

STATE OF MINNESOTA  
OFFICE OF ADMINISTRATIVE HEARINGS  
FOR THE MINNESOTA ENVIRONMENTAL QUALITY BOARD

In the Matter of the Site Permit Application  
for the Proposed Cannon Falls Energy Center

**REPORT AND  
RECOMMENDATION**

This matter came on for public hearings before Administrative Law Judge Kathleen D. Sheehy on December 1, 2004, at 3:00 p.m. and 7:00 p.m. at the Cannon Falls City Hall, 306 Mill Street West, Cannon Falls, Minnesota. The hearing continued that evening until all interested persons had an opportunity to be heard.

Matthew B. Seltzer, Esq., Leonard, Street and Deinard, 150 South Fifth Street, Suite 2300, Minneapolis, MN 55402, appeared for and on behalf of Invenergy Cannon Falls, LLC, a subsidiary of Invenergy LLC (Invenergy). Joel Schroeder, Project Manager, and Bryan Schueler, Vice President, Project Management, Invenergy, 233 South Wacker Drive, Suite 9450, Chicago, IL 60606; and Frank Sarduy, Environmental Manager, Invenergy Services LLC, 9950 Princess Palm Avenue, Suite 342, Tampa, FL 33619, presented information on behalf of Invenergy and answered questions at the hearing.

Alan Mitchell, Manager of the Power Plant Siting Program for the Environmental Quality Board (EQB), and Bill Storm, Project Manager, 658 Cedar Street, St. Paul, Minnesota 55155, presented the Board's position and answered questions at the hearing.

Approximately 40 members of the public attended public hearings. After the hearing, the record remained open for ten days to allow all interested persons to submit written comments. Members of the public submitted comments, and Invenergy and the EQB also filed written comments. The record closed on December 13, 2004.

**NOTICE**

This project qualifies for alternative review under the Power Plant Siting Act, Minn. Stat. § 116.575. The EQB was not required to hold a contested case hearing on this project pursuant to chapter 14, and it did not do so. Under EQB rules, the EQB has the option to conduct a public hearing itself or to request that an Administrative Law Judge conduct the hearing and compile a record for the EQB to consider in making its

final decision. The EQB also has the option to request that the Administrative Law Judge prepare a report and recommendation, which it did in this case.

This report contains a summary of the evidence in the record and a recommendation based on that record. It is not a final decision. Pursuant to Minn. Stat. § 116C.575, subd. 7, the EQB will make the final determination of the matter within 60 days of the completion of the public hearing. Persons wishing to file comments concerning this report with the EQB should contact Alan Mitchell for information about the procedures to be followed. Further notice is hereby given that the EQB may, at its own discretion, accept or reject the Administrative Law Judge's recommendation.

## **STATEMENT OF ISSUE**

Should the EQB issue a site permit for the proposed Cannon Falls Energy Center?

The Administrative Law Judge concludes that the EQB should issue the site permit.

Based upon all the proceedings herein, the Administrative Law Judge makes the following:

## **SUMMARY OF EVIDENCE**

### **Procedural History**

1. Invenergy Cannon Falls, LLC, is a wholly owned subsidiary of Invenergy LLC. Invenergy LLC is a developer, owner and operator of power generation and energy delivery assets.<sup>1</sup>

2. On August 25, 2004, Invenergy filed its application for a site permit to construct the Cannon Falls Energy Center (the facility) with the Minnesota Environmental Quality Board. The proposed facility is a simple cycle natural gas power plant with a generating capacity of 357 megawatts (MW). Because the plant will be fueled primarily by natural gas, the project is eligible for review under the alternative review process of Minn. R. 4400.2000-.2950.<sup>2</sup>

3. The proposed facility is a peaking service project that will operate primarily during periods when electrical demand is highest, typically during the hottest days of summer and the coldest days of winter. Invenergy estimates the facility will operate between 200 and 2,000 hours per year.<sup>3</sup> A facility designed for peaking service will generally provide power when the baseload and intermediate plants are already running and the electrical load exceeds their capacity or when a disruption occurs in the

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<sup>1</sup> Ex. 1.

<sup>2</sup> See Minn. Stat. § 116C.575, subd. 2(2).

<sup>3</sup> Tr. 1:46.

electrical system requiring power to be added to the transmission grid quickly and reliably.<sup>4</sup> The Minnesota Public Utilities Commission (PUC) has determined that a peaking plant of this size is a necessary part of a reliable electric system. Because the entire output of the proposed facility would be dedicated to meet an energy need already approved by the PUC, this project is exempt from the Certificate of Need process.<sup>5</sup>

4. Invenergy plans to locate the Cannon Falls Energy Center on a 55-acre site in the Business Park North district, approximately 600 feet west of Cannon Industrial Boulevard in Cannon Falls, Minnesota.

5. Invenergy proposes to construct two General Electric 7FA combustion turbine generators, each with a nominal capacity of 175 MW. The generators will be equipped with dry low nitrogen oxide (NO<sub>x</sub>) combustors to limit the concentration of NO<sub>x</sub> exiting the two emission stacks. Distillate fuel oil with a sulfur content not exceeding 0.05 percent by weight will be used as backup fuel.<sup>6</sup> The back-up fuel oil system is a requirement of the Mid-Continent Area Power Pool (MAPP). MAPP requires an accredited plant to install, at a minimum, 20 hours of onsite backup fuel storage.<sup>7</sup>

6. Natural gas will be supplied to the facility through a new connection to a Northern Natural Gas (NNG) interstate pipeline. NNG will construct a natural gas pipeline connecting the facility to the existing 30-inch interstate pipeline that runs south to north through Farmington, Minnesota, approximately 12 miles northwest of the site. NNG will own and operate the pipeline and will apply for and obtain all necessary permits and approvals.<sup>8</sup>

7. The electrical output of the facility will tie into either GRE or NSP transmission systems. The tie-in will be to either a 115 kV or 161 kV transmission line, depending on the results of an interconnection study being performed by the Midwest Independent System Operator (MISO).<sup>9</sup> The 161 kV line already exists and runs along the site's western property boundary; the 115 kV line would have to be constructed from the facility site to the Cannon Falls Substation, located about two miles southwest of the site. If a new transmission line were to be constructed, it would likely be built adjacent to the existing 161 kV line. NSP or GRE would be responsible for obtaining any permits required for construction of transmission lines.<sup>10</sup>

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<sup>4</sup> Ex. 2 at 3, 6; Ex. 17.

<sup>5</sup> An electric power plant selected in a bidding process approved by the PUC is exempt from the certificate of need process pursuant to Minn. Stat. § 216B.2422, subd. 5(c). The PUC approved the bidding process in which Xcel Energy selected this project in Xcel Energy's 2000-2014 Resource Plan. In June 2004, Xcel Energy and Invenergy Cannon Falls executed a power purchase agreement requiring Invenergy to develop and construct a combustion turbine power plant with a capability of 357 MW before May 2006. See Ex. 2 at 1-2, 5-6.

<sup>6</sup> Ex. 2 at 6-7.

<sup>7</sup> See Ex. 17.

<sup>8</sup> Ex. 2 at 7.

<sup>9</sup> *Id.*

<sup>10</sup> Ex. 2 at 2.

8. By letter dated August 30, 2004, the chair of the EQB notified Invenergy that its application was accepted.<sup>11</sup>

9. There are multiple notice and publication requirements that must be met within 15 days of the submission off the application.<sup>12</sup>

10. On August 26, 2004, the EQB mailed the notice of filing the application and notice of a public meeting to participate in scoping the Environmental Assessment to persons on its general and project notification list, local government list, technical representatives, and PUC energy staff list. The public meeting was scheduled to take place on September 22, 2004 at the Cannon Falls City Hall.<sup>13</sup>

11. On September 2, 2004, the EQB published in the *Cannon Falls Beacon* notice of the filing of the application, a description of the proposed project, directions for obtaining a copy of the application, and a notice of the public meeting to be conducted September 22, 2004.<sup>14</sup> Invenergy also published notice of the filing of the site permit application in the *Cannon Falls Beacon* on September 2, 2004.<sup>15</sup>

12. On September 13, 2004, the EQB published in *The EQB Monitor* notice of acceptance of the project and of the public meeting to be held at the Cannon Falls City Hall on September 22, 2004.<sup>16</sup>

13. On September 14, 2004, Invenergy mailed the notice of filing the application and notice of the public hearing to each person on the EQB's general list; regional, county, and local officials; adjacent property owners; and interested parties. The notice also advised property owners how to contact the EQB to get on its project contact list.<sup>17</sup>

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<sup>11</sup> Ex. 3.

<sup>12</sup> Minn. Stat. § 116C.575, subd. 4; § 116C.57, subd. 2b.

<sup>13</sup> Ex. 6. Minn. Stat. § 116C.57, subd. 2d, required the EQB to send notice of the public hearing by certified mail to Goodhue County and the City of Cannon Falls. The EQB sent the notice by regular mail, as opposed to certified mail, to these entities. The Administrative Law Judge concludes that the use of regular mail was harmless and did not interfere with the public's right to be informed about the project.

<sup>14</sup> Ex. 5.

<sup>15</sup> Ex. 7.

<sup>16</sup> Ex. 4.

<sup>17</sup> Ex. 8. Minn. Stat. § 116C.57, subd. 2b, required Invenergy to send a copy of the application by certified mail to Goodhue County and the City of Cannon Falls. EQB rules, however, require only written notice of filing the application. See Minn. R. 4400.1350, subp. 2. The Administrative Law Judge concludes that mailed notice to these government entities was harmless and did not interfere with the public's right to be informed about the project. The application was available at the Cannon Falls city offices and library and has been posted on the EQB website for several months. In addition, governmental representatives of the city of Cannon Falls and Goodhue County attended both the public information meeting on September 22, 2004, and the public hearing on December 1, 2004. See Ex. 36. The record reflects the involvement of county and city officials throughout this process.

14. The EQB held the public meetings at the Cannon Falls City Hall on September 22, 2004. The hearings were held at 3:00 p.m. and 7:00 p.m. The public was given until September 30, 2004, to submit written comments regarding the scope of the environmental assessment.<sup>18</sup>

15. On October 1, 2004, the chair of the EQB issued the scoping decision for the environmental assessment.<sup>19</sup>

16. On October 1, 2004, the EQB mailed copies of the scoping decision to each person on the EQB general notification list, local government list, project contact list, and technical representatives.<sup>20</sup>

17. The EQB's Environmental Assessment was completed on November 1, 2004.<sup>21</sup> The Environmental Assessment was posted on the EQB web page on or about November 1, 2004. On the same date, the EQB mailed a combined notice of the availability of the Environmental Assessment and notice of the public hearings to persons on the EQB general notice list, local government list, project contact list, and technical representatives.<sup>22</sup> On November 8, 2004, the EQB published a combined notice of the availability of the Environmental Assessment and notice of the public hearings in *The EQB Monitor*.<sup>23</sup>

18. The EQB published notice of the public hearings in the *Cannon Falls Beacon* on November 4, 2004.<sup>24</sup>

19. The parties participated in a telephone prehearing conference concerning the format of the public hearing on November 17, 2004.

20. Approximately 40 members of the public attended the public hearings in Cannon Falls.

21. At the hearing Exhibits 1 to 33 were received into the record. Exhibits 34 to 51 are comments received after the hearing.

22. At the hearing the EQB requested that the Administrative Law Judge prepare a report and recommendation on the site permit application.<sup>25</sup>

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<sup>18</sup> Ex. 22 at 2.

<sup>19</sup> Ex. 14.

<sup>20</sup> Ex. 15.

<sup>21</sup> Ex. 22.

<sup>22</sup> Ex. 21.

<sup>23</sup> Ex. 24.

<sup>24</sup> Ex. 23.

<sup>25</sup> Tr. 1:5.

## The Proposed Site

23. The only site under review in this proceeding is the 55-acre site in the Business Park North area of Cannon Falls. The proposed property boundaries are 600 feet west of Cannon Industrial Boulevard, 850 feet north of Holiday Avenue, and 300 feet northwest of County Highway 29. The western boundary is the boundary line between Goodhue and Dakota Counties. The Spring Creek-Cannon Falls transmission line runs along the western boundary of the site.

24. Several commercial/industrial facilities are located adjacent to the site's southern boundary, including a hunting products manufacturer, a fertilizer supplier, and a costume manufacturer. At the southwest corner of the site is a landscape supply company; to the east are several small industrial sites. The closest residential dwelling is approximately 1,400 feet southwest of the proposed location of the power generating equipment within the site boundaries. The nearest residential subdivision is approximately one mile to the southeast.<sup>26</sup>

25. Invenergy has negotiated with the property owner an option to purchase the site, which it will exercise when all necessary permits are issued.<sup>27</sup>

## Design Structures

26. Invenergy proposes to install two General Electric combustion turbine generators, each with a nominal capacity of 175 MW. The two simple cycle, dual-fuel generators and associated auxiliary equipment will be operated for peak electrical service. The generators will be equipped with dry low NO<sub>x</sub> combustors to control the concentrations exiting each of the two 75-foot emission stacks. Distillate fuel oil with a sulfur content not exceeding 0.05 percent by weight will be available as a backup fuel supply. Combustor water injection will be used to control the formation of NO<sub>x</sub> when combusting fuel oil.

27. Associated equipment will include one 750,000-gallon distillate fuel oil above ground storage tank; two combustion generator trains; one natural gas conditioning system; and one fire protection system, including diesel fire pump.<sup>28</sup> The fuel oil storage tank will be designed as a "tank within a tank." The outer tank will provide secondary containment greater than the capacity of the inner tank. The annular space between the inner and outer tank walls will be equipped with sensors to alert plant personnel in the event of a breach of the inner tank wall. The tank will be filled by tanker truck from one of two unloading stations. The unloading area will have a containment capacity greater than 110% of the capacity of the tanker truck to safely contain any oil spills from tanker trucks, and a canopy will be constructed over the unloading facilities to minimize rainwater or snowmelt in the containment area.<sup>29</sup>

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<sup>26</sup> Ex. 2 at 8.

<sup>27</sup> *Id.*

<sup>28</sup> Ex. 2 at 10.

<sup>29</sup> Ex. 2 at 12.

28. Steam injection may be used to reduce power losses during periods of high ambient temperatures. If power augmentation capability is installed, a small heat recovery steam generator to produce steam will be installed in the exhaust system to capture waste heat.<sup>30</sup>

29. The City of Cannon Falls will provide water to the facility from its existing water system. A water line will be extended approximately 1,200 ft from the existing 12-inch water line located near Holiday Avenue. When the generators are operating at full load on natural gas, the facility will require less than 90,000 gallons per day for evaporative coolers and domestic uses. At maximum output, the facility will require 720,000 gallons of water per day when injecting steam for power augmentation or injecting water to control NO<sub>x</sub> emissions when operating on fuel oil.<sup>31</sup> The City has the capacity to supply 4.3 million gallons per day of water, and current water usage averages about 600,000 gallons per day. The City is expected to have adequate capacity to meet the facility's water needs.<sup>32</sup>

30. Steam injection for power augmentation and water injection for NO<sub>x</sub> control during fuel oil combustion require the use of demineralized water. Invenergy will contract with a water treatment company to supply mobile demineralization trailers that will be returned to the water treatment company for off-site regeneration of the resin. Invenergy will construct a 750,000 gallon water storage tank onsite to provide demineralized water when the trailers are being regenerated.<sup>33</sup>

31. Wastewater generated by the facility will be discharged to the City of Cannon Falls' sanitary sewer and then treated by the City's treatment plant located about two miles from the facility. Water collected in the fuel oil containment area will be collected in a sump and sent to the oil water separator prior to discharge to the sanitary sewer. Rainwater collected in containment areas will also be pumped to the oil water separator before being discharged. The Cannon Falls waterworks facility treats approximately 500,000 gallons of wastewater per day and has the capacity to treat 1 million gallons per day, which is expected to be sufficient for handling the volume and composition of wastewater generated by the facility.<sup>34</sup>

32. Invenergy will negotiate an interconnection agreement or service contract with the City of Cannon Falls. The water and sewer connections will be constructed and paid for in accordance with this agreement.<sup>35</sup>

33. The facility will include an administration control building with 6,000 sq ft of floor space and ten parking stalls outside; a mechanical/electrical building with 2,100 sq

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<sup>30</sup> Ex. 2 at 10.

<sup>31</sup> Ex. 2 at 13.

<sup>32</sup> Ex. 2 at 19.

<sup>33</sup> Ex. 2 at 13.

<sup>34</sup> Ex. 2 at 15. The maximum amount of wastewater expected to be discharged from the facility is in the range of 60,000 to 70,000 gallons per day. Tr. 1:26.

<sup>35</sup> Ex. 2 at 19.

ft of floor space; and it may include a generation building to be located around the combustion turbine generators to make it look more like a manufacturing facility.

34. Each combustion turbine generator will be connected to a step-up transformer, which will increase the voltage to 115 kV or 161 kV, depending on the outcome of MISO's interconnection study. Each transformer will be equipped with a circuit breaker that will control the connection of each transformer to the collector bus. The collector bus will aggregate the output of the two combustion turbine generators for delivery to the transmission system, which will connect to an A-frame type dead end structure. The switchyard housing the collector bus, circuit breakers, and related equipment will be in a fenced area approximately 125 ft wide by 250 ft long.<sup>36</sup>

35. Upon completion, the fenced perimeter of the property will occupy approximately 20 acres of the 55-acre site.<sup>37</sup>

36. Design and construction costs for the facility are estimated to be between \$90 million and \$100 million. The facility is expected to have a useful life of 30 years.<sup>38</sup>

### **Alternative Sites**

37. Because this project qualifies for the alternative review process, Invenergy is not required to propose alternative sites. Invenergy did examine other sites in Chisago County, Wayne County, Kohlman Lake, Red Rock, Gleason, and Parker Lake areas. Invenergy selected the Cannon Falls site primarily because it is close to an existing substation that has capacity to handle additional power; because property of sufficient size is available in the area; because the property is already zoned for restricted light industrial use; and because gas, water, and transmission facilities are available nearby.<sup>39</sup>

### **Applicable Statutory and Rule Criteria**

38. The EQB's route permit determination must be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure. The EQB is to be guided by the following responsibilities, procedures, and considerations:

- (1) Evaluation of research and investigations relating to the effects on land, water and air resources of HVTLs and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of

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<sup>36</sup> Ex. 2 at 16.

<sup>37</sup> Ex. 30.

<sup>38</sup> Ex. 2 at 17.

<sup>39</sup> Ex. 2 at 8-9.

new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;

- (2) Environmental evaluation of routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
- (3) Evaluation of the effects of transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
- (4) Evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
- (5) Analysis of the direct and indirect economic impact of proposed routes including, but not limited to, productive agricultural land lost or impaired;
- (6) Evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed route be accepted;
- (7) Evaluation of alternatives to the applicant's proposed route;
- (8) Evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;
- (9) Evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;
- (10) Evaluation of future needs for additional HVTLs in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;
- (11) Evaluation of irreversible and irretrievable commitments of resources should the proposed route be approved; and
- (12) When appropriate, consideration of problems raised by other state and federal agencies and local entities.<sup>40</sup>

39. Invenenergy's site permit application and the EQB's Environmental Assessment contain adequate information to allow consideration of these factors.

40. The EQB is to assess the following specific considerations in determining whether to issue a route permit for an HVTL:

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<sup>40</sup> Minn. Stat. § 116C.575, subd. 8; *id.* § 116C.57, subd. 4.

- A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;
- B. effects on public health and safety;
- C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;
- D. effects on archeological and historic resources;
- E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;
- F. effects on rare and unique natural resources;
- G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;
- H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;
- I. use of existing large electric power generating plant sites;
- J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;
- K. electrical system reliability;
- L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;
- M. adverse human and natural environmental effects which cannot be avoided; and
- N. irreversible and irretrievable commitments of resources.<sup>41</sup>

41. No route designation shall be issued in violation of the route selection standards and criteria established in Minn. Stat. § 116C.575, subd. 8, and in the rules adopted by the EQB.<sup>42</sup>

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<sup>41</sup> Minn. R. 4400.3150.

<sup>42</sup> Minn. Stat. § 116C.575, subd. 9(b); *id.* § 116C.57, subd. 4.

## **Assessment of Impacts**

### ***Impacts on Human Settlement Patterns.***

42. In general, the effects on human settlement are very limited due to the selection of a pre-existing industrial site. Several commercial/industrial facilities are already located in the area. The closest residential dwelling is about 1,400 feet southwest of the planned location of the combustion turbine generators. The nearest residential subdivision is one mile to the southeast.

43. The Cannon Falls Energy Center will not require displacement of any occupied residences or businesses. Work on the site will not displace any other existing or planned land use, including residential land use.<sup>43</sup>

### ***Noise.***

44. The site is located in an area zoned for restricted light industry land use. Most of the noise receptors in the immediate area would be classified as either industrial or agricultural uses, which have less stringent noise standards than those applicable to households. There are five residences located within 2,100 ft of the noise-producing equipment.<sup>44</sup>

45. Construction and operation of the facility will unavoidably add new noise sources in and around the site. During construction, operation of large diesel- and gasoline-powered construction equipment (backhoes, dozers, delivery trucks, generators, and compressors) will cause noticeable but temporary increases in ambient noise levels. Noise levels generated by large equipment during this phase could range from 75 to 95 dBA as measured near the equipment. These noise sources will cease once the plant is built and operational.

46. During operation of the plant, air flow through the combustion air intakes and exhaust gases discharging from the stacks will be the primary sources of noise. Secondary noise sources will include low-frequency noise from transformers and noise from auxiliary pumps and ventilation and cooling equipment.

47. Noise impacts due to plant operation are expected to comply with Minnesota noise control standards. During the detailed design phase of the project, the specific methods to mitigate noise will be selected and will likely include combustion turbine exhaust silencers, air intake silencers, and a low-noise fuel gas metering station.

48. An acoustical model submitted by Invenergy predicted noise levels ranging from 45 to 50 dBA at the nearest receivers. These noise levels are expected to

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<sup>43</sup> Ex. 22 at 31.

<sup>44</sup> Ex. 2 at 24-25.

comply with the most stringent state standards for households (60 dBA during daytime hours; 50 dBA during nighttime hours).<sup>45</sup>

### ***Visual Impacts and Aesthetics.***

49. The site is located in the Business Park North district of Cannon Falls, at an elevation of 870 ft mean sea level (msl). The surrounding area within a three-mile radius ranges in elevation from 860 ft msl to 950 ft msl.<sup>46</sup>

50. The area immediately surrounding the proposed site is characterized by light density industrial development. Views to the immediate south and east are dominated by several commercial and industrial facilities, with farm and commercial traffic visible on County Highway 29, Holiday Avenue, and Cannon Industrial Boulevard. Other visible features include flat farmland to the north and west, with an electric transmission line running north to south.

51. The buildings on the site will have a low profile compared to other structures existing in the business park area.<sup>47</sup> The two emissions stacks will be the tallest structures on the site and are expected to be no higher than 75 ft.<sup>48</sup> The stacks will be visible from Highways 52, 29, and 20. A small heat plume from the stacks will be visible when the plant is operating.<sup>49</sup> There will be no moisture plume from the stacks, as there would be with a large combined cycle power plant. The exhaust from this facility will not be visible except as rising heat.<sup>50</sup>

52. Exterior lighting will be provided as required for security and safety throughout the facility. Illumination levels will be in accordance with the Illuminating Engineering Society Handbook and code requirements. To reduce the visibility of the facility, task lighting will be utilized instead of flood or area lighting. Lights will be shielded and/or directed toward the ground as much as practical.<sup>51</sup>

53. Invenergy is willing to work with the City to install landscape berms planted with evergreen trees around the perimeter of the facility to soften the views from the roads.<sup>52</sup>

54. The Environmental Assessment concludes that the facility will be compatible with the visual character of the adjacent light industrial land use by maintaining a low profile, using consistent coloring on equipment and buildings, and maintaining a clean and neat site appearance.

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<sup>45</sup> Ex. 22 at 40 & Table 17; Minn. R. 7030.0040. The distances from residences to project equipment are incorrectly stated in Table 17. The correct distances range from 1,400 to 2,200 ft, as noted in Ex. 25.

<sup>46</sup> Ex. 2 at 27.

<sup>47</sup> Tr. 2:26.

<sup>48</sup> Tr. 2:34-36.

<sup>49</sup> Tr. 1:47.

<sup>50</sup> Tr. 2:41-42.

<sup>51</sup> Ex. 22 at 33.

<sup>52</sup> Tr. 2:25-27.

### ***Socioeconomic Impacts.***

55. Construction of the facility will provide short-term economic benefits to the community through employment of a local/regional workforce of approximately 150 workers. It will also likely benefit local businesses supplying construction materials. This in turn would generate sales and income tax revenue for the city and county.

56. Operation of the facility will provide some long-term economic benefits through employment of four to six full-time employees who are expected to relocate to the area.<sup>53</sup>

57. Because the population increases as a result of construction of this facility are expected to be limited, there should be no significant increase in demand for school, hospital, fire and ambulance, police, or utility services.<sup>54</sup>

58. Many utilities have sought and received from the legislature a personal property tax exemption for the equipment installed at the facility. Invenergy has made a similar legislative proposal. Several commenters contended that Invenergy should not receive the personal property tax exemption.<sup>55</sup> This is a matter for the legislature to decide, not the Administrative Law Judge. No matter what happens with the personal property tax exemption, Invenergy will still have to pay local property taxes, which, combined with other payments to be made to the City, are estimated to total \$500,000 per year.<sup>56</sup> The personal property tax exemption may reduce the economic benefits the community might otherwise have expected, but no one has identified any adverse socioeconomic impacts as a result of constructing the facility on this site.

### ***Cultural Values and Recreation.***

59. No public or private recreation areas are located within one mile of the site. Several parks and outdoor recreation areas are located within ten miles of the site, including the Cannon Valley Trail, a 19.7-mile-long trail running from Cannon Falls to Red Wing, Minnesota; four parks in downtown Cannon Falls; and the Lake Byllesby Regional Park and Goodhue County Park.

60. The Environmental Assessment identified no impacts to existing recreational resources. The facility is not likely to affect the use of the Cannon Valley Trail, which is located approximately 1.5 miles from the proposed site. The construction and operation of the facility are not expected to impact any of the six parks located between one and two miles from the site.<sup>57</sup>

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<sup>53</sup> Tr. 48.

<sup>54</sup> Ex. 22 at 36.

<sup>55</sup> See, e.g., Exs. 9, 12, 32-33.

<sup>56</sup> Tr. 1:51.

<sup>57</sup> Ex. 22 at 24, 32.

### **Public Services.**

61. Public services in the Cannon Falls area are expected to be adequate for the construction and operation of the facility.<sup>58</sup> The City is expected to have adequate capacity to supply water and sanitary sewer services to the facility and will receive wastewater discharges.

62. Invenergy will contract with local waste haulers to properly collect and dispose of all nonhazardous solid wastes generated at the facility. No municipal services are expected to be required. Hazardous wastes are expected to be minimal and will be managed in accordance with applicable requirements.<sup>59</sup>

63. The City of Cannon Falls has a police force and a volunteer fire department. Invenergy will review the facility plans with police and fire department officials to identify potential hazards and coordinate emergency responses specific to the facility.<sup>60</sup>

64. The facility will be equipped with a fire suppression system consisting of a centrifugal electric pump, one jockey pump, and one back-up diesel-fueled water pump if it is determined that the Cannon Falls water supply system will not have the capacity to provide adequate flow and pressure to the facility's underground fire water header. The header will supply water to yard hydrants and installed sprinkler systems. Invenergy will construct a water tank on site with a dedicated fire water capacity sufficient to meet state and local fire codes if it is determined that the Cannon Falls water system cannot reliably provide adequate flows for fire protection.<sup>61</sup>

65. The City will continue to provide emergency services as necessary once the facility is operational, and coverage of the facility should not affect the existing capabilities of the City's fire and police departments.

### **Public Health and Safety.**

66. *Air Emissions.* Because the facility will potentially emit regulated air pollutants, Invenergy has applied for an air emissions permit from the Minnesota Pollution Control Agency (PCA). In connection with its air permit application, Invenergy performed dispersion modeling as required by the Environmental Protection Administration (EPA) for NO<sub>x</sub>, carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM/PM<sub>10</sub>), volatile organic compounds (VOC), and hazardous air pollutants (HAP). The EPA-approved model estimates the maximum predicted concentrations of these pollutants assuming the facility fires natural gas at an operating load of 100%, 4,292 hours per year, at an ambient temperature of 45 degrees Fahrenheit.<sup>62</sup> The dispersion model predicts maximum predicted concentrations for these pollutants at

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<sup>58</sup> Ex. 22 at 40.

<sup>59</sup> Ex. 2 at 331; Ex. 22 at 40.

<sup>60</sup> Ex. 22 at 41.

<sup>61</sup> Ex. 2 at 11.

<sup>62</sup> Ex. 2 at 32.

levels far below the National Ambient Air Quality Standards (NAAQS). The Environmental Assessment identified no adverse impacts on public health based on these results.<sup>63</sup>

67. Invenergy also performed an Air Emissions Risk Analysis (AERA) pursuant to PCA guidelines for pollutants associated with emissions from combustion of fuel oil. Screening results demonstrated acceptable risks for all chemicals potentially emitted from the facility. The Environmental Assessment identified no adverse impacts on public health based on these results.<sup>64</sup>

68. The MPCA has prepared a draft air permit concluding that the facility will comply with all applicable state and federal standards, rules, and policies. The MPCA will make a final determination on the issuance of the permit after public comment period closes.<sup>65</sup>

69. *Transportation.* The existing public roadway network is adequate to serve the facility, although a new access road may be required to connect the southwestern portion of the site with Holiday Avenue. The Environmental Assessment identifies no adverse impacts on the transportation system.<sup>66</sup>

70. The nearest major airport is the Minneapolis-St. Paul International Airport, approximately 35 miles north of the site. The Stanton Airfield is located four miles southwest of the site, and the Faribault Municipal Airport is approximately 25 miles southwest of the site. The project will not require a high structures permit from the Department of Transportation, and no notice is required to be given to the Federal Aviation Administration.<sup>67</sup>

71. The site is accessible by State Highway 20 and County Highway 29. U.S. Highway 52 is less than one mile west of County Highway 29. According to the Minnesota Department of Transportation, traffic volume on State Highway 20 just north of the junction with County Highway 29 averages 2,300 vehicles per day.

72. During construction, traffic on local roads (including Holiday Avenue and Cannon Industrial Boulevard) will increase due to movement of construction equipment, workers' vehicles, and deliveries of building materials. Potential mitigation measures to minimize impacts include scheduling construction shifts so that construction-related traffic occurs outside of peak commuting hours; staggering shift start and finish times by trade; and scheduling delivery of construction materials outside of peak commuting hours.<sup>68</sup>

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<sup>63</sup> Ex. 22 at 29.

<sup>64</sup> Ex. 22 at 30.

<sup>65</sup> Ex. 34.

<sup>66</sup> Ex. 22 at 34.

<sup>67</sup> Ex. 22 at 34.

<sup>68</sup> Ex. 2 at 41-42; Ex. 22 at 34.

73. When construction is completed, impact on traffic flows should be minimal.<sup>69</sup>

***Impacts on Land-Based Economies, Including Agriculture.***

74. The 55-acre site is currently used for growing soybeans. Construction of the proposed project will convert agricultural land to an industrial land use.<sup>70</sup>

75. The EQB may not approve a site permit for a large electric power generating plant where the developed portion of the plant site covers more than 0.5 acres of prime farmland per megawatt of net generating capacity; however, this rule does not apply to areas located within home rule charter cities.<sup>71</sup> Because the City of Cannon Falls is a home rule charter city, and the proposed site is located within the city, the farmland exclusion rule does not apply. Even if the rule did apply, the developed portion of the plant site would occupy no more than approximately 0.1 acres of prime farmland per megawatt of net generating capacity. The rule would not prohibit construction of the project on this site.<sup>72</sup>

76. The Environmental Assessment identifies no impacts on forestry or mining.<sup>73</sup>

***Impacts on Local Archeological and Historic Resources.***

77. The Minnesota Historical Society State Historic Preservation Office has examined the effect of site development on cultural resources, including historic or archaeological resources. There are no properties listed on or eligible for the National or State Registers of Historic Places, and there are no known or suspected archaeological properties in the area that will be affected by this project.<sup>74</sup>

***Impacts on the Natural Environment.***

78. *Air Quality.* The primary NAAQS are intended to protect the public from adverse effects of airborne pollutants; the secondary NAAQS extend this protection to visibility, plants, soils, and animals. Predicted concentrations resulting from the combustion of gas are not expected to exceed the secondary NAAQS and should have no harmful effects on wildlife in the area.<sup>75</sup>

79. *Land.* The facility is not expected to cause adverse or harmful environmental effects to the soils or geology of the site.

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<sup>69</sup> Ex. 22 at 34.

<sup>70</sup> Ex. 22 at 31.

<sup>71</sup> Minn. R. 4400.3450, subp. 4.

<sup>72</sup> Ex. 22 at 31.

<sup>73</sup> *Id.*

<sup>74</sup> Ex. 22 at 25 & App. C.

<sup>75</sup> Ex. 22 at 32.

80. *Water Resources.* The closest surface water is Pine Creek, an intermittent stream located just beyond the northern boundary of the proposed site. The Cannon River is located approximately one mile south of the proposed site. Construction of the facility on this site will not impact either body of water.<sup>76</sup>

81. There are no floodplains within the site; the closest floodplain is one-half mile to the south along the Cannon River. No wetlands are located on or near the site. No groundwater wells will be installed at the site, because all water necessary to operate will be supplied by the Cannon Falls municipal water supply.<sup>77</sup>

82. Construction activities that disturb one acre or more of land must obtain a combined National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) permit from the PCA. Construction of the facility will disturb approximately 40 acres of land, and an unknown number of acres will be disturbed for parking, trailers, equipment and material storage, and soil stockpiles. The NPDES/SDS stormwater permit will require the facility to prepare a storm water pollution prevention plan for industrial activities, before receiving the permit or commencing construction. The plan will identify potential pollutant sources, outline operating procedures for material handling activities, and describe controls and best management practices that will be implemented to minimize pollutants in stormwater runoff. Best management practices will also include storage of chemicals in appropriate containment areas, good site housekeeping practices, and proper disposal of waste materials.<sup>78</sup>

83. Soil erosion and sedimentation control measures will be constructed and maintained for the duration of the construction activities at the site. Most of the site runoff will enter a sediment basin. Local sediment control measures, such as inlet protection, graveled access roads, temporary and permanent seeding, rock outlet protection, and other measures will be used to minimize the sediment transported to the sediment basin.<sup>79</sup>

84. A combination of control measures will be implemented to retain sediment from disturbed areas during construction, including: maintenance of a vegetative buffer zone between disturbed areas and stormwater outfall; construction of a graveled access road; construction of berms and/or ditches and placement of fill to contain or route runoff from fill areas to the sediment basin; and construction and maintenance of a silt fence along the toe of the fill area boundary slopes.<sup>80</sup>

85. *Wildlife and Vegetation.* The proposed site was cleared and cultivated for farmland use more than 50 years ago. The effect of the construction and operation of the facility on wildlife and vegetation is expected to be minimal.

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<sup>76</sup> Ex. 22 at 37.

<sup>77</sup> Ex. 2 at 48; Ex. 22 at 37.

<sup>78</sup> Ex. 2 at 49-50.

<sup>79</sup> Ex. 2 at 49; Ex. 22 at 38-39.

<sup>80</sup> *Id.*

86. Construction will require removal of the vegetation in the area to be developed, including the vegetation in the cultivated field, and in areas for construction worker parking and storage of construction equipment and materials. The area will be restored after construction is completed and portions of the site will be reseeded.<sup>81</sup>

87. The Environmental Assessment has identified no significant losses of wildlife or habitat associated with construction or operation of the facility.

88. The Department of Natural Resources (DNR) has reviewed the Environmental Assessment for the facility. Project construction and operation will not require a permit from the DNR. Project construction and operation will be in compliance with DNR's standards, rules, and policies.<sup>82</sup>

### ***Effects on Rare and Unique Natural Resources.***

89. The proposed site is located primarily on what was historically native prairie land and Maple-Basswood forest, converted to farmland about 50 years ago. Little if any cover is available for wildlife, making it an unlikely habitat for endangered, threatened, or rare species.

90. The U.S. Fish and Wildlife Service has reviewed the location and description of the proposed project and has determined that the project is unlikely to adversely affect any federally listed or proposed threatened or endangered species or to adversely modify their critical habitat.<sup>83</sup>

91. The Minnesota Department of Natural Resources has similarly determined that no rare species or natural communities are located on the proposed site, and none is likely to be adversely affected by construction or operation of the facility.<sup>84</sup>

### ***Application of Design Options to Maximize Energy Efficiencies, Mitigate Adverse Environmental Effects, and Accommodate Expansion of Transmission Capacity.***

92. Dry low NO<sub>x</sub> combustor technology premixes air and a lean fuel mixture, which significantly reduces peak flame temperature and thermal NO<sub>x</sub> formation. Conventional combustors are diffusion controlled, injecting fuel and air separately, resulting in hot spots that produce high levels of NO<sub>x</sub>. In addition, in dry low NO<sub>x</sub> combustors the amount of NO<sub>x</sub> formed does not increase with residence time, allowing the system to achieve low CO and unburned hydrocarbons emissions while maintaining low NO<sub>x</sub> levels. Emissions of CO, VOC, SO<sub>x</sub>, and particulate matter will be controlled through fuel selection and operational controls.<sup>85</sup>

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<sup>81</sup> Ex. 2 at 48.

<sup>82</sup> Ex. 35.

<sup>83</sup> Ex. 22 at 24, 32.

<sup>84</sup> *Id.*

<sup>85</sup> Ex. 22 at 8.

93. Invenergy has no plans to expand the facility and is considering selling portions of the site that are not needed after construction is completed.

***Use or Paralleling of Existing Rights of Way.***

94. The site was selected in part because of its location near the existing 161 kV Spring Creek-Cannon Falls transmission line. If a new 115 kV line must be built, it is planned to be constructed, if possible, within the right of way of the 161 kV line.<sup>86</sup>

***Electrical System Reliability.***

95. The facility will be connected to the regional transmission systems for the purpose of enabling Xcel Energy to provide more reliable energy service during periods of high demand.

***Costs of Constructing, Operating, and Maintaining the Facility that are Dependent on Design and Route.***

96. This site was selected because of its proximity to the Cannon Falls substation and existing transmission lines. No alternative sites are required to be proposed under the alternative review process.

***Adverse Human and Natural Environmental Effects that Cannot Be Avoided.***

97. The proposed project will potentially emit regulated air pollutants, including NO<sub>x</sub>, CO, SO<sub>2</sub>, PM/PM<sub>10</sub>, and VOC. The simple cycle combustion turbines will use dry low NO<sub>x</sub> combustors to control NO<sub>x</sub> emissions. Firing natural gas will minimize SO<sub>2</sub> and PM/PM<sub>10</sub> emissions. Limitations on fuel use will allow the facility to be permitted as a minor source or all regulated air pollutants.

98. The loss of 55 acres of otherwise productive farmland is an unavoidable effect of construction of this project. The amount of farmland removed from production is small, however, and the land use conversion should generate some economic benefits to the surrounding community.

99. Noise levels are expected to range from 45 dBA to 49.5 dBA at the nearest residential receptors. These levels are within the Minnesota Noise Rules for daytime and nighttime hours. To ensure compliance with these standards, the facility will be designed and equipped with exhaust silencers, air intake silencers, and a low-noise gas metering station.

100. The increase in impervious surface areas on the site will require effective management of runoff to prevent erosion and sedimentation and to control release of

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<sup>86</sup> Ex. 22 at 11-12.

pollutants into stormwater discharges. Invenergy must develop an appropriate stormwater pollution prevention plan as required for its NPDES/SDS permit. Invenergy and its construction contractor will take all necessary measures to prevent erosion, minimize runoff, restore construction laydown areas after completion of construction, and develop a construction stormwater pollution prevention plan for erosion control.<sup>87</sup>

***Irreversible and Irretrievable Commitments of Resources.***

101. The proposed site does not require any irreversible or irretrievable commitment of resources.

***Excluded Sites that Must Be Avoided***

102. Minn. R. 4400.3450, subparts 1 and 3, and Minn. R. 4400.3350 list a number of sites on which large electric power generating plants are prohibited or excluded. The proposed site is not in a prohibited or excluded area.<sup>88</sup>

**RECOMMENDATION**

Based upon the evidence contained in the record, the Administrative Law Judge respectfully recommends that the EQB issue the site permit, with appropriate conditions.

Dated: February 4, 2005

/S/ Kathleen D. Sheehy

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KATHLEEN D. SHEEHY  
Administrative Law Judge

**MEMORANDUM**

**I. Notice.**

Some commenters contended at the public hearing that there was insufficient notice and not enough time to review documents and prepare for the informational meeting and public hearings. The time periods are established by the statutory mandate to complete the review process within six months of submission of the application.<sup>89</sup> The required notice was given, and all required public meetings and hearings were held.

<sup>87</sup> Ex. 22 at 43.

<sup>88</sup> Ex. 22 at 33.

<sup>89</sup> Minn. Stat. § 116C.575, subd. 7.

## II. Other Issues.

A number of commenters were concerned that the location of Cannon Falls in a valley would trap air emissions and adversely affect air quality. The dispersion model used for this facility is called the Industrial Source Complex Short Term (ISCST) dispersion model. This model is run on a computer and has been employed by the regulatory community for 20 years. It is designed to simulate the impacts from stacks and fugitive sources. It requires inputs such as stack characteristics, building dimensions, hourly meteorological data, surrounding terrain, and hourly air pollutant emission rates based on worst case operating conditions that are likely to create the maximum ground level concentrations. The model is designed to calculate conservative concentrations at user defined impact points, referred to as receptors. The emission sources for this facility were modeled *with the incorporation of terrain elevations* at all 2,630 receptor points located in a five-km grid around the project site. The receptor spacing used for the analysis is based upon recommendations provided by the MPCA. The predicted results for specific pollutants were well below the NAAQS limits set by the EPA.<sup>90</sup>

Furthermore, the MPCA has determined that Invenergy need not conduct an AERA specific to the Cannon Falls area, because it would not provide better information regarding the effects of air emissions than has already been provided by the generic AERA for this type of facility.<sup>91</sup>

Another commenter questioned the source of background air quality data. This is another area in which the MPCA requirements control inputs into the model. According to the MPCA, the state's background air quality data is divided into the Twin Cities Metropolitan Area and the rest of the state. Cannon Falls is in the "rest of the state" category. Even if the data for the entire state were used (including the Twin Cities), the ambient air quality standards would still be met with the incremental contribution of this facility.<sup>92</sup> Similarly, the MPCA requires the use of meteorological data collected at the Minneapolis-St. Paul International airport because it is most representative of the meteorological conditions in the Cannon Falls area.<sup>93</sup>

One commenter argued that the dispersion model results do not adequately specify where these concentrations of pollutants are measured geographically. The model assumes a five-km grid around the stack, and concentrations are predicted throughout that grid at 2,630 ground-level receptors.<sup>94</sup> The modeling results are not specific to a geographic point, so there is no way to say what levels would be in the middle of downtown Cannon Falls as opposed to some other location; they are human dose-specific. The results show that nowhere within the area modeled do these pollutants reach concentrations that the EPA deems to be harmful to humans. Pending

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<sup>90</sup> Ex. 42.

<sup>91</sup> Ex. 26.

<sup>92</sup> Ex. 42.

<sup>93</sup> *Id.*

<sup>94</sup> Tr. 2:51-52, 56.

final approval by the MPCA, the facility appears to comply with all legal requirements concerning air emissions.

Other commenters questioned whether the facility will be permitted to convert to other, more polluting fuel sources in the future. The combustion turbines that will be used at this facility are designed to combust natural gas, with fuel oil as a backup. Conversion to any other fuel would require development of new technology. Conversion to an alternative fuel would require, at a minimum, a new air permit and site permit authorizing the use of a different fuel source. Invenenergy has no plans for conversion to an alternative fuel and cannot foresee this occurring.<sup>95</sup>

Some commenters were concerned that the facility would rely on fuel oil as more than a backup source, if gas became more expensive in the future. While the facility is capable of burning fuel oil, permit restrictions will be placed on the operation of fuel oil. The MPCA is considering a permit that would limit operation to 3,680 hours (total) on natural gas; when combusting fuel oil, the plant will be limited to 669 hours of operation. Furthermore, every hour of fuel oil combustion counts as 5.5 hours of natural gas operation.<sup>96</sup>

Finally, Dakota County has expressed concerns about the visual impacts of additional transmission lines through the Lake Byllesby Regional Park area. It will not be known whether a new transmission line will be required or not until MISO has completed its interconnection study and identified the needed transmission upgrades. The routing of transmission lines will be addressed in separate proceeding before the EQB, where these concerns should be addressed.<sup>97</sup>

K.D.S.

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<sup>95</sup> Ex. 18.

<sup>96</sup> Ex. 47.

<sup>97</sup> Ex. 39.