risk management, and asset optimization. Murphy currently is 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 Sky Gen Energy LLC, and previously was 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 Development 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, he has developed over 8,500 MW of power projects and negotiated 3,000 MW of long-term energy off-take agreements. Prior to joining Invenergy, Shield held various positions with Calpine Corporation, including Senior Vice President-East Region. Earlier, 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.

**Alex George – Senior Vice President, Operations and Asset Management** - Alex George leads the operations and asset management of Invenergy's growing portfolio of wind and thermal energy plants. He has nearly 30 years of broad experience in the




power industry, having led the commissioning, operation, and asset management of more than 5,600 MW of natural gas generation and 1,800 MW of wind generation during his career. Prior to joining Invenergy in 2002, George was Vice President of Operations and Asset Management at Calpine. Before then, as one of the original team members at Sky Gen, he was Vice President of Operations and Asset Management. Previously, George was a professional engineer at both CRS Siffine Engineers and Sargent & Lundy. He has a BS in Mechanical Engineering from the University of Illinois and an MBA from the University of Illinois-Chicago.

**Bryan Schueler – Senior Vice President, Development** – A twenty-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 over 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.

**Randy Wood – Vice President, Origination** - Randy Wood is responsible for identifying and executing power sales, energy hedges, and renewable energy credit transactions for Invenergy in North America. Having joined Invenergy in 2007, he has closed many long-term power sales and energy hedges for wind, solar, and gas-fired generation, as well as numerous renewable energy credit transactions. Wood has over ten years of energy industry experience, and prior to working at Invenergy, he held positions with Progress Energy Ventures and InterGen North America. A Certified Public Accountant, Wood earned a Bachelor of Business Administration from the University of Central Arkansas, and a Master's in Business Administration from Texas A&M University.

**Kris Zadlo – Vice President, Regulatory Affairs and Transmission** - With more than twenty years of electric power industry experience, Kris Zadlo oversees Invenergy's national and regional commercial activities pertaining to regulatory affairs and transmission. He is responsible for developing near- and long-term regulatory and transmission strategies for Invenergy. Previously, Zadlo was Vice President of Transmission for Calpine Corporation and earlier held various management positions during his ten years at Commonwealth Edison Company of Chicago. A Registered Professional Engineer in the State of Illinois, Zadlo graduated cum laude from Rose-Hulman Institute with a Bachelor of Science in Electrical Engineering. He received a Masters in Electrical Engineering from Purdue University.

Invenergy

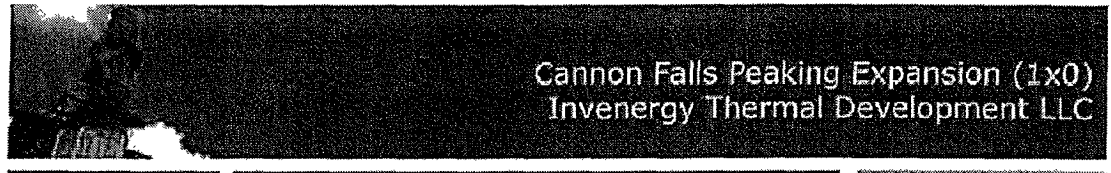


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Attachment 2 Historical Basis




Average Hourly Basis (Real-time)				
Year-Month	NSP.NSP - NSP.BLUE_LK7		NSP.NSP - NSP.PRISL	
	On-Peak Basis	Off-Peak Basis	On-Peak Basis	Off-Peak Basis
2009-01	\$0.39	\$0.25	\$0.82	\$0.80
2009-02	\$0.33	\$0.27	\$0.81	\$0.82
2009-03	\$0.49	\$0.04	\$1.24	\$0.81
2009-04	\$0.63	\$0.18	\$1.63	\$0.88
2009-05	\$0.21	\$0.05	\$0.81	\$0.42
2009-06	\$0.69	\$0.25	\$1.21	\$0.89
2009-07	\$0.24	\$0.13	\$0.81	\$0.51
2009-08	\$0.88	\$0.11	\$1.00	\$0.71
2009-09	-\$0.08	-\$0.12	-\$0.24	-\$0.20
2009-10	\$0.47	\$0.21	-\$0.01	-\$0.54
2009-11	\$0.52	\$0.14	\$1.21	\$0.45
2009-12	\$1.24	\$0.06	\$2.25	\$0.75
<b>Average 2009</b>	<b>\$0.49</b>	<b>\$0.15</b>	<b>\$1.04</b>	<b>\$0.52</b>
2010-01	\$1.10	\$0.36	\$2.13	\$0.94
2010-02	\$0.55	\$0.24	\$0.91	\$0.86
2010-03	\$0.70	\$0.17	\$0.89	\$0.57
2010-04	\$0.48	\$0.16	\$0.31	\$0.38
2010-05	\$0.12	\$0.37	\$0.58	\$0.43
2010-06	\$1.72	\$1.01	\$2.12	\$0.91
2010-07	\$2.31	\$0.90	\$4.94	\$2.05
2010-08	\$1.83	\$1.03	\$2.26	\$0.85
2010-09	\$0.55	\$0.30	\$0.98	\$0.55
2010-10	\$0.42	\$0.54	\$1.41	\$0.91
2010-11	\$0.35	\$0.01	\$1.33	\$0.50
2010-12	\$2.35	\$0.58	\$3.31	\$0.85
<b>Average 2010</b>	<b>\$1.00</b>	<b>\$0.47</b>	<b>\$1.76</b>	<b>\$0.82</b>

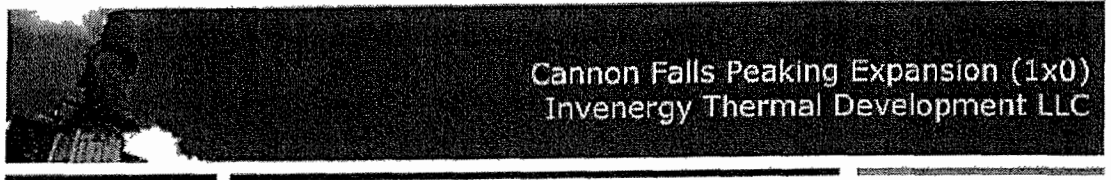


Average Hourly Basis (Real-time)				
Year-Month	NSP.NSP - NSP.BLUE_LK7		NSP.NSP - NSP.PRISL	
	On-Peak Basis	Off-Peak Basis	On-Peak Basis	Off-Peak Basis
2011-01	\$0.41	\$0.34	\$1.14	\$0.87
2011-02	\$1.59	\$0.88	\$2.39	\$1.51
2011-03	\$0.43	\$0.49	\$1.23	\$1.22
2011-04	-\$2.84	-\$0.33	-\$0.24	\$0.80
2011-05	-\$0.34	\$0.51	\$1.08	\$0.92
2011-06	\$2.60	\$0.76	\$1.06	\$0.63
2011-07	\$1.31	\$0.49	\$3.03	\$1.33
2011-08	\$1.27	\$0.33	\$2.76	\$0.78
2011-09	\$0.91	\$0.38	\$4.78	\$0.75
2011-10	\$0.76	\$0.57	\$0.70	\$0.88
2011-11	\$0.23	\$0.13	\$0.48	\$0.90
2011-12	\$1.70	\$0.8	\$2.36	\$1.19
<b>Average 2011</b>	<b>\$0.67</b>	<b>\$0.47</b>	<b>\$1.69</b>	<b>\$0.98</b>
2012-01	\$0.70	\$0.53	\$1.23	\$0.83
2012-02	\$0.7	\$0.12	\$1.29	\$0.40
2012-03	\$1.17	\$0.58	\$0.98	\$0.49
2012-04	\$0.27	-\$0.22	\$0.66	-\$0.09
2012-05	\$0.43	-\$0.41	\$0.89	\$0.97
2012-06	\$0.34	-\$1.31	\$1.73	\$1.45
2012-07	\$1.95	\$0.57	\$11.24	\$1.22
2012-08	\$0.80	\$0.14	\$10.05	\$3.32
2012-09	\$0.27	\$0.27	\$0.78	\$0.61
2012-10	-\$3.35	\$0.48	\$0.93	\$0.90
2012-11	-\$6.35	-\$5.63	\$1.70	\$1.10
2012-12	\$0.71	\$0.45	\$0.90	\$0.65
<b>Average 2012</b>	<b>-\$0.27</b>	<b>-\$0.37</b>	<b>\$2.70</b>	<b>\$0.99</b>
<b>Average 2009- 2012</b>	<b>\$0.47</b>	<b>\$0.18</b>	<b>\$1.80</b>	<b>\$0.83</b>

Source: Ventyx



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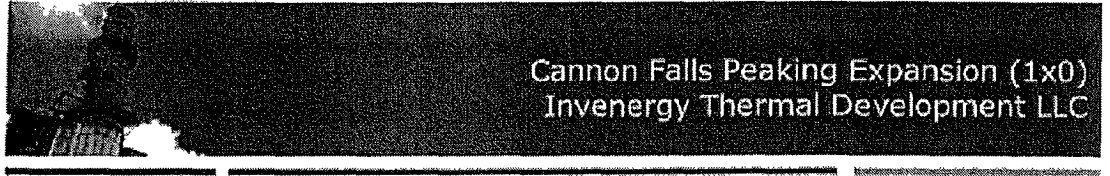


Cannon Falls Peaking Expansion (1x0)  
Invenergy Thermal Development LLC

Public Version

Attachment 3: Site Layout

Invenergy

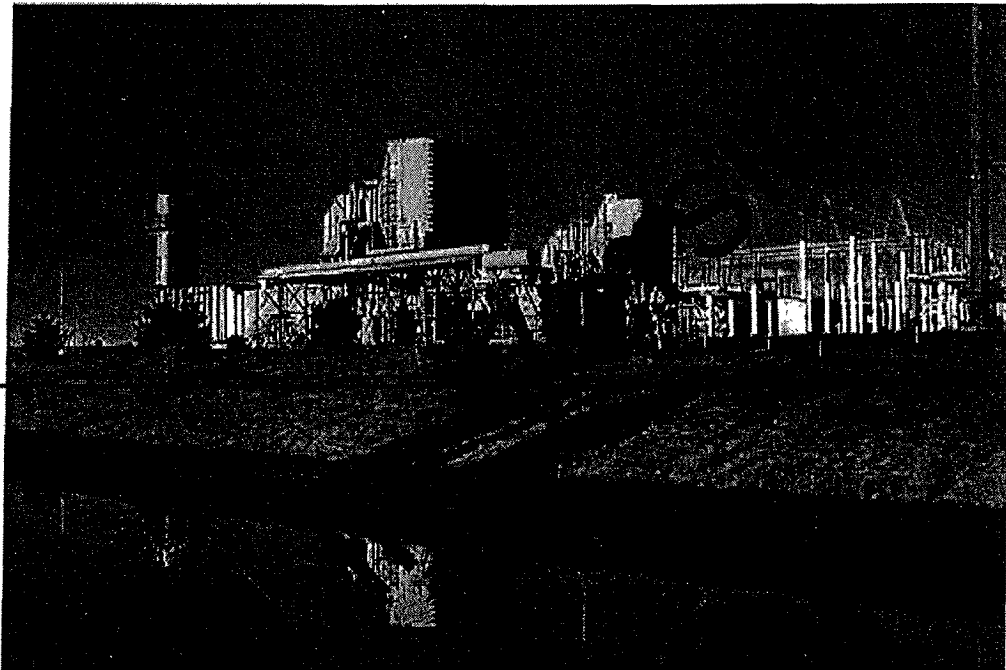


Cannon Falls Energy Center  
525 North Park Drive  
Cannon Falls, MN



**Hampton Energy Center**

# Invenenergy



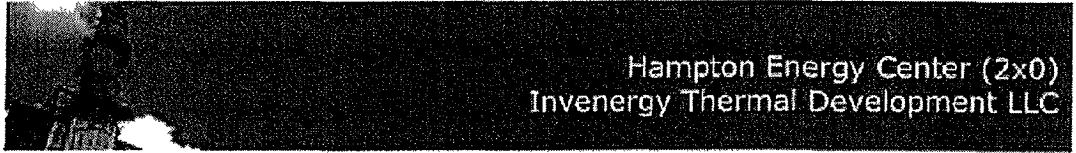
**Hampton Energy Center**

Dakota County, Minnesota

Prepared for:

**Northern States Power Company**

April 15, 2013



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Invenergy

Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

**1.0 Bidder Contact Information**

Corporate Name: Invenergy Thermal Development LLC  
State of Incorporation: Delaware Limited Liability Company  
Corporate Address: One South Wacker Drive, Suite 1900  
Chicago, IL 60606

Parent's Corporate Name: Invenergy Investment Company LLC  
Parent's Corporate Address: One South Wacker Drive, Suite 1900  
Chicago, IL 60606

Primary Contact

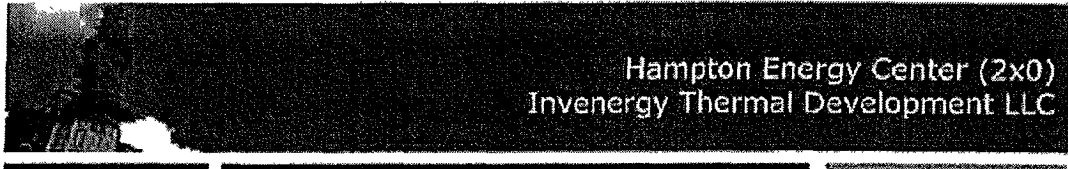
Name: Craig Gordon  
Title: Director, Origination  
Phone: 312-582-1467  
Fax: 312-224-1444  
E-mail: cgordon@invenergyllc.com

Confidential Bid Proposal and Proprietary Information

*This document contains confidential and proprietary information. It has been prepared by Invenergy Thermal Development LLC and is submitted to Northern States Power Company on a confidential basis. Unless required by law, no part or any information concerning this proposal may be copied, exhibited or furnished, in whole or in part, by Northern States Power Company to an unaffiliated third party without the prior written consent of Invenergy Thermal Development LLC.*

Disclaimer

*This is a non-binding indicative proposal and does not constitute an offer or otherwise create a binding agreement or obligation to consummate any contemplated transaction, including supply of power. Any such obligation or agreement will be created only by the execution of definitive agreements, the provisions of which, if so executed, will supersede this proposal and all other agreements, if any, related to this proposal.*



**2.0 Executive Summary**

Invenergy Thermal Development LLC ("Invenergy") is pleased to present this Power Purchase Agreement ("Agreement") proposal to Northern States Power Company ("NSP"). The proposal is for the development of approximately [REDACTED] [REDACTED] using two simple cycle, GE 7FA Combustion Turbine Generators ("CTG") to be located at a new site just north of Hampton in Dakota County, Minnesota. The Hampton Energy Center ("Project" or "Facility") is scheduled to be operational as early as January 1, 2016, but no later than January 1, 2017.

Invenergy proposes to develop the Hampton Energy Center with a design and configuration that is very similar to Invenergy's existing Cannon Falls Facility that is located in Goodhue County. Furthermore, Invenergy proposes to sell the capacity and energy to NSP with terms and conditions substantially similar to the existing Power Purchase Agreement between Cannon Falls and NSP dated April 1, 2005.

The proposed Facility incorporates the following features and benefits, resulting in a compelling value proposition for NSP and its ratepayers:

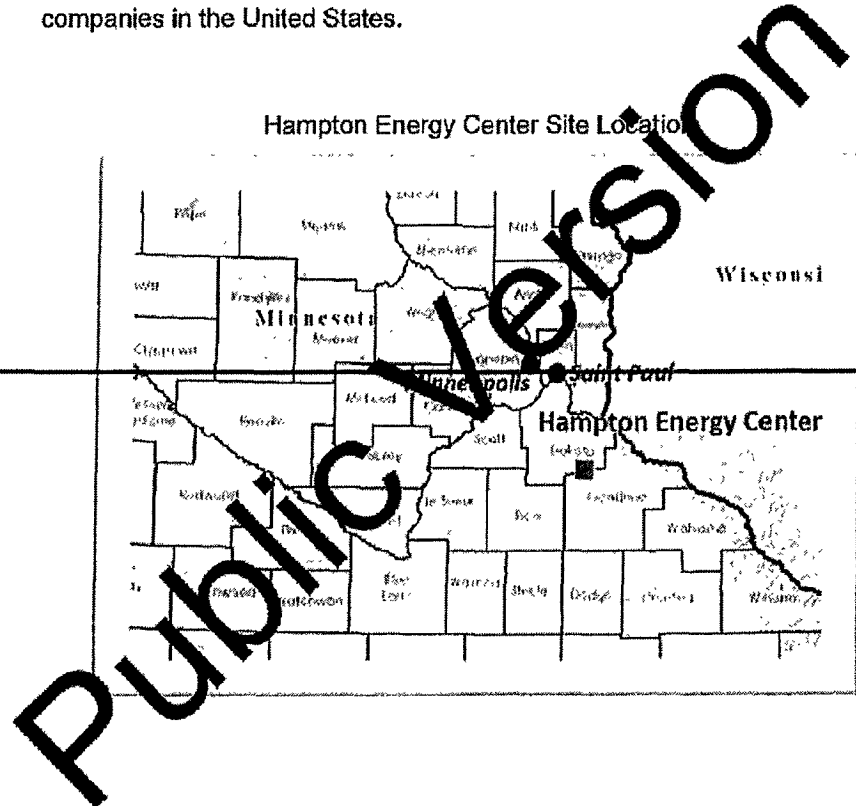
[REDACTED] Project to include a fully dispatchable and operationally flexible highly efficient peaking generation resource, providing reliable generating capacity to the NSP network. To illustrate of the reliability of the proposed generation resource, the existing Cannon Falls peaking resource has had a [REDACTED]

- Project to be located just south of the Twin Cities metropolitan region, providing geographic diversity relative to other NSP generation resources located to the northwest and southwest of the Twin Cities.
- Invenergy has optioned property that is immediately adjacent to the property where the new 345kV Hampton Substation will be built on the 345 kV grid as part of the CapX2020 transmission upgrades that are scheduled to be installed by 2015. The project will be interconnected to the new Hampton Substation. This location will concentrate industrial land use in one area and thus require minimal changes to land use. It will also provide for the lowest cost grid connection and require minimal grid system upgrades.
- Project to be interconnected to an existing natural gas pipeline of Greater Minnesota Gas, Inc. that runs less than one half mile from the proposed project



site. Again this ideal location with its close proximity to gas and electrical infrastructure will minimize land usage and community disturbance.

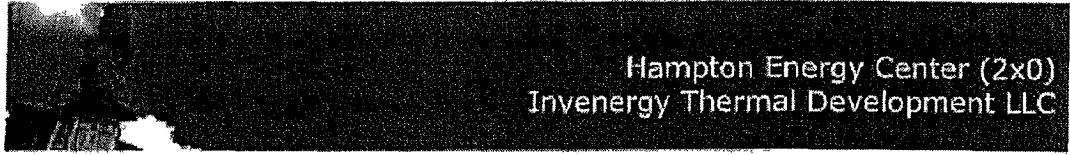
- Project personnel and operations to be integrated with the existing Cannon Falls facility which is located approximately 10 miles from the proposed project site, resulting in cost-saving synergies.
- Project to be developed and constructed by a skilled, experienced, and well-funded team that is a part of an organization that is among the top energy development companies in the United States.



### 3.0 Developer Experience and Qualifications

#### 3.1 Invenergy Experience

Invenergy develops, owns, and operates power generation facilities in North America and Europe. It has a proven track record of establishing and maintaining longstanding, profitable relationships with utilities, suppliers, and the communities in which its projects are located.



Invenergy has developed approximately 6,600 MWs of utility-scale renewable and natural gas-fueled power generation facilities in the United States, Canada, and Europe. This includes more than 5,300 MWs of projects in operation, with more than 1,300 MWs under contract or in construction. Invenergy is North America's largest independent wind power generation company. Invenergy's senior executives - each with an average experience of 25 years in energy generation - have worked together as a core group for over two decades. Invenergy founder, president, and CEO Michael Polsky is a recognized and respected industry leader, and is the majority owner of Invenergy and its affiliated companies.

Invenergy's expertise includes a complete range of fully integrated in-house capabilities: Project Development, Permitting, Transmission, Interconnection, Energy Marketing, Finance, Engineering, Project Construction, Operations and Maintenance.

Invenergy is headquartered in Chicago, with regional offices in Denver and Toronto.

A brief narrative of key members of Invenergy's management team has been provided in Attachment 1.

### 3.2 Thermal Development Expertise

Invenergy has a large portfolio of natural gas-fueled electric generating facilities in the U.S. and Canada. This portfolio includes green field projects initiated by Invenergy, as well as facilities acquired and completed by it.

Operating projects total 2,245 MW and include Cannon Falls Energy Center (Minnesota), Spindle Mill Energy Center (Colorado), Hardee Power Station (Florida), Grays Harbor Energy Center (Washington), and St. Clair Energy Center (Ontario).

In addition to these projects, Invenergy is developing new environmentally-friendly natural gas-fueled electric generating facilities across North America. The projects are being designed to provide economic and reliable power, with minimal impact on air and water resources. The table below includes all thermal projects owned by Invenergy Thermal LLC.

Invenergy Thermal Projects

Project	Location	Status	Size
Cannon Falls	Minnesota	Operating	357.0 MW
Grays Harbor	Washington	Operating	620.0 MW
Hardee	Florida	Operating	370.0 MW






Project	Location	Status	Size
Spindle Hill	Colorado	Operating	314.0 MW
St. Clair	Ontario	Operating	584.0 MW
Nelson	Illinois	In Construction	584.0 MW
Total:			2,829.0 MW

#### Cannon Falls Energy Center

Cannon Falls Energy Center commenced commercial operations in 2008. The project located in Cannon Falls, Minnesota is similar to Spindle Hill. It is a 314 MW peaking facility, consisting of two simple cycle, dual fuel GE 7FA combustion turbines. The output of this project is sold to NSP under a long-term power purchase agreement.

#### Grays Harbor Energy Center

The 620 MW Grays Harbor Energy project was acquired by Invenergy in 2005. Invenergy closed project financing in 2007 to complete the construction of the project, and commercial operation was achieved in the second quarter of 2008. The Grays Harbor plant consists of two GE 7FA gas turbines, two HRSG's and a single steam turbine. The output is currently under contract with a financial institution.

#### Hardee Power Station

The Hardee Power Station is located in Bowling Green, Florida, approximately 40 miles east of Tampa. All of the plant's capacity and energy is sold to Seminole Electric Cooperative. The Hardee Power Station is a 370 MW facility consisting of a 220 MW combined cycle system and 150 MW peaking system. The combined cycle system consists of two GE frame 7EA combustion turbines with bypass stacks, heat recovery steam generators and one 80 MW GE steam turbine. The peaking system is comprised of two GE 7FA combustion turbines.

#### Spindle Hill Energy Center

In 2007, Invenergy entered commercial operation with the Spindle Hill Facility. It is a 314 MW peaking facility consisting of two simple cycle, dual fuel GE 7FA combustion turbines in Frederick, Colorado. The output of Spindle Hill is sold to Public Service Company of Colorado under a long-term PPA.

#### St. Clair Energy Center

Invenergy completed the construction and commissioning of the 584 MW St. Clair project located in St. Clair Township, Ontario, Canada in 2009. Invenergy entered into a long-term power purchase agreement with the Ontario Power Authority for all of the capacity and energy from the project. St. Clair is configured as two 1 x 1 combined cycle units each consisting of a GE 7FA gas turbine, HRSG, and steam turbine.



**Nelson Energy Center**

In 2004, Invenergy completed the acquisition of the partially constructed Nelson Power Generating Facility located in Illinois. The Nelson facility, originally designed as a four unit 1,160 MW power project designed around General Electric 7FA gas turbine technology, will be completed as a 584 MW combined cycle facility configured as two 1x1 combined cycle units. Commercial operation of the facility is planned for 2015.

**3.3 Wind and Solar Expertise**

In addition to the thermal generation portfolio, Invenergy also has a substantial wind energy portfolio, representing 3,684 MWs globally. This portfolio consists of 3,186 MWs of operating projects, 331 MWs of projects in construction, and another 167 MWs of projects under contract.

Invenergy has also expanded its clean energy portfolio to include solar energy generation. Invenergy's first operational solar project, completed in 2012, is the 20 MW Grand Ridge Solar facility in Illinois. Grand Ridge Solar is contracted on a long-term basis with Commonwealth Edison. Invenergy is currently constructing two 10 MW solar projects in Ontario and those projects are scheduled to be completed in 2013.

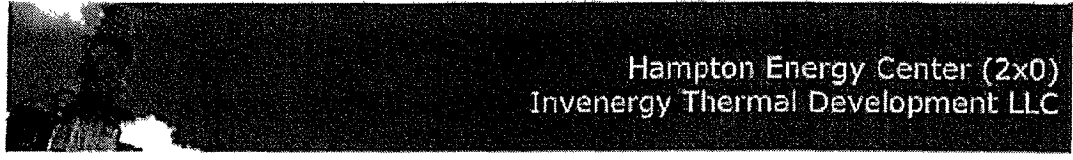
**4.0 In-service Date**

Provided that all Minnesota Public Utilities Commission approvals are obtained no later than January 1, 2014, Invenergy will begin the permitting process 2014 with construction to follow in 2015. The Project should be capable of an In-service date as early as January 1, 2016 and no later than January 1, 2017. Invenergy will target an In-service date of June 1, 2016 to align with the MISO capacity planning period.

Milestones	Date
Execute Power Purchase Agreement	Summer 2013
Receive Permit Approvals	December 2014
Site Mobilization	Spring 2015
Electrical Back Feed	Fall 2015
Commercial Operation (Projected)	June 1, 2016

**5.0 Capacity Amount**

The Project capacity will range from approximately 310 MWs in the summer to 380 MWs in the winter. Actual available capacity shall be determined by temperature and relative



humidity. The Project will have a Net Capability of 357 MWs at the point of interconnection.

**6.0 Delivery**

**6.1 MISO Market Participation**

Invenergy proposes that NSP be the registered MISO Market Participant for the Project as it is for the existing Cannon Falls facility. As the Market Participant, NSP will be able to manage the Project within its existing portfolio of generating assets, which should lead to overall contract cost reductions and streamlined operations.

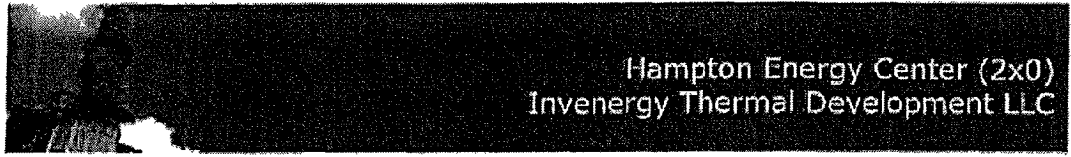
**6.2 MISO Module E Capacity**

As the registered Market Participant with MISO, NSP shall be responsible for registering the Project as a MISO Module E Capacity resource. Invenergy will work with NSP prior to the Commercial Operations Date to ensure that the Project is eligible to participate as a capacity resource beginning in the first contract year.

**6.3 Energy Delivery Point**

NSP shall take title to the energy from the Project at the point of interconnection, which is proposed to be the planned Hampton Substation. However, since the Hampton Substation is not currently modeled in MISO, Invenergy evaluated two proxy nodes that are on the same 345 kV transmission line as the planned substation. The Prairie Island and Blue Lake generating stations are located to the east and northwest of the planned Hampton Substation and thus can be used for an indication of how Locational Marginal Prices (“LMP”) will likely relate to NSP’s load zone (“NSP.NSP”). The evaluation of historical LMPs of the existing Prairie Island and Blue Lake generators to the NSP load zone indicate a strong positive correlation between the LMPs and a relatively small difference to actual Real-time prices (LMP basis). Below is a table showing the correlations between each of the generators with the NSP load zone.

Hourly LMP Correlation:		
Year	Blue Lake: NSP	Prairie Island: NSP
2009	99.7%	99.1%
2010	99.0%	97.2%
2011	98.9%	98.5%
2012	94.7%	83.6%
<b>Average</b>	<b>98.1%</b>	<b>94.6%</b>



Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

Source: Ventyx

Based on this evaluation, Invenergy anticipates that the Hampton Energy Center at the Hampton Substation will have a strong positive correlation to NSP's load zone, and thus provide an effective hedge to load for NSP.

Below is a table showing the average Real-time basis between the two proxy CP Nodes and the NSP load zone. On average, the basis to the NSP load zone is relatively low. This relatively small amount of basis is indicative of low congestion risk and may eliminate the need for NSP to hedge the risk with FTRs.

Average Hourly On-Peak Basis		
Year	NSP – Blue Lake	NSP – Prairie Island
2009	\$0.49	\$1.04
2010	\$1.00	\$1.76
2011	\$0.67	\$1.69
2012	-\$0.57	*\$2.70
<b>Four-Year Average</b>	<b>\$0.41</b>	<b>\$1.80</b>

Source: Ventyx

\* On five days in July and August 2012 (7/3, 7/29, 8/1, 8/23, 8/24), the average on-peak basis was abnormally high, possibly owing to poor system conditions. On average, the high temperature for those five days was 93 degrees Fahrenheit compared to the average July and August temperature of 86 degrees Fahrenheit. Since the high temperatures on the five days weren't significantly higher than the two-month average, it's unlikely that weather alone was the source of the price separation. The 2012 basis excluding those days was \$1.37, resulting in a four-year average of \$1.47.

Based on the basis of the two proxy nodes, Invenergy anticipates that the proposed Cannon Falls expansion will provide NSP a cost-effective hedge. Because the Hampton Energy Center is located in close proximity to the Twin Cities, there is minimal risk of sustained long-term basis risk, unlike other generating projects that are located further away and in more congested areas.

A monthly breakout of the LMP basis is provided in Attachment 2.




## 7.0 Resource Type

### 7.1 CTG Overview

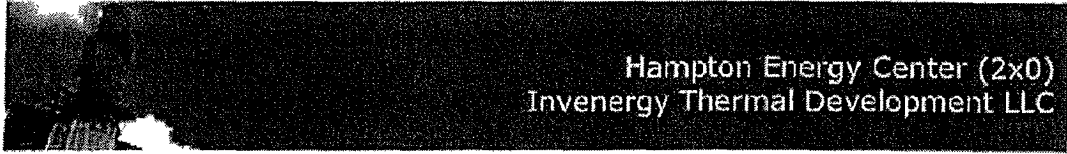
Invenergy proposes to install two GE 7FA combustion turbines ("CTG") in a simple cycle configuration. Thermal energy is produced in the CTG through the combustion of natural gas, and the thermal energy is converted into mechanical energy by the CTG turbine that drives the CTG compressor and electric generator. The CTG proposed for the Project is the GE 7241 ("7FA") combustion turbine generator. The approximate output of the combustion turbines is 357 MW (new and clean) at 40° F. The GE 7FA consists of a heavy duty, single shaft, combustion turbine-generator and associated auxiliary equipment. The CTG is equipped with dry low Nitrogen Oxide and Nitrogen Dioxide ("NOx") combustors designed for natural gas.

The GE fleet reliability of the 7FA gas turbine has consistently been 97 percent or better. This high reliability provides customers more days of operation per year while minimizing the overall life cycle cost of the gas turbine. The 7FA gas turbine is the industry leader in reduction of NOx and Carbon Monoxide ("CO") emissions. GE's Dry Low NOx ("DLN") 2.6 combustor produces less than 2 parts per million NOx and CO, which reduces costs by minimizing the need for exhaust cleanup systems. GE's DLN 2.6 is a proven product with hundreds of thousands of operating hours. It is assumed that there will not be a requirement for any additional emission controls such as selective catalytic reduction or carbon monoxide catalyst systems.

The CTGs will be equipped with evaporative inlet cooling to offset some of the power loss experienced at high ambient temperatures. Evaporative inlet cooling is a process where water is evaporated in the turbine air inlet. The evaporating water lowers the temperature of the compressor inlet air and increases the inlet air density. Denser air results in increased air mass flow and increased power output.

A complete, integrated digital control system will be provided and integrated into a centralized control room and related facilities. The Facility auxiliaries will be served through a station service transformer. The Facility will also be equipped with automatic generation control for regulation and ramping of the combustion turbines. The proposed plant excludes black start capabilities.

To date, Invenergy has successfully installed eight (8) GE 7FA's in both combined cycle and peaking applications, including two peaking units for NSP and two units for Public Service Company of Colorado which is an Xcel subsidiary.



**7.2 Net Capacity Rating and Heat Rate**

At base load, the single GE 7FA CTGs are expected to generate approximately 357 MW at 40 degrees Fahrenheit (new and clean). Invenergy proposes to guarantee a predicted net heat rate of 10,900 Btu/kWh HHV when operating on natural gas at reference conditions of 95 degrees Fahrenheit and 30% relative humidity (new and clean).

**7.3 Primary Fuel and Backup Alternatives**

The primary fuel will be natural gas. The units will also be capable of burning ultra-Low Sulfur #2 Fuel Oil as a backup.

**7.4 Startup Time**

Start Type	Time
Cold	90 Minutes
Warm	30 Minutes
Hot	30 Minutes

**8.0 Emissions and Carbon Dioxide**

**8.1 Operating Permits**

The emission rates for these new units will be comparable to those of the existing units at the Cannon Falls facility. Below is a table of the expected emission rates on a per turbine basis.

Fuel	NO <sub>x</sub>	CO	VOC	SO <sub>2</sub>	PM <sub>10</sub>	Hg	CO <sub>2</sub>
Natural Gas	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Distillate Fuel Oil	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Operations based on operating at 100% load and at an ambient temperature of 45 degrees F.

A number of permits will be required for the addition of this new emission source.

We anticipate issuance of new permits for the following key permits:

- Minnesota PUC Certificate of Need



- Minnesota Environmental Quality Board – Site Permit
- Minnesota Pollution Control Agency – Air Permit
- Minnesota Pollution Control Agency Construction - Stormwater Permit
- FAA determination of no hazard to air navigation.

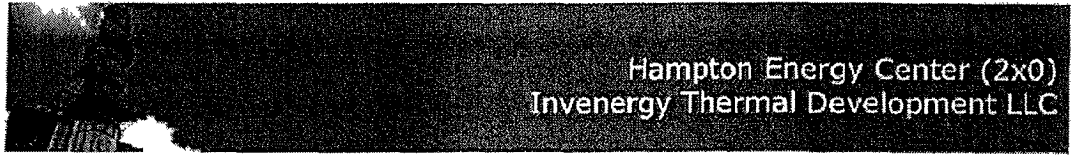
**8.2 Environmental Compliance**

Invenergy's Environmental, Health, and Safety staff will work in conjunction with facility staff to maintain compliance with all applicable local, state, and federal regulations. The facility will implement a comprehensive compliance tracking program for the facility to help maintain environmental compliance. Permit requirements will be reviewed and entered into a tracking program which will alert the appropriate staff to upcoming requirements.

**9.0 Capacity and Energy Pricing**

Invenergy proposes to develop the Hampton Energy Center and sell the capacity and energy to NSP with terms and conditions substantially similar to the existing Power Purchase Agreement between Cambridge Falls and NSP dated April 1, 2005. The key Commercial Terms are summarized below.

Commercial Terms	
Transaction Structure:	Power Purchase Agreement
Purchaser/Buyer:	Northern States Power, Inc.
Seller:	Invenergy Thermal Development LLC or affiliate
Location (County, State):	Dakota County, Minnesota
Technology:	Two (2) GE 7FA CTGs
Primary Fuel Type:	Natural Gas (with #2 Fuel Oil as backup)
Commercial On-Line Date:	June 1, 2016
Term:	Twenty (20) years (June 1, 2016 to May 31, 2036)
Capacity Price, (CP) (year 1):	[REDACTED]
Annual Capacity Price Escalation:	Beginning on the first anniversary of the Commercial On-Line Date and each anniversary thereafter, escalated annually by the change in the Consumer Price Index or other mutually agreeable index.
Heat Rate:	[REDACTED]



Commercial Terms	
	[REDACTED]
Net Capability, (NC):	[REDACTED]
Guaranteed Ramp Rate:	[REDACTED]
Point of Delivery:	[REDACTED]
Payment for Contract Capacity:	[REDACTED]
Payment for Dispatchability:	[REDACTED]
Payment for Firm Capacity:	[REDACTED]
Payment for Variable O&M:	[REDACTED]

Public





Commercial Terms	
	[REDACTED]
Heat Rate Adjustment:	[REDACTED]
Payment for Turbine Starts:	[REDACTED]
	[REDACTED]
Dispatch and Scheduling:	[REDACTED]
Fuel Supply:	[REDACTED]
Environmental Emissions Costs:	[REDACTED]

**10.0 Scheduling Provisions**

As the MISO Market Participant, NSP shall be responsible for all MISO market activities including, but not limited to, daily generation offers, outage scheduling, following start/stop signals, following MISO dispatch set-points, and operating in local mode or AGC.




Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

### 11.0 Curtailments and Excuses for Reduced Delivery

Seller shall not bear financial or any other responsibility for curtailments or reduced deliveries as NSP will be the MISO Market Participant and will be the responsible party with respect to following MISO instructions. As noted above in Section 6.3, the LMP basis has been minimal over the last four years, signaling that economic curtailments are unlikely.

### 12.0 Security for Performance

Invenergy shall post performance security in the amount of [REDACTED] upon execution of the Agreement, and such performance security shall be reduced to [REDACTED] for the full term of the Agreement upon reaching the Commercial Online Date.

### 13.0 Additional Considerations

#### 13.1 Site Alternatives

The proposed turbines will be located at a 20-acre site that is located approximately 2 miles north of Hampton, MN and about 7 miles west of Minnesota state highway 52 on 245<sup>th</sup> Street East (on the north side of 245<sup>th</sup> Street East). An aerial photo of the site is included as Attachment 3 to this proposal. As mentioned earlier, the site is immediately adjacent to the future site of the new 345 kV substation. A 16" Greater Minnesota Gas pipeline runs in a north-south direction just to the east of highway 52 less than 1/2 mile from the proposed site.

Invenergy has also proposed an alternative site for consideration should there be any issue with the development of the Hampton site. Note however, that the pricing in this proposal is reflective of the Hampton site. The alternate site is located along the Interstate 35 corridor in Scott County. The site area is bordered on the west by I-35, on the east by Dupont Avenue, on the south by 250<sup>th</sup> street and roughly to the north by 245<sup>th</sup> street. An aerial photo of the site is included as Attachment 4 to this proposal. The site is approximately 1/2 mile south of the location of the Lake Marion Substation – a substation that will be rebuilt at a 345kV level as part of the Capx2020 transmission project. It is expected that interconnection could be made at the Lake Marion Substation. There are three large gas pipelines owned by Northern Natural Gas approximately 5 miles east of the site that run in a north-south direction.

#### 13.2 Site Layout

The site will be laid out in a manner consistent with prudent industry standards for combustion turbine power plants. The facility is not expected to be space constrained so



the facility will be configured to minimize lengths of conduit, cable and piping while maintaining proper access for maintenance activities.

Please see Attachment 3 for the map of the proposed Project location.

**13.3 Electrical Interconnection**

It is anticipated that the project will interconnect to the new 345 kV Hampton Substation. An initial Feasibility Study (Queue# [REDACTED]) to confirm adequate capacity and to determine the timing of required upgrades has been requested, but has not yet been completed. Invenergy has estimated [REDACTED] in direct interconnect costs assuming that a short, generator tie-line will be built to interconnect the facility to the substation and an additional breaker position will be added to the substation. We do not anticipate that any network upgrades will be required.

Below is a table showing the expected milestone dates for the [REDACTED] interconnection request.

Interconnection Milestones	
Initial Interconnection Request – Feasibility Study	Submitted March 18, 2013
Enter Definitive Planning Phase Cycle	August 7, 2013
Execute Interconnection Agreement	Expected Q2 2014

**13.4 Gas Interconnection**

Natural gas will be supplied to Hampton Energy Center by a 16" diameter lateral pipeline that is owned and operated by Greater Minnesota Gas ("GMG") that connects to Northern Natural Gas transmission pipelines approximately 3.5 miles northwest of the project site. We have been in contact with GMG and they have indicated that the existing pipeline should be capable of serving both the new facility with only minor upgrades or operational changes. Based on estimates provided by GMG, the project has estimated [REDACTED] direct interconnection cost as the basis for this proposal.

It is assumed that gas compression will not be required to meet the plant's 550 psig gas pressure requirement when connected to nearby natural gas transmission pipelines.



**13.5 Water Resources**

It is assumed that the facilities relatively minor cooling needs can be met by drilling a well on the property and installing an appropriately sized raw water storage tank.

**13.6 Description of O&M Plan**

Invenergy is an experienced operator through its wholly owned subsidiary, Invenergy Services, which will operate the proposed facility. Invenergy Services is staffed with experienced industry personnel and currently operates 5 thermal assets (3 combined cycle and 2 simple cycle). Additionally, Invenergy Services operates 26 wind farms and 1 solar farm, with 3 wind farms and 2 solar farms under construction.

Invenergy anticipates leveraging the existing operations staff at Cannon Falls. This efficiency is reflected in the proposed pricing.

The plant manager reports to an asset manager based in Chicago, Illinois who has overall management responsibility for the facility including contract compliance. Both the plant and asset manager draw on the resources of Invenergy for all other functions such as accounting, human resources, legal, financial and engineering.

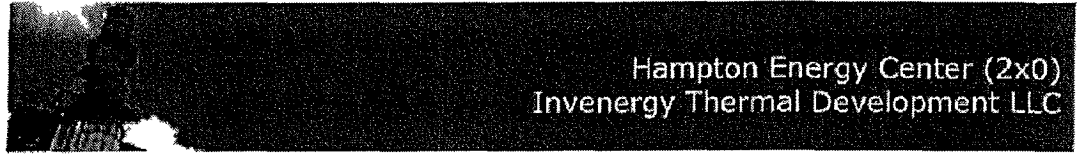
Invenergy will contract services as needed from qualified contractors and tradesmen.

The expectation for major maintenance activities is as follows:

Combustion Inspection	12,000 hours/400 starts	10 days
Hot Gas Path	24,000 hours/900 starts	21 days
Major Maintenance	48,000 hours/1,600 starts	28 days

In the absence of a scheduled combustion turbine major maintenance activity, the plant will require an annual 10 day outage for scheduled maintenance of the balance of plant system.

Invenergy



Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

Public Version

Attachment 1 – Invenergy Management Team

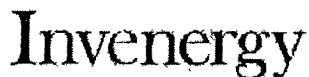



**Michael Polsky- President and Chief Executive Officer** – With thirty years of experience in the energy industry, Michael Polsky is widely recognized as a pioneer and an industry leader in the cogeneration and independent power industry in North America. He founded leading clean energy company Invenenergy more than ten years ago. Previously, in 1991, Polsky founded Sky Gen 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 –Executive Vice President, Chief Financial Officer, Chief Operating Officer** – Jim Murphy has more than thirty years of financial and management experience, primarily in the energy industry, having managed the negotiation and execution of more than \$10 billion in private equity and debt investments, power plant acquisitions and sales, and project debt and equity financing. He is a member of Invenenergy's founding group and is responsible for the general management of the company, as well as corporate and project finance, risk management, and asset optimization. Murphy currently is a member of the Board of Directors of the American Wind Energy Association (AWEA). Prior to the formation of Invenenergy, he was Chief Financial Officer at Sky Gen Energy LLC, and previously was 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 Development 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 Invenenergy's wind, solar, and thermal energy projects worldwide. During his career, he has developed over 8,500 MW of power projects and negotiated 3,000 MW of long-term energy off-take agreements. Prior to joining Invenenergy, Shield held various positions with Calpine Corporation, including Senior Vice President-East Region. Earlier, 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.

**Alex George – Senior Vice President, Operations and Asset Management** - Alex George leads the operations and asset management of Invenenergy's growing portfolio of wind and thermal energy plants. He has nearly 30 years of broad experience in the




power industry, having led the commissioning, operation, and asset management of more than 5,600 MW of natural gas generation and 1,800 MW of wind generation during his career. Prior to joining Invenergy in 2002, George was Vice President of Operations and Asset Management at Calpine. Before then, as one of the original team members at Sky Gen, he was Vice President of Operations and Asset Management. Previously, George was a professional engineer at both CRS Sirrine Engineers and Sargent & Lundy. He has a BS in Mechanical Engineering from the University of Illinois and an MBA from the University of Illinois-Chicago.

**Bryan Schueler – Senior Vice President, Development** – A twenty-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 over 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.

**Randy Wood – Vice President, Origination** - Randy Wood is responsible for identifying and executing power sales, energy hedges, and renewable energy credit transactions for Invenergy in North America. Having joined Invenergy in 2007, he has closed many long-term power sales and energy hedges for wind, solar, and gas-fired generation, as well as numerous renewable energy credit transactions. Wood has over ten years of energy industry experience, and prior to working at Invenergy, he held positions with Progress Energy Ventures and InterGen North America. A Certified Public Accountant, Wood earned a Bachelor of Business Administration from the University of Central Arkansas and a Master's in Business Administration from Texas A&M University.

**Kris Zadlo – Vice President, Regulatory Affairs and Transmission** - With more than twenty years of electric power industry experience, Kris Zadlo oversees Invenergy's national and regional commercial activities pertaining to regulatory affairs and transmission. He is responsible for developing near- and long-term regulatory and transmission strategies for Invenergy. Previously, Zadlo was Vice President of Transmission for Calpine Corporation and earlier held various management positions during his ten years at Commonwealth Edison Company of Chicago. A Registered Professional Engineer in the State of Illinois, Zadlo graduated cum laude from Rose-Hulman Institute with a Bachelor of Science in Electrical Engineering. He received a Masters in Electrical Engineering from Purdue University.

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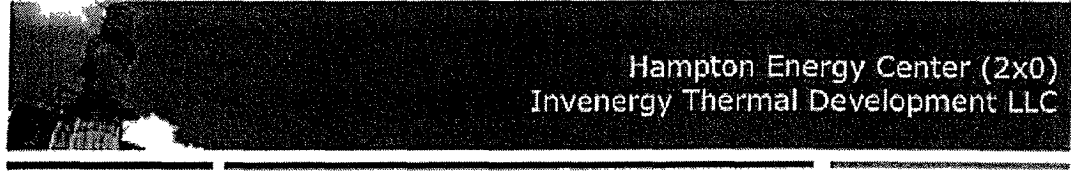


Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

Public Version

Attachment 2 Historical Basis

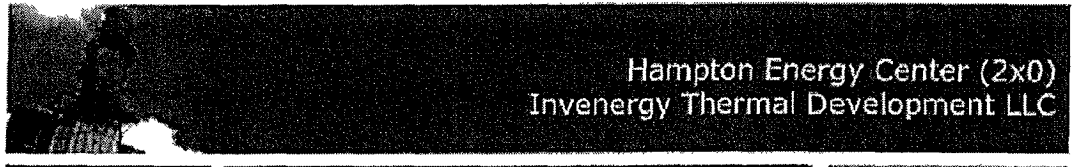




Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

Average Hourly Basis (Real-time)				
Year-Month	NSP.NSP - NSP.BLUE_LK7		NSP.NSP - NSP.PRISL	
	On-Peak Basis	Off-Peak Basis	On-Peak Basis	Off-Peak Basis
2009-01	\$0.39	\$0.25	\$0.82	\$0.80
2009-02	\$0.33	\$0.27	\$0.81	\$0.82
2009-03	\$0.49	\$0.04	\$1.24	\$0.81
2009-04	\$0.63	\$0.18	\$1.63	\$0.88
2009-05	\$0.21	\$0.05	\$0.81	\$0.42
2009-06	\$0.59	\$0.25	\$1.24	\$0.89
2009-07	\$0.24	\$0.13	\$0.81	\$0.51
2009-08	\$0.88	\$0.11	\$1.10	\$0.71
2009-09	-\$0.08	-\$0.12	-\$0.24	-\$0.20
2009-10	\$0.47	\$0.21	-\$0.01	-\$0.54
2009-11	\$0.52	\$0.14	\$1.21	\$0.45
2009-12	\$1.24	\$0.26	\$2.25	\$0.75
<b>Average 2009</b>	<b>\$0.49</b>	<b>\$0.15</b>	<b>\$1.04</b>	<b>\$0.52</b>
2010-01	\$1.10	\$0.36	\$2.13	\$0.94
2010-02	\$0.51	\$0.24	\$0.91	\$0.86
2010-03	\$0.30	\$0.17	\$0.89	\$0.57
2010-04	\$0.48	\$0.16	\$0.31	\$0.38
2010-05	\$0.12	\$0.37	\$0.58	\$0.43
2010-06	\$1.72	\$1.01	\$2.12	\$0.91
2010-07	\$2.31	\$0.90	\$4.94	\$2.05
2010-08	\$1.83	\$1.03	\$2.26	\$0.85
2010-09	\$0.55	\$0.30	\$0.98	\$0.55
2010-10	\$0.42	\$0.54	\$1.41	\$0.91
2010-11	\$0.35	\$0.01	\$1.33	\$0.50
2010-12	\$2.35	\$0.58	\$3.31	\$0.85
<b>Average 2010</b>	<b>\$1.00</b>	<b>\$0.47</b>	<b>\$1.76</b>	<b>\$0.82</b>

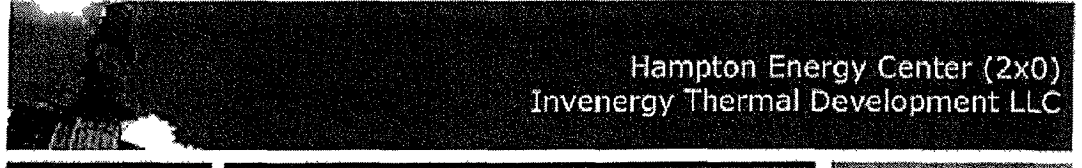
Invenergy



Average Hourly Basis (Real-time)				
Year-Month	NSP.NSP - NSP.BLUE_LK7		NSP.NSP - NSP.PRISL	
	On-Peak Basis	Off-Peak Basis	On-Peak Basis	Off-Peak Basis
2011-01	\$0.41	\$0.34	\$1.14	\$0.87
2011-02	\$1.59	\$0.88	\$2.39	\$1.51
2011-03	\$0.43	\$0.49	\$1.23	\$1.22
2011-04	-\$2.84	-\$0.33	-\$0.24	\$0.80
2011-05	-\$0.34	\$0.51	\$1.08	\$0.92
2011-06	\$2.60	\$0.76	\$1.06	\$0.63
2011-07	\$1.31	\$0.49	\$3.05	\$1.33
2011-08	\$1.27	\$0.33	\$2.76	\$0.78
2011-09	\$0.91	\$0.38	\$1.75	\$0.75
2011-10	\$0.76	\$0.57	\$0.70	\$0.88
2011-11	\$0.23	\$0.13	\$0.49	\$0.90
2011-12	\$1.70	\$0.81	\$2.36	\$1.19
<b>Average 2011</b>	<b>\$0.67</b>	<b>\$0.47</b>	<b>\$1.69</b>	<b>\$0.98</b>
2012-01	\$0.70	\$0.53	\$1.23	\$0.83
2012-02	\$0.71	\$0.12	\$1.29	\$0.40
2012-03	\$1.57	\$0.58	\$0.98	\$0.49
2012-04	\$0.27	-\$0.22	\$0.66	-\$0.09
2012-05	\$0.43	-\$0.41	\$0.89	\$0.97
2012-06	\$0.34	-\$1.31	\$1.73	\$1.45
2012-07	\$1.95	\$0.57	\$11.24	\$1.22
2012-08	\$0.80	\$0.14	\$10.05	\$3.32
2012-09	\$0.27	\$0.27	\$0.78	\$0.61
2012-10	-\$3.35	\$0.48	\$0.93	\$0.90
2012-11	-\$6.35	-\$5.63	\$1.70	\$1.10
2012-12	\$0.71	\$0.45	\$0.90	\$0.65
<b>Average 2012</b>	<b>-\$0.27</b>	<b>-\$0.37</b>	<b>\$2.70</b>	<b>\$0.99</b>
<b>Average 2009-2012</b>	<b>\$0.47</b>	<b>\$0.18</b>	<b>\$1.80</b>	<b>\$0.83</b>

Source: Ventyx

Invenergy

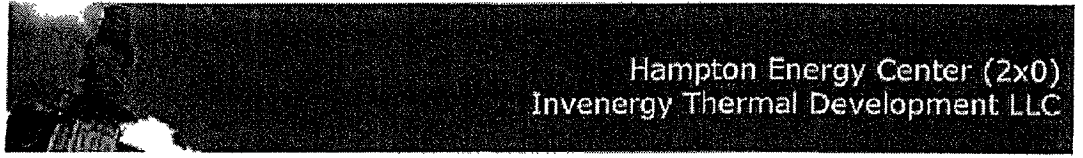


Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

Public Version

Attachment 3 - Site Layout

Invenergy



Hampton Energy Center (2x0)  
Invenergy Thermal Development LLC

Hampton Energy Center Project Site

Confidential

Alternate Site  
I-35 Corridor

Confidential

Public Version

ATTACHMENT 3



[www.cannonfallsmn.gov](http://www.cannonfallsmn.gov)

September 13, 2013

To Whom it May Concern,

As you may know, two years ago, Invenergy and the City of Cannon Falls negotiated a land swap that would help facilitate a future expansion of the Cannon Falls Energy Center and allow for expansion of adjacent industrial properties. The City of Cannon Falls is offering further assistance as required to help with such an expansion.

We have found Invenergy to be a good corporate citizen here in Cannon Falls and look forward to assisting you with the proposed expansion. We note that the site is located in an industrial park on the north side of the community, it is properly zoned for the expansion and would require few, if any, infrastructure improvements. Our experience with the operation of the facility since it went into operation has been positive and we would expect no negative impact to the community as a result of the expansion. We believe that we could quickly reach agreement on a modification to the existing agreements between Cannon Falls and Invenergy to accommodate a proposed expansion to the site.

Please let us know if there is any help that we can provide to bring this project expansion to a successful completion.

Sincerely,

A handwritten signature in black ink that reads 'Aaron S. Reeves'. The signature is written in a cursive style with a large initial 'A'.

Aaron S. Reeves  
City Administrator