

Case No. 696-S-11

ATTACHMENT TO SUPPLEMENTAL MEMORANDUM

August 17, 2011

**Attachment D Excerpts from California Ridge Wind Energy Project Champaign County
Special Use Permit Application received July 1, 2011:**

- (1) pages 2-1 to 2-9, 3-1
- (2) pages 3-4, 3-5, 3-8, 3-9
- (3) pages 3-11, 4-1 to 4-6 and 4-8
- (4) pages 4-9, 4-10 and 5-1 to 5-4
- (5) pages 5-6, 5-8 to 5-11 and 5-13, 5-14, 5-15
- (6) Appendix B California Ridge Wind Energy Project
Decommissioning Report
- (7) Appendix H Road Use and Repair Agreement
- (8) Appendix K Reclamation Agreement
- (9) Figure 3-2. Project Location and Preliminary Site Layout
- (10) Figure 3-5 Participating Properties and Champaign County
Required Setbacks
- (11) Figure 4-3 Road Use Plan
- (12) Figure 5-1 Shadow Effect Likely Hours per Year of Shadow
Flicker
- (13) Appendix C Figure A-2 Sound Contours

**Attachment E Champaign County Non-Participating Dwelling Separation Summary map
received July 29, 2011**

2.0 ORDINANCE COMPLIANCE CHECKLIST

Table 2-1 lists certain requirements of the Champaign County zoning ordinance pertaining to wind power facilities and special uses and where this information can be found within the Application.

**Table 2-1
Ordinance Requirements for Champaign County Zoning Ordinance**

| Wind Energy Structure Ordinance | Location in Document |
|---|-----------------------------|
| Section 6.1.4 Wind Farm County Board Special Use Permit. | |
| A. General Standard Conditions | 3.1 |
| 1. Minimum land areas to include in the SUP: | |
| a. within 1.10 times wind tower height | Section 3.4 |
| b. exceed noise ordinance | Appendix C |
| c. exceed Shadow Flicker ordinance | Section 5.3 Appendix G |
| d. 40' wide area for new access roads or driveways | Section 4-2.3 |
| e. wind farm accessory structures, 40' wide area for underground cable, substations, transformers, and switching stations | Section 3.4 |
| f. 1.50 times wind tower height except 1,320' from ROW of public street. | Section 3.4 |
| g. 1,320' of ROW + 1,000' from tower except land in compliance with C.5 | Section 3.4, |
| 2. Land not to be included in Wind Farm | |
| a. < 1.5 mile from municipality zoning | Section 3.4 |
| b. < 1 mile from Conservation Recreation zoning. | Section 3.4 |
| c. leased or under easement of underground gas storage | NA |
| B. Minimum Lot Standard Conditions | 4.1.1 |
| 1. No minimum lot standard conditions | NA |
| C. Minimum Standard Conditions for Separations for Wind Farm Towers from adjacent Uses and Structures | Section 3.4 |
| 1. 1,000' from Participating Dwelling | Section 3.4 |
| 2. 1,200' from Non-Participating Dwelling | Section 3.4 |
| 3. 1.10 x tower height from structures or adjacent property with waiver of non-participating | Section 3.4 |
| 4. 1.10 x tower height from adjacent property line of participating | Section 3.4 |
| 5. 1.50 x tower height to ROW of non-participating or 1.10 x tower height to ROW of participating | Section 3.4, Section 5.9.3 |
| 6. 1.50 x tower height to non-participating property | Section 3.4 |
| 7. 1.10 x tower height gas or hazardous liquid pipeline | NA |
| 8. Private waiver for any distance lesser than the minimum stated in this ordinance. | NA |
| 9. 1,200' from wellhead or above ground fixture that is accessory to a gas or hazardous liquid pipeline | NA |

| Wind Energy Structure Ordinance | Location in Document |
|---|------------------------------|
| 10. 1,600' from any liquefied natural gas storage, liquefied petroleum gas storage or gasoline and volatile oils storage exceeding 10,000 gallons. | NA |
| 11. 3,500' from restricted landing area or residential airport. | Section 3.4 |
| D. Standard Conditions for Design and Installation of Wind Farm Towers | |
| 1. Design Safety Certification | |
| a. Towers to abide by ANSI and submit certificates of design by Underwriters Laboratories (UL), <i>Det Norske Veritas</i> (DNV), <i>Germanischer Lloyd</i> Wind energy (GL) or equivalent third party | Section 4.1.1 |
| b. Foundation and tower design is certified by an Illinois Professional Engineer or Illinois licensed Structural Engineer. | Section 4.1.2 |
| 2. Controls and Breaks | Section 4.1.1 |
| a. redundant breaking system including aerodynamic over speed controls and manual brakes | Section 4.1.1 |
| b. fail safe mode for mechanical brakes | Section 4.1.1 |
| c. stall regulation not considered a sufficient breaking system for over speed protection | NA |
| 3. Electrical Components comply with state and national codes and international standards (ANSI and IEC). | Section 4.1.1 |
| 4. Tower must be monopole construction | Section 4.1.1 |
| 5. Tower and blade- < 500' | Section 3.3 |
| 6. Tower and components painted white/gray or non-reflective, unobtrusive color | Section 4.1.1 |
| 7. Comply with FAA requirements, which must be explained in the application | Section 5.4.3, 5.3.1 & 5.9.1 |
| 8. Warnings | |
| a. warning sign concerning voltage at the base of transformers and substations | Section 3.3 |
| b. visible, reflective, colored objects s/a flags or tape shall be placed on guy wires up to 15' | Section 3.2 |
| 9. Towers must have anti climbing design or devise. | Section 4.1.1 |
| E. Standard Conditions to Mitigate Damage to Farmland | |
| 1. underground electrical at min. depth of 4' below ground and 1' from drain tile (DT) | Appendix I; Drainage Report |
| 2. Protection of drainage tile | |
| a. locate all DT before construction of staging areas, access roads, electrical lines, towers, and substations | Appendix I Drainage Report |
| b. all DT shall be flagged prior to construction | Appendix I Drainage Report |
| c. DT crossings – tile should be replaced as per Champaign County Storm Water Management Policy (CCSWMP) | Appendix I Drainage Report |

| Wind Energy Structure Ordinance | Location in Document |
|--|----------------------------|
| d. if DT needs relocating must be done by CCSWMP | Appendix I Drainage Report |
| e. CCSWMP must be certified by Illinois Professional Engineer. Written approval by drainage district will be received prior to backfilling. As-built drawings shall be provided to drainage district and zoning admin. | Appendix I Drainage Report |
| f. damaged DT shall be flagged until repairs are completed. | Appendix I Drainage Report |
| g. exposed DT shall be screened or protected | Appendix I Drainage Report |
| h. permanent repairs to DT within 14 days or temp repair if conditions are poor. | Appendix I Drainage Report |
| i. damaged DT repaired to prior condition | Appendix I Drainage Report |
| j. all failed repairs are the applicants responsibility to fix. | Appendix I Drainage Report |
| 3. All soil conservation practices restored to prior construction | Appendix I Drainage Report |
| 4. Top Soil replacement | |
| a. Top 12" striped and stored in windrow | Appendix I Drainage Report |
| b. (missing in ordinance) | Appendix I Drainage Report |
| c. Subsoil stored in separate windrow | Appendix I Drainage Report |
| d. Backfilling shall be replaced by stockpiled subsoil first then top soil | Appendix I Drainage Report |
| e. Top soil must settle to original depth and contour | Appendix I Drainage Report |
| 5. Mitigation of soil compaction and rutting | |
| a. Applicant not responsible for mitigation if exempted by wind farm lease | Appendix I Drainage Report |
| b. Applicant shall mitigate soil compaction and rutting areas | Appendix I Drainage Report |
| 6. Land leveling | |
| a. Applicant not responsible for leveling if exempted by wind farm lease | Appendix I Drainage Report |
| b. Applicant shall level all disturbed land as follows | Appendix I Drainage Report |
| 1. after trenching -- restore to original elevation and contour | Appendix I Drainage Report |
| 2. restore settling up to one year after construction | Appendix I Drainage Report |
| F. Standard Conditions for Use of Public Streets | |
| 1. Prior to public hearing close, Applicant shall enter into a Roadway Upgrade and Maintenance agreement with the following minimum conditions: | |
| a. Applicant shall conduct pre-wind farm construction baseline survey. | Section 4.2.1 & Appendix H |
| (1) Videotape if necessary | Appendix H |
| (2) Pay County to hire consultant | Appendix H |
| (3) Pay to strengthen street structures | Appendix H |

| Wind Energy Structure Ordinance | Location in Document |
|---|----------------------|
| b. (says same thing as F.1.a.2 and F.1.a.3) | Appendix H |
| c. Applicant shall pay other necessary improvements | Appendix H |
| d. Applicant shall obtain necessary approvals for road improvement. | Appendix H |
| e. Applicant shall apply for access permits and required plans | Appendix H |
| f. Applicant shall erect permanent markers indicating underground cabling. | Appendix H |
| g. Install marker tape in any cable trench | Appendix H |
| h. Member of the JULIE system | Appendix H |
| i. Directional bore all county highways | Appendix H |
| j. Provide widening for turnout locations | Appendix H |
| k. Pay for temporary street improvements | Appendix H |
| l. Notify street maintenance of oversized moves or crane crossings | Appendix H |
| m. Provide copy of overweight and oversized permit | Appendix H |
| n. Transport towers and equipment to minimize traffic impact. | Appendix H |
| o. Construction traffic shall minimize impacts on emergency response, mail, school, and agricultural traffic. | Appendix H |
| p. Notify street maintenance authority with reasonable time to obtain closure approval | Appendix H |
| q. Provide signs indicating road closure and work zones | Appendix H |
| r. Establish escrow account and irrevocable letter of credit for all upgrades/repairs | Appendix H |
| s. Notify relevant parties of temporary street closures | Appendix H |
| t. Obtain easements necessary to fulfill obligations | Appendix H |
| u. Design all street upgrades with IDOT Bureau of Local Roads and Streets Manual, 2005 edition | Appendix H |
| v. Provide written notice to proceed to relevant street authority by December 31 st for the following year | Appendix H |
| w. Provide dust control and grading | Appendix H |
| x. Conduct post-wind farm construction baseline survey | Appendix H |
| y. Pay for repair cost to all roads damaged by project | Appendix H |
| z. Construction traffic use only routes designated in the approved Transportation Impact Analysis | Appendix H |
| aa. Provide liability insurance to cover required road construction activities | Appendix H |
| bb. Pay for the present worth costs of life determined by the pavement management surveys and reports | Appendix H |
| cc. Provisions for expiration date on the agreement | Appendix H |

| Wind Energy Structure Ordinance | Location in Document |
|--|--------------------------|
| dd. Other required conditions. | Appendix H |
| 2. Permit shall not be granted until Transportation Impact Analysis has been approved | |
| a. Identify all streets to be used during construction as well as # of loads, per axle weight of each load, and type of equipment used for transport | Appendix H |
| b. Access road culverts and bridges affected, with recommendations as to actions and estimated cost to replace | Appendix H |
| c. Anticipated street repair and costs pre and post construction | Appendix H |
| d. Reimburse County, Township, municipality, where relevant, for all engineering fees and third party consultant involved with the Transportation Impact Analysis. | Appendix H |
| G. Standard Conditions for Coordination with Local Fire Protection District | |
| 1. Submit site plan to local fire protection district | Section 5.6.2 |
| 2. upon request, develop Emergency Response Plan | Sections 5.6.2 |
| 3. Actions stated in G1. & G2. do not alleviate the need to comply with all other applicable fire laws and regulations. | Section 5.6.1 & 5.6.2 |
| H. Standard Conditions to Mitigate Electromagnetic Interference | |
| 1. provide microwave transmission providers and emergency service providers and local emergency service providers a project summary and site plan | Sections 5.5.1 & 5.7 |
| 2. Applicant shall mitigate any interference | Section 5.5.1 |
| 3. Applicant shall respond to complaints regarding communication interference | Section 5.5.1 |
| 4. Applicant shall respond to complaints regarding TV broadcast interference | Section 5.5.1 |
| I. Standard Conditions for Allowable Noise Level | |
| 1. Shall comply to Illinois Pollution Control Board (IPCB) regulations | Section 5.2 |
| 2. Submit manufacturer's sound level and other relevant data for noise analysis. | Table 5-4 |
| 3. Shall demonstrate compliance with noise requirements | Section 5.2 & Appendix C |
| 4. Map of noise contours and residences within 1500' of any wind tower | Appendix C |
| 5. State noise model construction and algorithms | Appendix C |
| 6. Zoning Administrator shall take appropriate action as necessary to investigate noise complaints by the following: | |
| a. hire noise consultant | N/A |

| Wind Energy Structure Ordinance | Location in Document |
|---|------------------------------|
| b. Wind Farm Owner to cooperate with noise consultant including shutting down turbines to document ambient noise levels | N/A |
| c. Any violations will be corrected by Wind Farm Owner | N/A |
| d. Wind Farm Owner shall reimburse County the cost of noise consultant | N/A |
| J. Standard Conditions for Endangered Species Consultation – Applicant shall apply for consultation with the Endangered Species Program of the IDNR and shall supply a copy of the Agency Action Report. | Section 5.9.4, Section 5.9.7 |
| K. Standard Conditions for Historic and Archaeological Resources Review –Applicant shall apply for consultation with the State Historic Preservation Office of the IDNR and provide copy of the Agency Action Report. | Section 5.10.1 |
| L. Standard Conditions for Acceptable Wildlife Impacts | |
| 1. Wind Farm will avoid and mitigate the impacts to wildlife to a sustainable level of mortality | Section 5.9.6 |
| a. avoid known bird and bat migration, daily flyways and hibernacula flight paths between bat colonies and feeding areas. | Section 5.9.4; Table 5-11 |
| b. site Wind Farm that will achieve a level of mortality to birds and bates that will protect sustainability of populations. | Table 5-5 |
| 2. Qualified professional – preconstruction risk assessment | |
| a. Literature review | Appendix D |
| b. Mapping of vegetation, land cover, habitat, quality | Appendix F |
| c. Field exam | Appendix D |
| d. Literature review of avian and bat mortality field results | Appendix D |
| e. If risk assessment indicates low risk – no further surveys. | Appendix D |
| f. If risk assessment indicates high risk – annual survey may be needed to address issues. | Appendix D |
| g. Surveys may include threatened and endangered (T&E) or sensitive-status species | Appendix E |
| h. survey results shall be used to design siting and mitigation measures to lower risk of mortality. | Appendix E |
| 3. Qualified professional – post-construction mortality monitoring | |
| a. At least two years of site-specific mortality monitoring; spring and fall migration | Section 5.8.5 |
| b. Inclusion of study protocols/degree of precision of study | Section 5.8.5 |
| c. Report submitted to Environment and Land Use Committee | Section 5.8.5 |

| Wind Energy Structure Ordinance | Location in Document |
|---|----------------------|
| d. If mortality does not threaten population – no further monitoring required | Section 5.8.5 |
| e. If legitimate mortality –continue monitoring or the ELUC may require tower shut down until resolved | Section 5.8.5 |
| M. Standard Conditions for Shadow Flicker | |
| 1. Show summer and winter locations of flicker with a duration of 30 hours or more per year | Appendix G |
| 2. Flicker that exceeds 30 hours per year shall be mitigated | Section 5.3 |
| N. Standard Condition for Liability Insurance | |
| 1. Liability insurance of \$5 mil/occurrence and \$5 mil in aggregate. Increase annually for inflation. | Section 4.3.3 |
| 2. General liability policy shall ID landowners in SUP as additional insured | Section 4.3.3 |
| O. Operational Standard Conditions | |
| 1. Maintenance | Section 4.3.5 |
| a. Annual O&M reports shall be submitted to the Environment and Land Use Committee annually | Section 4.3.5 |
| b. Physical modifications that changes the wind farm will require a new SUP. Third party needs consultation | Section 4.3.5 |
| 2. Materials Handling, Storage and Disposal | Section 5.4.2 |
| a. Solid waste will be removed in accordance to regulations. | Section 5.4.2 |
| b. Hazardous waste will be handled according to regulations. | Section 5.4.2 & 5.7 |
| P. Standard Conditions for Decommissioning Plan and Reclamation Agreement | |
| 1. Signed site reclamation agreement | Forthcoming |
| 2. Reclamation agreement shall include provisions for repairs to streets during reclamation | Appendix B |
| 3. Site Reclamation agreement also requires | |
| a. Bankruptcy notification within ten days of proceeding | Appendix B |
| b. Any successor to the wind farm shall abide to the rules of the SUP. | Appendix B |
| c. Governing Body shall have access rights to the wind farm property for purposes of inspection | Appendix B |
| d. Decommissioning and reclamation is governed by Illinois Law | Appendix B |
| e. Indemnification clause that indemnifies the County with any liability | Appendix B |
| f. Standard severability provision | Appendix B |
| 4. Amount of irrevocable letter of credit | |
| a. Credit shall be 210% of engineers cost estimate | Appendix B |

| Wind Energy Structure Ordinance | Location in Document |
|---|----------------------|
| b. Gradually pay down the value of the irrevocable letter of credit by placing cash deposits in escrow account over the first 13 years of the Project life. | Appendix B |
| (1) Mutually acceptable financial institution at which escrow shall be established. | Appendix B |
| (2) Governing Body will be the beneficiary of escrow for the purpose of reclamation. | Appendix B |
| (3) Establish County as owner of record | Appendix B |
| (4) Annual deposits to escrow over 12 years and update letter of credit | Appendix B |
| (5) Escrow and letter of credit will be updated to reflect inflation. | Appendix B |
| i. Cost is increased by documented rates of inflation | Appendix B |
| ii. Life span shall assume a minimum rate of inflation to be 3% per year. | Appendix B |
| (6) Interest accrued shall go to Wind Farm Owner | Appendix B |
| (7) Funding at time of decommissioning, a new irrevocable letter of credit and release of escrow may occur | Appendix B |
| 5. Zoning administrator may draw on funds for the following reasons: | |
| a. Turbine is not running for 6 months | Appendix B |
| b. Owner declares turbine to be obsolete for tax purposes | Appendix B |
| 6. Site Reclamation Agreement and irrevocable letter of credit and escrow account must be submitted to Zoning Administrator prior to SUP approval. | NA |
| Q. Complaint Hotline | |
| 1. Number shall be established prior to construction and during SUP term | Section 4.2.5 |
| 2. Number shall be publicized and posted at the O&M and construction marshalling yard. | Section 4.2.5 |
| 3. Line shall be manned during normal business hours and answering recording service during non-business hours | Section 4.2.5 |
| 4. Each complaint logged with callers name , address and reason for the call | Section 4.2.5 |
| 5. All calls shall be recorded and saved for a minimum of two years | Section 4.2.5 |
| 6. Number shall be given to the Zoning Administrator each month | Section 4.2.5 |
| 7. Applicant and Owner shall take necessary action to resolve all legitimate complaints | Section 4.2.5 |
| R. Standard Condition for Expiration of Wind Farm County Board Special Use Permit | Section 4.3.2 |
| S. Application Requirements | |

| Wind Energy Structure Ordinance | Location in Document |
|---|--|
| 1. Additional information | |
| a. Wind Farm project summary | Section 1.1 |
| (1) general description of project indicating generating capacity, equipment manufacture, type, type of wind turbines, number of wind turbines, name plate generating capacity of each turbine, the max height, and the max diameter of turbine rotors. | Section 3.3 |
| (2) Specific proposed turbine and landowner location | Section 3.3, Figure 3-2 |
| (3) Specific proposed location of all tax parcels required by SUP | Figure 3-5 & Appendix M |
| (4) Description of Applicant | Section 1.1 |
| b. Name, address, phone numbers, and other contact information of Applicant | Sections 1.2 & 1.3 |
| c. Site plan for the installation of all wind farm towers | Section 3.3 |
| (1) Planned location of towers, structures, property lines, required setbacks, public access roads and turnout locations, substation(s), electrical cabling, ancillary equipment, third-party transmission lines, O&M facilities, and layout of all structures. | Section 3.1 & Figure 3-1 & Figure 3-2 |
| (2) Project area proposed in SUP | Figure 1-2 |
| (3) Setbacks from non-participating dwellings dimensioned on site plan, | Figure 3-5 |
| (d) All other reports, certifications, studies, and approvals | Appendices A-J |
| 2. Applicant shall notify County of any changes while permit is pending. | Section 3.3 |

Table 2-1 is only a general guide. Due to the overlapping nature of ordinance factors, relevant and important information is often included in other related sections of the Application. By including these tables, California Ridge does not limit or narrow the parts of the Application that demonstrate compliance with the zoning ordinance. This Application, as a whole, demonstrates that the Project complies with the Champaign County zoning ordinance requirements.

3.0 PROJECT DESCRIPTION

3.1 PROJECT LOCATION

The Project is located in Vermilion and Champaign counties, Illinois, in the townships of Pilot, Ogden, and Compromise (Figure 1-1 and Figure 1-2). This Special Use Application is for the Champaign County portion of the California Ridge Site, which will consist of up to 30 wind turbines located in the Project area. Figure 3-1, Figure 3-2, and Table 3-1 include the townships, ranges, and sections of the Project area.

The Project area in Champaign County encompasses approximately 10,193 acres north of the village of Royal, Illinois, and south of the villages of Gifford and Potomac, Illinois. The Project area covers an area larger than that where turbines are planned to be sited. The Applicant is seeking a Special Use Permit from Champaign County only for those particular parcels hosting wind power facilities (as defined below) and included in this Application (Appendix M). Current plans are to place the turbines on agricultural lands throughout portions of the site. The preliminary locations of the turbines, access roads, transformers, switchyards, power lines, communication lines (including supervisory control and data acquisition (SCADA) software and hardware), interconnection points with transmission lines, and other ancillary facilities or structures, and substation routing (wind power facilities) are shown in Figure 3-1 and Figure 3-2. The final wind power facilities layouts will be submitted to Champaign County in the Zoning Use Permit. Layouts will include a legal description and coordinates for the location of each tower and the substation, and the location of property lines of adjoining property owners (including, in the case of leased property, the location of property lines of property owners adjoining the landlord's property).

**Table 3-1
Sections within Project Area**

| County | Township | Range | Section(s) |
|------------------|----------|-------|--------------|
| Champaign County | 21N | 10E | 24-25, 36 |
| | 21N | 11E | 30, 31 |
| | 21N | 14W | 19-21, 28-33 |
| | 20N | 14W | 4-9 |

Only a portion of the Project area will actually host wind power facilities. The land occupied by the Project for Champaign County will be less than 0.30 percent of the Project area, assuming 30 turbines and associated access roads are constructed. It is anticipated that the area of direct land use for the turbines and access roads will be approximately 16.5 acres. This assumes an average of approximately 0.55 acres of land for each turbine and associated 16-foot wide access road. Refer to Section 5.0 for a detailed description of the environmental setting and impacts.

3.2 GENERAL WIND RESOURCES

California Ridge has relied upon a number of sources of information to determine the wind resource in the Project area. These include publicly available wind resource maps, elevation data, data from nearby airports, and weather monitoring stations.

In addition, California Ridge has contracted with an independent wind resource assessment company, DNV Global Energy Concepts Inc. (DNV-GEC), to collect, quality control, validate, summarize, and transmit data for four 50- to 60-meter (164- to 197-foot) meteorological towers located within the Project area to obtain project-specific wind data. The four meteorological towers were installed between October 2008 and July 2009. The towers are manufactured by NRG Systems, Inc. The meteorological towers are temporary and will be removed when construction is complete. The site-specific wind data has confirmed that there is a sufficient wind resource to support a project of this type.

In addition to the wind power facilities discussed previously, California Ridge may site one or more permanent meteorological towers within the Project area to collect data during operation (towers are likely to be free-standing). If the tower is not freestanding, warning indicators, such as flags, reflectors, or tape, will be placed on the anchor point of any guy wires and along the guy wires up to a height of 15 feet from the ground.

3.3 FACILITY SITE PLAN

The facility will include wind turbines, access roads, transformers, communication and electric power collection cables, substation, permanent meteorological stations, overhead generation lead lines, other interconnection points with transmission lines, the O&M building, and any ancillary facilities or structures. Collectively, these are called the wind power facilities. The Project's substation, overhead generation lead line and the O & M facilities will be located in Vermilion County. The point of interconnection (POI) will be within an Ameren Corporation-owned (Ameren) existing switchyard and will be located in Vermilion County.

The Project will consist of 134 GE 1.6-100 MW turbines, of which 30 are anticipated to be built in Champaign County. This turbine model has a 100-meter (328-foot) hub height. A rotor diameter of 100 meter (328 foot) will be used (Figure 4-1). Each tower will be secured by a concrete foundation. The foundation design will be based on the soil conditions and will be stamped by a professional engineer. Each turbine will have an associated transformer that will display the proper voltage warning signs.

Each wind turbine will be accessible via all-weather access roads connecting to public roads. The access roads will be approximately 4.9 meters (16 feet) wide and low profile to allow cross-travel by farm equipment. California Ridge will work closely with the landowners in locating access roads to minimize land use disruptions to the extent possible. California Ridge is also currently negotiating road agreements for the Project with the Champaign County engineers and two township road commissioners for Compromise and Ogden Townships. Consideration will be given to locating access roads to minimize impact on current or future row crop agriculture and any environmentally sensitive areas.

A control panel inside the base of each turbine tower will house communication and electronic circuitry. A step-up transformer will be installed at the base of each turbine to raise the voltage from

575 or 690 volts (V) to collection line voltage (34.5 kV). Power will be run through an underground collection system at a minimum depth of 4 feet to the Project feeder system that will feed power to a project 34.5/138 kV substation. Both power and communication cables will be buried in trenches on private property at a minimum depth of 4 feet.

The collection system and communication cable lengths are minimized by installing underground cables the shortest distance from turbine to turbine. The feeder system will deliver the power to the Project 34.5/138 kV substation. The substation will include a step-up transformer that raises the voltage again, from 34.5 kV to 138 kV. An overhead 138 kV generation lead line (approximately 9 miles long, constructed in Vermilion County and owned by California Ridge) will move the power to the Ameren interconnection switchyard from the Project substation. The Ameren interconnection switchyard is the point where the energy generated by the Project connects to Ameren's transmission system.

The Project 34.5/138 kV substation will conform to industry standards and will be owned by California Ridge. The Ameren switchyard will conform to Ameren's specifications.

The location of the Project 34.5/138 kV substation, Ameren switchyard, and Project transmission line are shown on Figure 3-1 and Figure 3-2. Figure 3-3 is a conceptual diagram of the path of energy from the wind farm to energy users. Figure 3-4 shows the typical wind farm facility layout in Champaign County.

The Project O&M facility will be constructed in Vermilion County. The O&M building will be approximately 7,000 square feet, and will house all the necessary equipment to operate and maintain all phases of the Project.

California Ridge will own and operate the Project. California Ridge expects to select one or more third-party contractors to perform all engineering, procurement, turbine and tower erection, and construction of the wind farm.

3.4 FACILITY SITING

California Ridge will develop a final site layout that optimizes wind resources while minimizing the impact on land resources and any sensitive areas that may potentially be located within the areas that would be approved through the Special Use Permit. California Ridge requests that the Champaign County Board grant the participating parcels listed in Appendix M the Special Use described in Ordinance No. 848. These final locations will be provided in the Champaign County Zoning Use Permit Application before construction begins and will adhere to the same requirements under Ordinance No. 848. The wind power facilities shown in Figure 3 1 and Figure 3 2 are preliminary and are subject to location adjustments based on final micrositing with landowners. These wind power facilities have been through a number of engineering iterations that have considered the issues relevant to this permit as well as issues relevant to the Champaign County Zoning Use Permit Application.

The wind power facilities will be sited on agricultural land. The topography of the site, wind resource assessment and the selected turbine technology will dictate turbine spacing. A description of turbine technology is presented in Section 4.1.

California Ridge will use equipment with a rotor diameter of 100 meters (328 feet). Tower heights will be 100 meters (328 feet). Total height of the turbine will be 150 meters (492 feet). In compliance with Champaign County wind energy structure ordinance, and unless an applicable waiver of setbacks is granted, the minimum turbine setbacks will be as follows:

- Non-participating residences or buildings..... 1,200 feet
- Participating residences or buildings 1,000 feet
- Participating residences or buildings or adjacent property with private waver..... 1.1 times the total tower height (541 feet)
- Non-participating property lines..... 1.5 times the total tower height (738 feet)
- Public roads (from right of way) 1.5 times the total tower height (738 feet)
- Public roads (from right of way) within project 1.1 times the total tower height (541 feet)
- Other structures 1.5 times the total tower height (738 feet)
- Conservation Recreation Zoning..... 1 mile setback
- Incorporated municipality with zoning..... 1.5 mile setback

A map showing these wind turbine setback requirements for the Project is included as Figure 3-5. The distance from such setback lines to the foundation at the base of each tower will conform to the applicable setback requirements set forth in section 6.1.4A , B and C of Ordinance No. 848.

Section 9.1.11.D of the Champaign County Zoning Ordinance, as amended (the "Zoning Ordinance"), provides that:

Any other provision of this ordinance notwithstanding, the BOARD or GOVERNING BODY, in granting any SPECIAL USE, may waive upon application any standard or requirement for the specific SPECIAL USE enumerated in Section 6.1.3 Schedule of Requirements and Standard Conditions, to the extent

that they exceed the minimum standards of the DISTRICT, except for any state or federal regulation incorporated by reference, upon finding that such waiver is in accordance with the general purpose and intent of this ordinance, and will not be injurious to the neighborhood or to the public health, safety and welfare.

In accordance with that provision, California Ridge hereby requests that the Champaign County Board (the "Board") waive the requirement of §6.1.4.A.1.(e) of Champaign County Ordinance No. 848 (the "Wind Farm Ordinance"), which requires that:

All necessary WIND FARM ACCESSORY STRUCTURES including electrical distribution lines, transformers, common switching stations, and substations not under the ownership of a PUBLICLY REGULATED UTILITY. For purposes of determining the minimum area of the special use permit, underground cable installations shall be provided a minimum 40 feet wide area.

This application for a waiver of the above requirement is based on several factors:

During construction, California Ridge will encounter field conditions which occasionally require re-routing of collections systems amongst a property. Landowner's drain tile, wetlands, conservation reserve program land and other items, which will not be known until immediately before construction or during construction, will require adjustment and relocation of underground cable installations. Authorizing California Ridge to relocate and adjust the location of underground cables will allow adjustments up until and during construction to ensure field conditions and landowner concerns are accounted for in the final wind farm design and construction.

For all of these reasons, California Ridge requests that the Board grant it a waiver from the requirements of §6.1.4.A.1.(e) of the Wind Farm Ordinance and proposes that the location dictated for special use related to underground cables is provided following construction with the submittal of as-built drawings at which time, the location of special use is permanently established.

3.5 LAND RIGHTS

3.5.1 ZONING COMPLIANCE

3.5.2 ORDINANCE COMPLIANCE

California Ridge will site its turbines to comply with Champaign County Ordinance No. 848 (Ordinance) in the participating parcels referenced in Appendix M. In Section 2, Table 2-1, California Ridge has outlined the requirements of the Ordinance and the section or reference within this Application that identifies how California Ridge will comply with the particular requirements.

The Project is in accordance with the general purpose and intent of the county Ordinance. As indicated in the Ordinance, Champaign County anticipates that the Project area will remain agricultural and has not designated it for development.

This Application will demonstrate that the Project satisfies each of the standards in the Ordinance. The California Ridge wind farm will be a valuable addition to Champaign County infrastructure.

3.5.3 LANDOWNER AND DEVELOPMENT RIGHTS

California Ridge has obtained wind rights and easements for a 214.4 MW project. Land rights will encompass the proposed wind power facilities, including, but not limited to, wind easements, wind turbines, access, and generation lead lines. Figure 3-5 shows the properties where California Ridge has obtained wind rights and easements and the setbacks as required in the Zoning Ordinance of the County of Champaign, Illinois. Appendix M references the participating parcels that are under contract with California Ridge, which this application requests granting of Special Use. Appendix M also contains the list of parcels which are within 250 feet of the participating parcels, including those which are participating.

California Ridge has worked extensively with local landowners, government officials, and other affected parties in the Project siting and development process. The Project will be constructed on approximately 62 separate parcels of farmland within Ogden and Compromise townships. California Ridge has entered into easement agreements with more than 90 Project participants for a term of up to 35 years. All of the land included in the Project is privately-owned.

4.0 PROJECT DEVELOPMENT

4.1 WIND POWER TECHNOLOGY

The Project will use wind energy to generate electricity. As the wind passes over the blades of a wind turbine, it creates lift and causes the rotor to turn. The blades are connected by a hub and main shaft to a system of gears, which are connected to a generator housed in the nacelle. The electricity is delivered from the generator to a transformer at the base of the turbine where voltage is stepped-up for connection to the project collection system. Wind-powered electric generation is entirely dependent on the availability of wind at a specific location. The energy generated is proportional to the cube of the wind velocity. In other words, a doubling of the wind speed will result in roughly an eightfold increase in power.

4.1.1 DESCRIPTION OF WIND TURBINES

California Ridge will be using 134 GE 1.6-100 turbines in the Project area. Of these, 30 will be in Champaign County. The remaining turbines will be in Vermilion County. The turbine model being considered for the Project is a three-bladed, upwind, horizontal-axis wind turbine (Figure 4-1). The turbine rotor and nacelle are mounted on top of a tubular tower. The machine employs active yaw control (designed to steer the machine with respect to the wind direction), active blade pitch control (designed to regulate turbine rotor speed), and a generator/power electronic converter system from the speed variable drive train concept. A detailed description of turbine design is included in the brochures found in Appendix A. All electrical turbine components shall conform to applicable local, state, and national codes, and relevant national and international standards (e.g. ANSI and International Electrical Commission).

Section 9.1.11.D of the Champaign County Zoning Ordinance, as amended (the "Zoning Ordinance"), provides that:

Any other provision of this ordinance notwithstanding, the BOARD or GOVERNING BODY, in granting any SPECIAL USE, may waive upon application any standard or requirement for the specific SPECIAL USE enumerated in Section 6.1.3 Schedule of Requirements and Standard Conditions, to the extent that they exceed the minimum standards of the DISTRICT, except for any state or federal regulation incorporated by reference, upon finding that such waiver is in accordance with the general purpose and intent of this ordinance, and will not be injurious to the neighborhood or to the public health, safety and welfare.

In accordance with that provision, California Ridge hereby requests that the Champaign County Board (the "Board") waive the requirement of §6.1.4.D.9. of Champaign County Ordinance No. 848 (the "Wind Farm Ordinance"), which requires that:

All WIND FARM TOWERS must be protected from unauthorized climbing by devices such as fences at least six feet high with locking portals or anti-climbing devices 12 feet vertically from the base of the WIND FARM TOWER.

This application for a waiver of the above requirement is based on several factors:

The GE 1.6-100 turbines submitted in this permit application are freestanding, monopole tubular steel towers with a diameter of approximately 15 feet. Each tower would consist of five sections manufactured from steel plates. All surfaces are sandblasted and multiple layers of coating are applied for protection against corrosion. Access to the turbine is through a lockable steel door at the base of the tower. Rather than having a steel lattice structure, these wind turbines have a smooth, solid steel structure. Requiring anti-climbing devices and fences on a monopole tubular structure which is only accessible through a lockable steel door is both duplicative and unnecessary.

For all of these reasons, California Ridge requests that the Board grant it a waiver from the requirements of §6.1.4.D.9 of the Wind Farm Ordinance.

California Ridge will comply with all applicable county, state, and federal regulatory requirements, as well as applicable and appropriate industry standards. California Ridge will submit documentation from the turbine manufacturer demonstrating that the turbines used in the Project are manufactured in compliance with such standards. The turbines will be new and will not be experimental or prototype equipment. California Ridge will submit a final site layout prior to requesting building permits when equipment is selected and wind site optimization and micrositing are completed.

Rotor

The rotor consists of three blades mounted to a rotor hub. The rotor blades are constructed of fiberglass and epoxy or polyester resin. The hub is attached to the nacelle, which houses the gearbox, generator, brake, cooling system, and other electrical and mechanical systems. The Project will use a 100-meter (328-foot) rotor diameter with a rotor swept area of 7,853 square meters (84,539 square feet). All turbine rotors will rotate in the same direction.

The electrically actuated individual blade pitch systems act as the main braking system for the wind turbine. Braking under normal operating conditions is accomplished by feathering the blades out of the wind. Any single feathered rotor blade is designed to slow the rotor, and each rotor blade has its own back-up battery bank to provide power to the electric drive in the event of a grid line loss.

The turbine is also equipped with a mechanical brake located at the output (high-speed) shaft of the gearbox. This brake is only applied immediately on certain emergency-stops (E-stops). This brake also prevents rotation of the machinery as required by certain service activities.

Tower

The tower is a self-supporting, tubular steel tower, white in color, with a hub height of 100 meters (328 feet). The nacelle is mounted on the turbine towers, which consist of five sections manufactured from steel plates. All welds are made in automatically controlled power welding machines and are ultrasonically inspected during manufacturing per American National Standards Institute specifications. All surfaces are sandblasted and multi-layer coated for protection against corrosion. The tower has no external flanges or ladders and is designed so that it cannot be climbed from the outside. Access to the turbine is through a lockable steel door at the base of the tower. No appurtenances will be connected to any tower except in accordance with the county zoning ordinance.

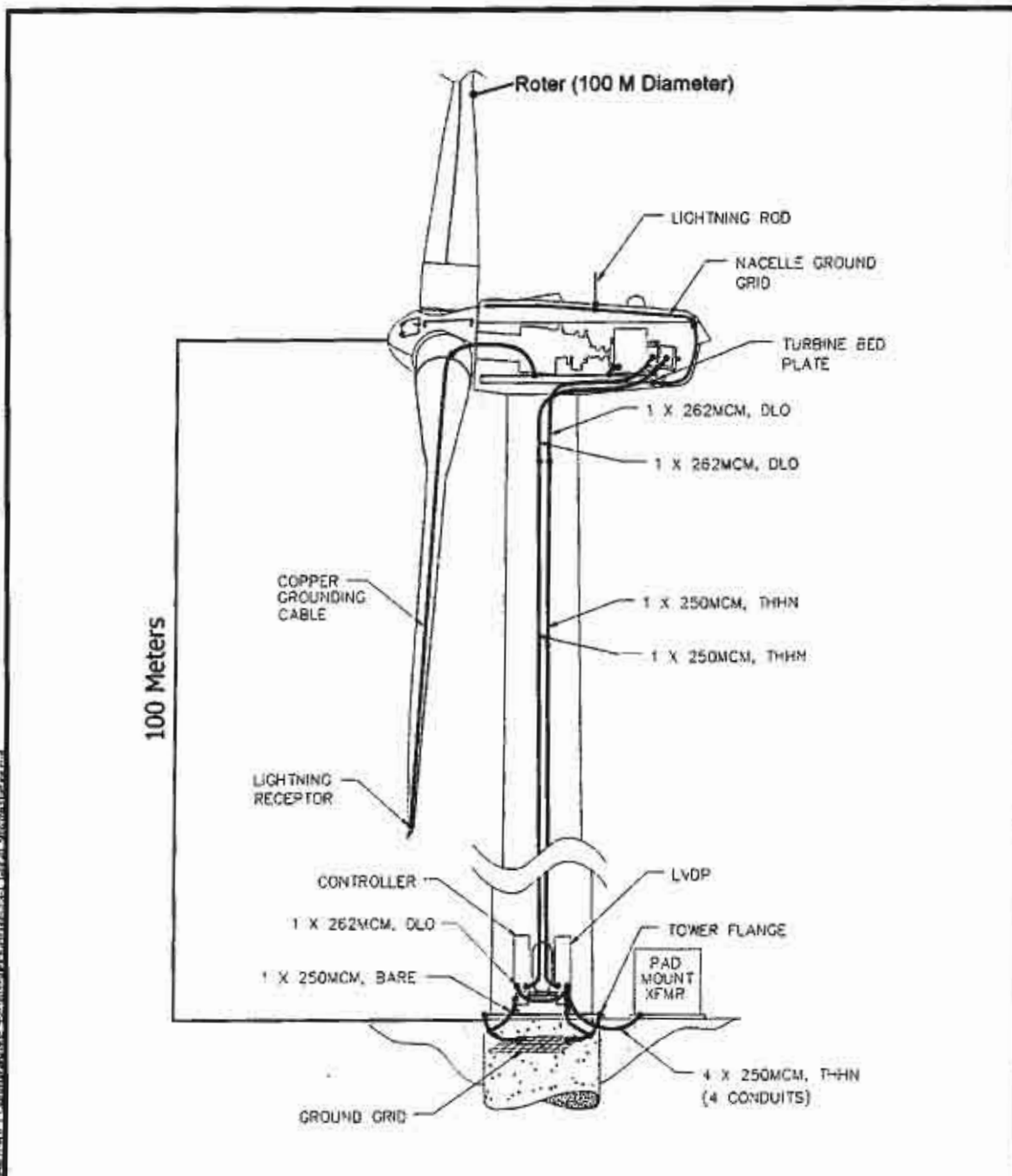
Foundation Design

Each freestanding tubular wind tower will be connected by anchor bolts to an underground concrete foundation. Geotechnical surveys and turbine tower load specifications will dictate final design

parameters of the foundations. The foundation design will be engineered for the turbine type, site soils, and subsurface conditions at each turbine location. A common foundation design is a spread-footing type foundation which is typically an octagon approximately 18 to 19 meters (59 to 62 feet) in diameter with an approximate 1-meter (3- to 4-foot) pedestal, rebar, and anchor bolts. Figure 4-2 shows a typical wind turbine foundation that may be used for California Ridge, depending on ground-water conditions.

4.1.2 ENGINEER'S CERTIFICATE

Certified wind turbine tower and foundation design drawings and calculations, stamped by a professional engineer registered in the State of Illinois, will be provided to Champaign County following the granting of the permit approval. This detailed design typically occurs during the project design phase, usually several months prior to the beginning of construction. This foundation design takes into account the loadings for the specific turbine being used, in conjunction with site-specific geotechnical and soil conditions and requirements.



Note: Referenced image from Technical Documentation, Wind Turbine Generator Systems, GE 1.5MW.

Invenergy HDR

Figure 4-1
 Typical Wind Turbine Generator
 California Ridge
 Wind Energy Project
 Champaign County, Illinois

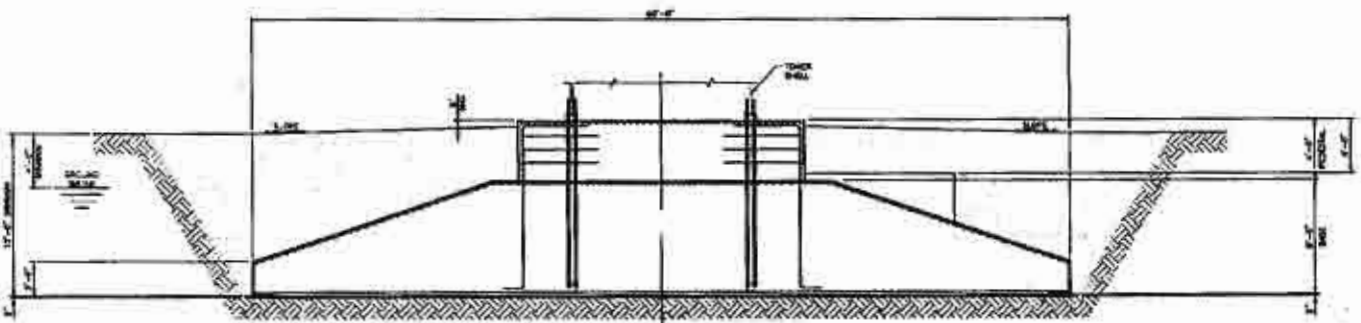


Figure 4-2
Typical Wind Turbine Foundation
California Ridge
Wind Energy Project
Champaign County, Illinois

Invenergy HR

4.2 WIND FARM CONSTRUCTION

4.2.1 CONSTRUCTION ACTIVITIES

Several activities must be completed prior to the proposed commercial operation date. The majority of the activities relate to equipment ordering lead-time, as well as design and construction of the facility. Preconstruction, construction, and post-construction activities for the Project include:

- Ordering all necessary components, including wind turbine generators, foundation materials, electrical cable, and transformers
- Final turbine micrositing
- Complete ALTA survey to establish locations of structures and roadways
- Soil borings, testing, and analysis for proper foundation design and materials
- Complete construction of access roads, to be used for construction and maintenance
- Installation of tower foundations
- Installation of underground cables
- Design and construction of Project substation
- Tower placement and wind turbine setting
- Commissioning of wind turbines
- Commencement of commercial operation

Access roads will be built adjacent to the towers, allowing access both during and after construction. The roads will be approximately 4.9 meters (16 feet) wide and have gravel as cover, adequate to support the size and weight of maintenance vehicles. The specific turbine placement will determine the amount of roadway that will be constructed for this Project.

During the construction phase, several types of light, medium, and heavy-duty construction vehicles will travel to and from the site. Private vehicles will also be used by construction personnel. At this time, California Ridge estimates that there will be 75 large truck trips per day and up to 200 small-vehicle (pickups and automobiles) trips per day in the area during peak construction periods. Of the 75 large truck trips, approximately 20 are expected to be wind turbine component deliveries. The balance is made up of concrete, aggregate, and miscellaneous delivery trucks. Construction is expected to take between 9 and 12 months with the peak construction period lasting 4 to 6 months. These numbers are currently being refined as part of a Traffic Impact Analysis that California Ridge is preparing as part of the proposed Roadway Use and Repair Agreement between California Ridge, the County Engineer, and the Township Road Commissioners. The peak volume will occur when the majority of the foundation and tower assembly is taking place. At the completion of each construction phase, this equipment will be removed from the site or reduced in number. Figure 4-3 shows the planned township and county roads expected to be used during Project construction. The Road Use Plan is being finalized with the County Engineer and the Township Road Commissioners.

4.2.2 CIVIL WORKS

Completion of the Project will require various types of civil works and physical improvements to the land. These civil works include:

- Improvement of existing county and township roads at no cost to Champaign County or Ogden and Compromise townships, to deliver materials and components to the Project area
- Improvement of existing access roads to the Project area
- Construction of roads adjacent to the wind turbine strings to allow construction and continued servicing of the wind turbines
- Clearing and grading for wind turbine tower foundation installations
- Trenching for underground cabling to connect the individual wind turbines.

Any improvements to existing access roads will consist of re-grading and filling of the gravel surface to allow access during inclement weather. No asphalt or other paving is anticipated for access roads. Access road routing is being designed in consultation with each landowner and will be completed in accordance with local building requirements. Access roads will be located to facilitate both construction (cranes) and continued operation and maintenance. Siting roads in areas with unstable soil or wetland areas will be avoided.

All roads will include appropriate drainage and culverts while still allowing for the crossing of farm equipment. The roads will be approximately 4.9 meters (16 feet) wide and will be covered with road base designed to allow passage under inclement weather conditions. Once construction is completed, the roads will be re-graded, filled, and dressed as needed.

Temporary disturbances during construction of the Project include crane pads at each turbine site, temporary travel roads for the cranes, and temporary turning radii at certain county and township road intersections, temporary laydown areas around each turbine, trenching for the underground electrical collection system, and storage/stockpile areas. Construction of the GE turbine will include temporary impacts of approximately an additional 12 feet of roadway on either side of the permanent roadway (40-foot total width), a 40-foot by 120-foot gravel crane pad extending from the roadway to the turbine foundation, which will be graded to a minimum of 1 percent, and a 150-foot diameter rotor laydown area centered around the turbine foundation which will be graded to a minimum of 5 percent.

4.2.3 COMMISSIONING

The Project will be commissioned after completion of the construction phase. The Project will undergo detailed inspection and commissioning procedures. Inspection and commissioning occurs for each component of the wind turbines, as well as the communication system, meteorological system, high voltage collection and feeder system, and the SCADA system.

4.2.4 COMPLAINT HOTLINE

Prior to beginning construction, California Ridge will establish a telephone number hotline for the general public to call with any questions, comments, or complaints. The hotline will be available throughout the entire term of the County Board Special Use Permit and any extension. The telephone number will be publicized and posted at the O&M facility. The hotline will be manned during usual business hours. All complaints will be logged with the caller's name, address, and reason for calling. All calls will be recorded and those recordings will be kept for a minimum of two

years. California Ridge will take all necessary measures to resolve all legitimate complaints. A copy of the telephone number hotline shall be provided to the Zoning Administrator on a monthly basis.

4.3 PROJECT SCHEDULE

4.3.1 LAND ACQUISITION

California Ridge will be responsible for all land acquisition, and will obtain the necessary easements from landowners. All required land easements for the Project, including all necessary access easements and utility easements, will be obtained prior to construction.

4.3.2 PERMITS

California Ridge will be responsible for undertaking all required review, and will obtain all permits and licenses that are required following issuance of the Champaign County Special Use Permit. California Ridge anticipates that the Special Use Permit will expire in 10 years from time of Special Use Permit approval if no Zoning Use Permit is granted as per section 6.1.4 R of the Champaign County Zoning Ordinance; provided, however, such ten (10) year period shall be extended by any time periods necessary to resolve (i) any third party appeals of such County Board approval or (ii) any litigation that enjoins or otherwise effectively prevents California Ridge from completing construction under the Champaign County Special Use Permit. Copies of permits and licenses for the Project from federal, state, county, and municipal agencies can be supplied to Champaign County if required.

4.3.3 CONSTRUCTION ACTIVITIES

The California Ridge construction contractors will be responsible for completing all Project construction, including roads, wind turbine assembly and erection, electrical, and communications work. The construction will take approximately 9 to 12 months to complete, and is planned to begin in fall 2011. California Ridge shall maintain a current general liability policy covering bodily injury and property damage with limits of at least \$5 million per occurrence and \$5 million in the aggregate. The same shall apply to all contractors and subcontractors during the construction process. The general liability policy shall identify landowners in the Special Use Permit as additional insured. Proof of such insurance shall be kept current and on file at the County Board office.

4.3.4 EXPECTED COMMERCIAL OPERATION DATE

California Ridge anticipates that the Project will begin commercial operation prior to the end of December 2012.

4.3.5 OPERATION AND MAINTENANCE

California Ridge will be responsible for the operation and maintenance (O&M) of the wind farm. Invenergy Services will perform the O&M services at the time of operation. California Ridge will provide reports of annual inspections by qualified wind power professionals to the Champaign County Environmental and Land Use Committee.

California Ridge will control, monitor, operate, and maintain the Project by means of the SCADA system. In addition to regularly scheduled on-site visits, the wind farm may be monitored via computer. Any physical modification to the wind turbine that alters the mechanical load, mechanical load path, or major electrical components shall be recertified by the Champaign County Zoning Ordinance. Authorization for modification will be granted by the Champaign County

Environmental and Land Use Committee and a relevant third party certifying entity in accordance with the Champaign County Zoning Ordinance subparagraph 6.1.4.D.1 (a).

4.3.6 DECOMMISSIONING AND RESTORATION

California Ridge has a contractual obligation to the landowners to remove the wind turbines and foundations per the decommissioning plan when the wind easements expire. At the end of the Project's useful life, California Ridge expects to explore alternatives to decommissioning the Project. One such option may be to retrofit the turbines and power system with upgrades based on new technology.

In accordance with Champaign County's wind ordinance, California Ridge has prepared a decommissioning plan to be used in the event it removes the wind facilities (Appendix B), which provides for decommissioning within 6 months of the end of the Project's life or abandonment. The decommissioning plan states how the facility will be decommissioned, provides the structural engineer's estimate of the cost of decommissioning, and describes the financial resources that are available to pay for decommissioning.

In summary, the decommissioning plan states that California Ridge will be responsible for all costs to decommission the Project. Based on estimated costs of decommissioning and the salvage value of decommissioned equipment—which is the estimate used by a structural engineer—the salvage value of the wind farm will be less than the cost of decommissioning. Per industry standards, decommissioning costs are estimated to be approximately \$98,000 per turbine in current dollars. The current scrap steel price is approximately \$380 per ton, based on the June 2011 *steelonthenet.com* report. Given that market values fluctuate and the price of steel historically has shifted from \$106 to \$455 per ton, turbine salvage values can range between \$40,688 and \$174,785. However, internal turbine components and generators can also be salvaged for resale and reuse. Therefore, the salvage or resale value of each turbine is estimated to be \$180,785. This does offset the anticipated decommissioning costs.

California Ridge's easement agreements with each landowner provide that the foundations (down to three feet) and wind turbines be removed at the end of their useful life. The easement agreement includes a provision that, in the event that the Project is unable to meet its obligations to decommission the wind turbines and foundations, a decommissioning fund will be established during the fifteenth year of the Project, and will be held in escrow for the benefit of landowners. Any decommissioning security requirement by the county that exceeds these terms will be implemented and will supersede these terms.

Site decommissioning and restoration will involve removal of towers, turbine generators, transformers, foundations, buildings, and ancillary equipment up to a depth of 3 feet below grade. All access roads will be removed unless the affected landowner provides written notice that the road or portions of the road shall be retained. Additionally, any disturbed surface shall be graded, reseeded, and restored as nearly as possible to its preconstruction condition.

5.0 ENVIRONMENTAL ANALYSIS

5.1 DESCRIPTION OF THE ENVIRONMENTAL SETTING

The Project is located in an area that is predominantly rural with an agricultural-based economy. Corn and soybeans are the predominant crops. The landscape in the Project area is relatively flat with gently rolling hills.

5.2 NOISE

Section IX of the Ordinance requires that noise levels from each WECS or WECS Project be in compliance with applicable Illinois Pollution Control Board (IPCB) regulations. IPCB regulations (Illinois Rules Title 35: Environmental Protection, Subtitle H: Noise, Chapter I: Pollution Control Board, Part 901 – Sound Emissions Standards and Limitations for Property Line Noise Sources) limit maximum allowable noise emissions. Table 5-1 presents the maximum allowable noise emissions of a Class C (commercial and industrial) land use to a Class A (residential) land use.

**Table 5-1
Allowable Octave Band Sound Pressure Levels (dB) of Sound Emitted to any
Receiving Class A Land from Class C Land**

| Time of Day | Octave Band (dB) | | | | | | | | |
|-------------|------------------|-------|--------|--------|--------|---------|---------|---------|---------|
| | 31.5 Hz | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |
| Daytime | 75 | 74 | 69 | 64 | 58 | 52 | 47 | 43 | 40 |
| Nighttime | 69 | 67 | 62 | 54 | 47 | 41 | 36 | 32 | 32 |

The most stringent IPCB limitations apply to noise emitted to receiving properties that contain residential uses. The analysis results described below demonstrate that noise from a GE 1.6-100 wind turbine does not exceed the noise limits in Title 35 of the Illinois Rules. California Ridge will comply with the IPCB noise regulations. California Ridge hereby certifies such compliance.

5.2.1 DESCRIPTION OF RESOURCES

In May 2009, HDR measured existing noise levels at two locations in the Project area within Champaign County for 24 hour periods. HDR selected monitoring locations by reviewing digital aerial photographs of the Project area and identifying areas where the ambient acoustical environment appeared to be representative of the Project area (see Appendix A in Appendix C).

The noise monitoring data represent the ambient acoustic environment of rural, agricultural areas in the Project area that were generally expected to have quiet ambient daytime and nighttime noise levels. However, existing noise levels at all monitoring sites exceed nighttime maximum allowable noise limits in a total of seven octave bands (125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz). Existing ambient noise levels (L_{eq}) ranged from 34 to 62 dBA. Daytime background noise levels were dominated by vehicular traffic and natural sources. Nighttime background noise levels were generally dominated by natural sources. Details of the noise monitoring are included in Appendix C.

5.2.2 INVENERGY CALIFORNIA RIDGE NOISE ANALYSIS

Project-related noise was evaluated using the Cadna-A model. Modeling results were combined with monitoring data, and compared with maximum allowable noise levels under Illinois Rules. The

monitoring, modeling, and compliance determinations were applied on a spectral basis, i.e. to each of the eight frequency octave bands that comprise the applicable Illinois regulation (Illinois Rules Title 35: Environmental Protection, Subtitle H: Noise, Chapter I: Pollution Control Board, Part 901 – Sound Emissions Standards and Limitations for Property Line Noise Sources). The conclusions of this analysis are summarized below (see Appendix C, Invenergy California Ridge Noise Analysis, for full report).

5.2.3 IMPACTS

Operation Noise

When in motion, wind turbines emit a perceptible sound. Sound is generated from the wind turbine at points near the hub or nacelle (100 meters [328 feet] above the ground), and at the blade tip during blade rotation. Therefore, for modeling purposes, the noise source could be considered to be spherical. The noise level varies with the speed of the turbine, environmental conditions, and the distance of the listener from the turbine.

GE published sound power emission levels for their GE 1.6-100 turbine, as shown in Table 5-2. This data is representative of the sound power levels from the GE 1.6-100 turbines expected to be used for this Project. Noise emissions for maximum operating conditions were evaluated based on spectral noise emissions at 14 m/s, which is modeled at the hub height.

Table 5-2
Sound Power Emissions from GE 1.6 GE 1.6-100 xle MW Turbine

| Model number | Octave Band Sound Power (dB) | | | | | | | | |
|--------------------|------------------------------|-------|--------|--------|--------|---------|---------|---------|---------|
| | 31 Hz | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz |
| GE 1.6-100 Turbine | 82.5 | 92.2 | 95.9 | 95.2 | 95.5 | 99.9 | 99.3 | 90.5 | 71.6 |

General Electric's sound power levels were based on the results in which a GE 1.6-100 turbine was tested at a 14 m/s (31 mile/hour) wind speed (at the hub height), the wind speed that produces the loudest manufacturer stated noise level. Therefore turbine noise emission levels produce a conservative analysis and overestimate turbine noise levels during lower wind conditions. Newer generation turbines, such as the GE 1.6-100, use variable speed rotors that produce lower levels of aerodynamic noise at low wind speeds, as opposed to previous generations' constant-speed designs, which generate the same amount of noise regardless of wind speed. Given this, older designs tend to be more audible during low wind conditions. This conservative modeling ensures that turbine noise levels are not under-predicted.

Cadna-A, an acoustical analysis software package designed for evaluating environmental noise from stationary and mobile sources, was used to evaluate Project-related noise. Cadna-A is a three-dimensional noise model based on ISO 9613, "Attenuation of Sound during Propagation Outdoors," adopted by the International Standards Organization (ISO) in 1996. This standard provides a widely accepted engineering method for calculating outdoor environmental noise levels from sources of known sound emission.

California Ridge modeled the noise levels from the GE 1.6-100 turbines. Using turbine noise emissions data provided by GE. The modeled noise levels are representative of the levels from the

GE 1.6-100 turbines expected to be used for the Project. A total of 553 receptors (at residences) were modeled for the Project area. A total of 260 receptors identified within Champaign County were modeled for the project. Of these receptors, none were shown to be above noise levels specified by IPCB regulations.

A total of 134 wind turbine generators (the noise sources), each having a hub height of 100 meters were evaluated using Cadna-A. Project-related noise levels were calculated at 553 residences (the noise receivers) within one mile of the Project area. The digital terrain model reproduced the physical terrain of the Project area, encompassing approximately 10,193 acres in Champaign County. Coordinates for the turbine and residence locations, as well as the terrain contours, were obtained from the geographic information system (GIS) database created for this Project. Modeling results were compared with maximum allowable noise levels under Illinois Rules. The monitoring, modeling, and compliance determinations were applied on a spectral basis, that is, to each of the eight frequency octave bands that comprise the applicable IPCB regulations. A summary of the results of this analysis are below and the report is attached as Appendix C. In summary:

- Existing ambient noise levels (L_{eq}) were measured within the Project area and ranged from 34 to 62 dBA.
- Existing noise levels exceed daytime maximum allowable noise limits in a total of four octave bands (500 Hz, 1 kHz, 2 kHz, and 4 kHz).
- Existing noise levels at all monitoring sites exceed nighttime maximum allowable noise limits in a total of eight octave bands (63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz).
- Daytime analysis results indicate that noise from 134 wind turbines are at least 7 dB below the maximum allowable noise limit in all octave bands at all noise-sensitive receivers within 1 mile of the Project area.
- Nighttime analysis results indicate that noise from 134 wind turbines are at least 1 dB below the maximum allowable noise limit in all octave bands at all noise-sensitive receivers within 1 mile of the Project area.

5.2.4 MITIGATION MEASURES

Due to technological advancements in design, noise levels for today's generation of wind turbines are lower than that of their predecessors, especially at high wind speeds. Furthermore, the character of noise produced is more broadband in nature and largely absent of tones or impulsive qualities. In any event, any noise generated by during Project operation will be in compliance with IPCB limits.

5.3 SHADOW FLICKER

As wind turbine blades rotate, they can cast a shadow on the ground and objects below. A strobe effect can occur where the shadow of the rotating blades cause rapid changes in light intensity. These rapid changes in light intensity can be troublesome when they affect a sensitive receptor, such as the windows of residences. Shadow flicker can occur if a turbine is located near a home and the home is in a position where the moving blade shadow is cast upon the residence. Obstacles, such as trees or buildings, between the wind turbine and a potential shadow flicker receptor can reduce or eliminate the effects. Changes in elevation can either reduce or increase the effects.

No shadow flicker occurs on overcast days, or when the turbine rotor and blades are not rotating, such as when winds are calm. Because the wind turbine is designed to turn and face into the wind,

shadow flicker is less pronounced when the wind direction is perpendicular to the direction of the wind turbine, as viewed from the receptor. By contrast, the shadow flicker is more pronounced during sunlight hours when the wind blows from a direction near parallel with a line between the wind turbine and the receptor.

The rate of changes in light intensity is a function of the rotational speed and the number of blades on the rotor. This rate, or "blade pass frequency," is measured in cycles per second, or Hz. Each complete change in light intensity, from the beginning of one shadow to the beginning of the next shadow, is considered one cycle.

California Ridge proposes to use wind turbines having three blades that are designed to operate at between 10 and 20 rpm. For this range of rotational speeds, the blade pass frequency would range from 0.5 to 1.0 cycle per second.

Areas most likely to experience shadow flicker would be those to the east and the west of the turbine tower locations. The number of hours per year during which shadow flicker could occur decreases as distance from the turbine increases, even for residences that are located to the east and west of the turbines. There are three reasons why this is so:

- As the season passes from winter to summer, the shadow angles at sunrise and sunset move from north to south. Since this angle changes, a residence further from the turbine would most likely experience shadow flicker only during a few days per year.
- As the sun rises or sets, the turbine shadow length changes rapidly, so that a residence farther from the turbine location would experience shadow flicker for only a short time during the day.
- A discernable shadow forms or dissipates within 15 to 45 minutes of sunrise or sunset, depending on sky conditions.

Figure 5-1 illustrates the shadow effect in the Project Area. Appendix G shows the results of a shadow flicker analysis of the current project layout.

The expected hours of shadow flicker per year were calculated for 333 receptors in the vicinity of California Ridge Wind Farm Project. The results of the shadow flicker modeling show that the impacts on nearby receptors are expected to be minor, with all homes experiencing less than 30 hours of shadow flicker during the summer and winter months. The majority of flicker will occur during work hours when residents are not as likely to be at home.

It should also be noted that the shadow flicker modeling software package employs several conservative assumptions. The model assumed that all receptors have a direct in-line view of incoming shadow flicker ("Green House" mode), when in reality, windows will not always be facing the sun when shadow flicker is expected to occur. The model did not consider the effects of screening (such as trees or buildings), distance to turbine, and other factors that will influence shadow intensity. As a result, the actual impact of shadow flicker on the receptors will likely be less than that suggested by these results and so shadow flicker is not expected to be a significant environmental concern at this site.

5.3.1 MITIGATION MEASURES

As part of the final micrositing, turbines will be sited to reduce the effect of shadow flicker on nearby residences.

5.4 PUBLIC SERVICES AND INFRASTRUCTURE

5.4.1 DESCRIPTION OF RESOURCES

The Project is located in a lightly populated, rural area in east-central Illinois. There is an established transportation and utility network that provides access and necessary services to the light industry, small villages, homesteads, and farms existing near the Project area. No villages, towns, or cities are located within the Project area. The Village of Royal is located within 1 mile of the Project area, but no turbines are located within 1.5 miles of the village. The villages of Ogden, Royal, and Gifford are located within 5 miles the Project area.

While many of the surrounding municipalities provide water and sanitary services within their boundaries, these services are unavailable within the Project area. Fire protection in the Project area is provided by volunteer fire protection districts in Fithian, Ogden/Royal, and Oakwood. Once the layout is finalized, California Ridge will meet with each of the volunteer fire protection districts that serve the Project area to discuss the Project's health and safety matters and provide them with a copy of the site plan.

The larger surrounding cities provide police, fire, and emergency medical services for other villages in the Project area. The townships affected by the Project have limited public infrastructure services, which is typical of most townships. Homes typically use private septic systems and water wells for their household needs.

The Chicago and Eastern Illinois railroad runs diagonally from northeast to southwest through the eastern portion of the Champaign County portion of the Project. See Figure 3-1 and Figure 3-2.

Electrical Service

The primary utility corridors running through the Project area are local distribution lines. Several high voltage transmission lines run generally north/south and west from the Dynegy Power Station, located in Vermilion County, in the southeast corner of the Project area (Figure 5-2). The proposed overhead transmission line will be located in Vermilion County.

5.4.2 MATERIALS HANDLING, STORAGE, AND DISPOSAL

Solid waste generated on site related to the construction, operation and maintenance of the facility will be removed from the site promptly and disposed of in accordance with all federal, state, and local laws. Additionally, all hazardous materials related to the construction, operation, and maintenance of the facility will be handled, stored, transported and disposed of in accordance with all applicable local, state, and federal laws.

Refer to Section 5.9 for information regarding hazardous materials.

5.4.3 ROADS

County and township roads that run coincident with section lines characterize the majority of the existing roadway infrastructure in and around the Project area. State Highway 49 runs north/south through the middle of the Project area. The existing traffic volumes on the area's roadways are documented in Table 5-3. For purposes of comparison, the functional capacity of a two-lane paved rural highway is in excess of 5,000 vehicles per day, or average daily traffic (ADT). The highest existing ADT in or near the Project area is along State Route 49, which carries 1,650 ADT. California Ridge is currently in negotiations to finalize a comprehensive Roadway Use and Repair Agreement (Appendix I) with the county engineers and township road commissioners in the Project area. The Roadway Use and Repair Agreement will ensure that California Ridge modifies county and township roads as needed to accommodate construction equipment, and repairs any damage to those roads and is a requirement for Project construction activities.

Table 5-3
Existing Daily Traffic Levels

| Roadway Intersection Description Champaign County, Illinois | Existing Average Annual Daily Traffic |
|--|--|
| Along State Route 49 | |
| Between Interstate 74 and US Route 136 | 1,650 |
| Along Penfield Road | |
| Between Hensley Road and County Road 2500 N | 950 |
| Along County Road 2500 N | |
| Between State Route 49 and Country Road 2400 E | 175 |
| Along County Road 2700 N | |
| Between State Route 49 and County Road 2500 E | 75 |

Source: Illinois Department of Transportation, NAVTEQ 2009

5.4.4 SEWER AND WATER

The Project will comply with all septic and well regulations required by the County Health Department and the Illinois Department of Public Health. The Project will not include the installation of a septic system, except at the O&M facility, which will be located in Vermilion County. The contractor will supply portable sanitary facilities for site personnel during construction. Once commercial operation begins, there will be no need for permanent sanitary facilities, except at the O&M facility.

The Project does not include the installation of any wells, except at the O&M facility. As noted below, if it is necessary to abandon any existing wells, they will be capped as required by applicable regulations.

5.4.5 IMPACTS

The Project is expected to have a minimal effect on the existing infrastructure. The following is a brief description of impacts that may occur during the construction and operation of the Project.

- **Railroad.** Construction of the Project is not anticipated to affect the use of the Chicago and Eastern Illinois railroad. California Ridge will coordinate with the railroad owner/operator to

obtain any easements required to cross the railroad and to ensure that the collection system and access roads do not interfere with the railroad.

- **Electrical Service.** Construction of the Project will add up to 134 wind turbine generators, a pad-mounted transformer at the base of each turbine, an underground electrical collection system (34.5 kV), and a Project substation (138 kV/34.5 kV) which will be located in Vermilion County. At the Project substation, the electric voltage will be stepped up to 138 kV, and travel to the POI where it will enter the high voltage grid. Additionally, a new breaker will be installed at the existing substation in the Ameren substation near the Vermilion Power Plant.
- **Roads.** Constructing the Project will require the addition of gravel access roads connecting each turbine to local roads. Construction will also require upgrade of certain township and county roads, at no cost to the county or townships, to meet the expected material loads and equipment delivery needs. In addition, during operation of the Project, the access roads will be used by O&M crews while inspecting and servicing the wind turbines. The access roads may be between towers, offset as necessary to allow for adequate crane access. The roads will be approximately 4.9 meters (16 feet) wide and low profile to allow cross-travel by farm equipment. California Ridge will work closely with the landowners to locate these access roads to minimize land-use disruptions to the extent possible. Additionally, California Ridge is working to establish a Roadway Use and Repair Agreement (Appendix H) with the township road commissioners and county engineers to ensure county and township roads are repaired if they are damaged during construction.

California Ridge estimates that there will be 75 large truck trips per day and up to 200 small-vehicle (pickup and automobile) trips per day in the area during peak construction periods. The maximum construction workforce is expected to generate approximately 275 additional vehicle trips per day. Using any combination of county highways and roads throughout the Project area, the traffic impacts are considered negligible. The traffic projections for construction will not significantly impact public health and safety because the local roads are designed to carry more than 275 additional trips per day.

Truck access to the Project area is generally provided by State Highway 49 and other various state and county routes. Specific additional truck routes will be dictated by the location required for delivery. Additional operating permits will be issued by the county for over-sized truck movements.

- **Water Supply.** Construction and operation of the Project will not significantly affect the water supply. The installation or abandonment of any wells is not required for the Project, with the exception of one well that will likely be installed at the O&M facility. However, in the event wells are abandoned, they will be capped as required by applicable regulations. In the event a temporary concrete batch plant is located within the Project area, a separate permit will be required from the applicable county. At this time, California Ridge is not requesting a permit for a well to serve a concrete batch plant. The Project will not require appropriation of surface water or dewatering. It is likely that the Project will require a single domestic-sized well for the O&M facility, which will be located in Vermilion County.

- **Telephone and Fiber Optic.** Construction and operation of the Project will not negatively affect the telephone and/or fiber optic service to the Project area. The Illinois Joint Utility Locating Information for Excavators system, known as J.U.L.I.E., will be contacted prior to construction to locate and avoid underground facilities. To the extent Project facilities cross or otherwise affect existing telephone or fiber optic lines or equipment, California Ridge will enter into agreements with service providers to avoid interference with their facilities.

5.4.6 MITIGATION MEASURES

Construction and operation of the Project will be in accordance with all applicable federal and state permits and laws, as well as industry construction and operation standards. California Ridge will enter into a comprehensive Roadway Use and Repair Agreement with Champaign County and townships for construction of the Project. The Roadway Use and Repair Agreement will ensure that California Ridge modifies county and township roads as needed to accommodate construction equipment, and repairs any damage to those roads resulting from Project construction activities. Due to the minor impacts expected to the existing infrastructure during Project construction and operation, extensive mitigation measures are not anticipated.

California Ridge will develop a project-specific Environmental Health and Safety Manual (EHS Manual) that conforms to federal Occupational Safety and Health Administration (OSHA) regulations.

During construction of the Project, contractors are required to develop their own Emergency Response Plans and training programs for their employees. In addition to the EHS Manual, California Ridge will develop a separate Project Emergency Response Plan which will specify how to respond to a host of emergency situations. Employees will be trained to respond to emergency situations and this training will be offered to the local fire districts. California Ridge is also working directly with each of the four volunteer fire protection districts to determine if additional training, equipment, or funding is needed to enable them to respond to emergency situations on the wind farm.

5.5 TELEVISION, RADIO, AND TELECOMMUNICATIONS INTERFERENCE

This section assesses the potential for interference with various types of communication, including telecommunications and broadcast communication. California Ridge contracted with Comsearch, a communications consultant, to evaluate the potential effect of the Project on existing nonfederal government microwave telecom systems.

5.5.1 DESCRIPTION OF RESOURCES

Microwave Paths

California Ridge hired Comsearch to identify microwave telecom systems that traverse the Project area. Using Wind Power GeoPlanner software, the firm made a geographical representation of registered fixed microwave paths in the 900 megahertz (MHz) to 23 gigahertz (GHz) frequency band range.

Because microwave communication is a line-of-sight technology, any interference with microwave telecom signals can be avoided by locating wind turbines outside of the microwave communications profile. Comsearch calculated a Worst Case Fresnel Zone (WCFZ) for each of the microwave paths

in the area. The middle of the path is where the widest (the worst case) Fresnel Zone appears. The affected paths were then overlaid on topographic base maps for the Project area.

The report shows that there is one microwave path that intersects the Project boundary in Champaign County. There are eight total microwave paths within approximately five miles of the entire Project area. These are shown on Figure 5-3. Because federal law does not permit interference with registered or licensed microwave pathways, California Ridge will position the turbines outside the existing WCFZ to avoid any interference. Some typical size relationships are provided below:

- Microwave antenna height is 25 meters-plus (82 feet) and antennas are typically located on water towers, television towers, building roofs, and shared commercial towers.
- The width of the WCFZ for 2.1 GHz is approximately 37 meters (121 feet).
- The width of the WCFZ for 6.7 GHz is approximately 16 meters (52 feet).
- The width of the Project area is approximately 23,400 meters (14 miles).

Television

California Ridge has committed to resolve television interference problems by improving the affected antenna, changing the antenna location, or installing relays to re-transmit and boost the affected signal. Installing satellite television is another option. Television reception issues will be dealt with on a case-by-case basis by working with any affected residents to identify the best solution.

California Ridge will work with local broadcasters to address any complaint that occurs after construction of the Project. As stated previously, California Ridge will resolve any issues with television reception on a case-by-case basis.

Cellular and Two-way Radio

There is no evidence that wind turbines interfere with individual cell phones or two-way radio communication. In fact, turbine maintenance personnel often use cell and radio equipment in the performance of their work. The turbines are not likely to introduce problems with two-way radio if the towers are not adjacent to the microwave transmitting and/or receiving antennas. In some areas, cell phone antennas are installed on turbine towers.

Wireless Internet

Wireless communication has become an indispensable tool for providing data communications in a variety of industries. Point-to-multipoint links are frequently used to connect a central tower or "master" site to a group of subscriber devices. A common application of this arrangement is broadband internet service. Point-to-point (PTP) wireless links typically connect one or more towers or connect a tower to a network operation center, which provides access to fiber-optic or other communications media. PTP links are found in a wide range of sectors, from public safety to telecommunications to utilities. Wireless system reliability and performance is strongly affected by the strength of an incoming signal. To maximize signal strength, links are usually designed with a clear line-of-sight between antennae.

Some of the new wireless Internet providers choose not to register with the Federal Communications Commission (FCC) and they may be at risk. Non-FCC registered service providers may need to provide some additional information about their microwave network to the Project staff to minimize potential interference with their signal paths.

There is one registered FCC land mobile tower located within the Champaign County Project area. Four additional FCC land mobile towers are located outside the Project area near Royal, and a telecommunication/microwave tower is located just north of the Project boundary along Highway 49 (Figure 5-3).

5.5.2 MITIGATION MEASURES

California Ridge will work with any affected landowners within the Project area to remedy any recognized degradation due to the Project, if any, in their television, radio, or broadband wireless internet service that may result from the Project.

California Ridge has submitted the Project location to the National Telecommunications and Information Administration (NTIA) and they have confirmed that no federal agencies identified any concerns regarding blockage of their radio frequency transmissions. All turbine locations have also been submitted to the FAA to verify that their locations will have determinations of no effect.

5.6 PUBLIC HEALTH AND SAFETY

5.6.1 AIR TRAFFIC

The closest public airport is Schmidt Airport, located approximately 3.2 miles west of the Project area. This airport has one runway approximately 2,190 ft in length. Additionally, Rantoul National Aviation Center is 8 miles away, and the University of Illinois-Willard Airport, which is south of Champaign-Urbana, is more than 15 miles southwest of the Project boundary.

Mitigation Measures

California Ridge will light the turbines and meteorological towers to comply with the newest FAA advisory circular (AC70/7460-1K) recommendations for wind turbines approved February 1, 2007. This requires that simultaneously flashing red or white lights be used on turbines at the ends of strings as well as lights approximately every half a mile within strings. The placement of the lights will depend upon the final approval from the FAA.

5.6.2 FIRE PREVENTION AND MITIGATION

The Project will adhere to applicable electrical codes and standards. Fire protection in the Project area is primarily provided by volunteer fire protection districts, including the Fithian, Ogden/Royal, Oakwood, and Bluegrass districts. Training to handle emergency situations if they arise at the site will be provided to the construction crews by experienced contractors. Local fire and ambulance crews will be called to the site to provide emergency medical services. Turbine access roads will increase emergency access to the Project area. All wind turbines have lightning protection and grounding.

California Ridge has met with each of the four volunteer fire protection districts that serve the Project Area to discuss health and safety matters. During construction of the Project, contractors are required to develop their own Emergency Response Plans and training programs for their employees. In addition to the EHS Manual, California Ridge will develop a separate Project Emergency Response Plan which will specify how to respond to a host of emergency situations. Employees will be trained to respond to emergency situations and this training will be offered to the local fire districts.

During operation, the Project will not present a risk of fire. The minimum amount of vegetation will be removed from the vicinity of electrical gear and connections to allow for the safe operation of all electrical equipment associated with the site, while at the same time minimizing the loss of vegetation. The turbines, towers, and other equipment are for the most part metal, and are not easily combustible. All wind turbines will be properly protected from lightning and will be electrically grounded.

5.7 HAZARDOUS MATERIALS

5.7.1 DESCRIPTION OF RESOURCES

California Ridge is not aware of any significant hazardous waste sites within the Project area. The land is primarily rural and used for agriculture. Potential hazardous materials within the Project area will be associated with agricultural activities, and include petroleum products (fuels and lubricants), pesticides, and herbicides. Older farmsteads may also have lead-based paint, asbestos shingles, and Polychlorinated Biphenyls (PCBs) in transformers. Trash and farm equipment dumps are also potential hazards in rural settings.

There will be three types of fluids used in the operation of the wind turbines that are petroleum products. These fluids are necessary for the operation of each turbine and include:

- Gear box oil – synthetic or mineral depending on application (approximately 300 liters)
- Hydraulic fluid
- Gear grease

These fluids will be managed and, if disposal is necessary, disposed of in compliance with the requirements of applicable laws and regulations, including Illinois Administrative Code Title 35, Parts 700-739.

5.7.2 IMPACTS

California Ridge will conduct a Phase I Environmental Site Assessment prior to construction to locate and avoid hazardous waste sites.

All fluids will be contained within the wind turbine structure. There should be no leakage and no need to dispose of fluids (except in the rare case of contamination) over the life of the turbine.

5.7.3 MITIGATION MEASURES

Because there are no proposed impacts to hazardous waste sites, no mitigation measures are necessary. If any wastes, fluids, or pollutants are generated during any phase of Project operation, they will be handled, processed, treated, stored, and disposed of in accordance with Illinois Administrative Code Title 35, Parts 700-739.

5.8 SURFACE WATER, FLOODPLAIN, AND WETLAND RESOURCES

5.8.1 SURFACE WATER AND FLOODPLAIN RESOURCES

Surface water and floodplain resources for the Project area were identified by reviewing U.S. Geological Survey topographic maps (1996), Illinois Regulation of Public Waters (Appendix A of 17 IL Adm. Code Ch I Sec. 3704) (2005), Illinois Critical Resource Waters Map (2000), and Flood Insurance Rate Maps produced by the Federal Emergency Management Agency (FEMA 1985). The major surface waters located in the vicinity of the Project area are Spoon River, Buck Creek, Knights Branch, Collison Branch, and Feather Creek. These are all tributaries to the Middle Fork Vermilion River which is east of the Project area. A number of unnamed intermittent streams flow to the aforementioned major surface waters.

The IDNR Regulation of Public Waters (Sec. 3704) Appendix A identified no public waters within the Project area or within Champaign County.

A review of FEMA floodplain maps indicates that there is a 100-year floodway within the Project area. The 100-year floodway is located in Section 36 of Compromise Township near the Spoon River, near the edge of the Project boundary. No Project facilities are planned near this floodplain and it will be avoided.

5.8.2 IMPACTS

Construction of the wind turbines, access roads, electrical collection system, and the Project substation will disturb land within the Project area. The wind turbines and ancillary facilities will be built on uplands, which will avoid the surface water features and designated floodplains typically located in the lower positions on the landscape. Access roads will be built to avoid or minimize impacts on waters and wetlands. In particular, all surface waters and tributaries to the Middle Fork of the Vermilion River will be avoided. Underground cabling will be directionally bored under surface water resources and wetlands to minimize potential erosion or sedimentation effects to the river.

In a letter dated December 4th, the IDNR stated that erosion from the Project has the potential to affect the Middle Fork and its tributaries through siltation and sedimentation, while disruption of field tile system may temporarily or permanently adversely modify the prevailing thermal regime in feeder stream habitats essential to Middle Fork fish, reptiles, amphibians, and mussels, including many state-listed endangered or threatened species, several of which are unique to the Vermilion River system in Illinois.

APPENDIX B



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WIND ENERGY PROJECT
DECOMMISSIONING
REPORT
CHAMPAIGN COUNTY, ILLINOIS
Invergy

June 2011

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- Figure 1 -Typical Wind Turbine Generator
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CALIFORNIA RIDGE WIND ENERGY

SYSTEM DESCRIPTION

The California Ridge Wind Energy, LLC (Project), is proposed to be a 200 Megawatt (MW) wind energy conversion system in Vermilion and Champaign counties, located north of the town of Royal and south of the cities of Gifford and Potomac, Illinois. The proposed wind farm will consist of the following primary components:

| Item | Number | Unit measure |
|--|---------|------------------------|
| Wind Turbines | 134 | Each |
| Wind Turbine Foundations | 134 | Each |
| Step-Up Transformers | 134 | Each |
| Access Roads | 198,026 | Lineal Foot (estimate) |
| Medium Voltage Cable | 425,937 | Lineal Foot (estimate) |
| <i>Note: The exact number of turbines and lengths of access roads and medium voltage cables may change prior to construction. The lengths provided here are based on a May 2011 layout. California Ridge Wind Energy will provide as-built plans to the counties following construction.</i> | | |

DECOMMISSIONING SEQUENCE

In the event the Project requires decommissioning and removal, the following sequence for removal of the components will be used:

- Remove Rotors and Turbines
- Remove Towers and Internals
- Remove Collection Step-Up Transformers
- Partial Remove Wind Turbine Foundations
- Remove Access Roads

After removal of all equipment and materials the area will be regraded and topsoil will be restored.

WIND TURBINES

WIND TURBINE TECHNICAL DATA

The Project will use 134 GE 1.6-100 50/60 Hz (690 Volt electric power) Wind Turbines manufactured by General Electric for a system generating capacity of approximately 214 MW (figure 1). The towers are painted monopole tubular steel, white in color, with a hub height of 100 meters (328 feet). The project will use 100 meter (328 foot) diameter rotors. Each turbine and rotor will reach a total height of 150 meter (492 feet) above ground surface.

Properly maintained wind turbines have a minimum life of 20 years (Ton van de Wekken 2007). At the end of the project life, depending on market conditions and project viability, the wind turbines may be "re-powered" with new nacelles, towers, and/or blades. Alternatively, the wind turbines may be decommissioned and removed. The major components of the wind turbines (the tower, the nacelle, and blades) are modular items that allow for ease of construction and disassembly during decommissioning or replacement. Each tower is made up of approximately 253 tons of painted steel which is potentially salvageable. The nacelle has an overall unit weight of approximately 40 tons and is constructed of a combination of salvageable steel and various other materials. Portions of the components within the nacelle and generators can also be salvaged for scrap.

METALS SALVAGE

Based on the construction details presented for the GE 1.6-100 turbine and associated tower and components, it was assumed that the tower and nacelle will yield approximately 80% salvageable materials. Since the hub assembly and bed plate are of manufactured steel, it is anticipated that the hub assembly will yield 100 percent salvageable metallic materials. Copper estimates were derived from manufacturers' cable descriptions, from the down tower cabling and internal wiring. Since the rotor/blades are constructed of predominantly non-metallic materials (fiberglass reinforced epoxy and carbon fibers), no salvage value for the rotor blades was used to develop the decommissioning cost estimate.

The current market value of steel, based on *Steelonthenet.com* (June 2011), is approximately \$380 per ton. Assuming only the steel from each turbine assembly and tower will be salvaged the salvage value of each turbine and tower assembly is estimated to be approximately \$124,465 each. Turbine salvage values could range from \$40,688 to \$174,652 given that market values fluctuate and the price of steel historically has shifted from \$106 to \$455 per ton.

The market value of copper has fluctuated dramatically this past year. As of December 2009, the price is approximately \$4.14 per pound (\$8,280 per ton). Therefore, estimated salvage value for copper is approximately \$53,820 per turbine. The total value for both copper and steel would be approximately \$180,785 per turbine. The table below summarizes the potential salvage value per turbine.

| Item | Unit | Price/unit | Price per Turbine |
|--------------------------------|------------|------------|-------------------|
| Tower (80% steel) | 252.95 Ton | \$380 | \$76,897 |
| Nacelle (80% steel) | 27.6 Ton | \$380 | \$8,390 |
| Hub (100% steel) and bed plate | 101.1 Ton | \$380 | \$38,418 |
| Anchor Bolts | 2.0 Ton | \$380 | \$760 |
| Total Steel price | | | \$124,465 |
| Copper | 6.5 Ton | \$8,280 | \$53,820 |
| Transformers | 1 each | \$2,500 | \$2,500 |
| Grand Total | | | \$180,785 |

The estimated 2011 cost of erecting a turbine tower, hub, blades, and nacelle is approximately \$98,000. Therefore, the dismantling costs will be approximately \$98,000 per turbine location in 2011 costs. When the cost to transport the salvage unit is included, the total cost of dismantling the turbines and removing them from the site will be approximately \$129,000 per turbine. The removal costs are summarized in the conclusions of this report. The remainder of this report addresses the decommissioning costs for the surface and subsurface components.

WIND TURBINE TRANSFORMERS

Wind Turbine Transformer Design/Decommissioning

Each turbine step-up transformer sits adjacent to the turbine and is approximately 6 feet high and 6 feet wide. Each transformer will be disconnected, removed from site, and disposed of according to environmental and other regulatory conditions current at the time of the decommissioning. Salvagers have indicated that they would remove the transformers for a \$2,500 credit per turbine. After decommissioning activities, the transformer pad areas will be scarified, as necessary and in consultation with the landowner, and the land restored as near as practicable to its original condition with native seed and soils.

WIND TURBINE FOUNDATIONS

Wind Turbine Spread Foundation Design/Decommissioning

Each octagonal spread foundation pedestal and base is required by Vermilion County to be removed to a depth of 36 inches below the proposed final ground surface. The upper 54 inches of the turbine foundation will be removed by a jack hammer mounted on a bobcat or excavator. Complete off-site removal for demolition and disposal of the removed portions of the foundations is required per the lease agreement between the Project and the landowners hosting turbines. For the purpose of this report, the cost of removal and disposal off site is used to estimate the decommissioning costs of the foundations.

There is essentially no salvage value to the turbine foundations. The spread footing foundation design will consist of a solid reinforced concrete circular pedestal with dimensions of approximately 17 feet diameter, and an overall pedestal height of approximately 4 feet, 6 inches. Below the foundation pedestal is the foundation base section, an estimated octagonal geometry that is approximately 60 feet across the flat sides of the octagon, with an overall base thickness of 8 feet, 6 inches. The base sits on the supporting sub-grade approximately 12 feet below finish grade. A typical spread footing design is shown in Figure 2. The removal and disposal of the foundations are estimated as follows:

| Activity | Cost | Unit |
|---|--------------------|----------------|
| Mobilization and Excavation - Assume 1 Foundation per Day | \$2,500 | per Foundation |
| Concrete Demolition - Assume 1/2 of a Foundation Pedestal per Day | \$10,000 | per Foundation |
| Disposal/Backfill - Assume 1 Foundation per Day | \$3,500 | per Foundation |
| Subtotal | \$16,000 | per Foundation |
| Total Estimated Cost for 134 Foundation Removals | \$2,144,000 | Total |

ACCESS ROADS

Typical Access Road Construction Details

For the purposes of this report, the total length of access roads for the Project has been estimated at 198,026 linear feet, or 37.5 miles. The typical access road detail is included as Figure 3. The final access roads to each turbine will be approximately 16 feet wide with enlarged areas at the turbine sites and at intersections with connecting public roads. The existing soils will be excavated, shaped, and graded to match the typical contour of the land adjacent to the access road and compacted prior to construction of the roads. The construction of the access roads may consist of a geotextile fabric placed on a prepared subgrade with 6 inches of aggregate base (pit run gravel) and 6 inches of aggregate surface course Type B (CA-6), resulting in the estimated quantities as shown below:

| Item | Number | Unit |
|--------------------------|---------|--------------|
| Geotextile Fabric | 352,046 | Square Yards |
| Aggregate Base Course | 58,674 | Cubic Yards |
| Aggregate Surface Course | 58,674 | Cubic Yards |

Access Road Decommissioning and Public Street Repair

Access road decommissioning will involve the removal and transportation of the aggregate materials from the site to a nearby site where the aggregate can be processed for salvage. It is possible that the local townships or farmers may accept this material without processing to use on their local roads; however, for the purpose of this report it is assumed that the materials will be removed and hauled to a reprocessing

site within 25 miles of the wind farm site. Any public streets damaged due to the reclamation process shall be repaired.

The decommissioning will also involve the removal and proper disposal of the geotextile fabric. It is assumed that during excavation of the aggregate a large portion of the geotextile will be "picked up" and sorted out of the aggregate at the aggregate reprocessing site. Geotextile fabric that is remaining, or large pieces that can readily be removed from the excavated aggregate, will be disposed of off site at a landfill.

In determining salvage value for the road materials, it was assumed that 75 percent of the aggregate surface course can ultimately be salvaged for future use as aggregate base course. It was also assumed that 50 percent of the aggregate base course could be reused as aggregate base course and that the remaining materials would be viable for general fill in non-structural fill areas. The geotextile fabric would not be suitable for use after removal so was not considered to have a salvage value. The following salvage values are used for the road materials assuming they will be picked up and hauled from the process site by others:

| Removal Items | Cost | Unit |
|---|--------|----------------|
| Reprocessed Aggregate to be used as Base Course | \$5.30 | per Cubic Yard |
| Remaining Aggregate to be used as Fill | \$1.60 | per Cubic Yard |

The only scenario that could offer a lower cost for removal and salvage of the aggregate would be disposal at a nearby site that needed inert fill. There are no known sites in the area. Therefore, the decommissioning cost of the roads is based upon removal and salvage of the aggregate for use as base course or inert fill within a 25-mile radius of the wind farm site. The estimated costs for access road decommissioning would be as follows:

| Removal Items | Quantity | Cost | Salvage | Net Cost |
|--|----------|--------------------|------------------|--------------------|
| Geotextile Fabric (Square Yards) | 352,046 | \$176,023 | - | \$176,023 |
| Aggregate Base Course (Cubic Yards) (Reprocessed as Aggregate Base Course) | 29,337 | \$357,914 | \$155,487 | \$202,427 |
| Aggregate Base Course (Cubic Yards) (Reprocessed as Fill) | 29,337 | \$357,914 | \$46,939 | \$310,974 |
| Aggregate Surface Course (Cubic Yards) (Reprocessed as Aggregate Base Course) | 44,006 | \$536,870 | \$233,231 | \$303,640 |
| Aggregate Surface Course (Cubic Yards) (Reprocessed as general fill in non-structural fill areas) | 14,669 | \$178,957 | \$23,470 | \$155,487 |
| Totals | | \$1,607,678 | \$459,127 | \$1,148,551 |

CRANE PADS

Crane pads will be approximately 60 feet by 40 feet and consist of compacted native material and approximately 1 foot of base fill. Crane pad aggregate will be removed and pad areas will be filled and scarified after decommissioning activities. The restoration will be performed in consultation with the landowner and pad sites will be restored as near as practicable to their original condition with native seed and soils. The estimated costs for crane pad decommissioning would be as follows:

| Removal Items | Quantity | Cost | Salvage | Net Cost |
|--|----------|------------------|-----------------|------------------|
| Geotextile Fabric (Square Yards) | 35,733 | \$17,867 | - | \$17,867 |
| Aggregate Base Course (Cubic Yards) (Reprocessed as Aggregate Base Course) | 2,978 | \$36,329 | \$15,782 | \$20,547 |
| Aggregate Base Course (Cubic Yards) (Reprocessed as Fill) | 2,978 | \$36,329 | \$4,764 | \$31,564 |
| Aggregate Surface Course (Cubic Yards) (Reprocessed as Aggregate Base Course) | 5,956 | \$72,658 | \$31,564 | \$41,093 |
| Aggregate Surface Course (Cubic Yards) (Reprocessed as general fill in non-structural fill areas) | 1,489 | \$18,164 | \$2,382 | \$15,782 |
| Totals | | \$181,347 | \$54,493 | \$126,853 |

CABLES

Cable Wire and Trench Typical Installation

All cable trenches will be a minimum of 48 inches below the ground surface. In all cable locations outside of access roads, the trenches are backfilled with on-site earthen materials with at least 6 inches of topsoil. At roads, the cables will be in conduits which are a minimum of 48 inches below the final surface. The estimated total medium voltage cable length is 425,937 lineal feet.

Cable Wire and Trench Decommissioning

Since the cables will be located well below the ground surface and will not impose an obstacle to farm activities, physical removal of the cables is not considered to be required to restore the former use of the ground.

EARTHWORK AND TOPSOIL RESTORATION

Once all of the aboveground improvements are removed, the remaining work to complete Project decommissioning will consist of shaping and grading of the areas to as near as practicable to their original contour prior to construction of the turbine sites and access roads.

It is estimated that approximately 64,630 cubic yards of earthwork and topsoil will be necessary for restoration. Based upon the typical cost for this type of work within the Vermilion and Champaign county area, and the assumption that earth and topsoil can be found within 25 miles of the wind farm site, the following estimate of decommissioning cost for earthwork and topsoil restoration is provided:

| Item | Quantity (Cubic Yards) | Cost per Cubic Yard | Total Cost |
|---|---------------------------|------------------------|------------|
| Earth Fill (cubic yards) (access roads, crane pad and foundation pedestal areas) | 64,630 | \$10.60 | \$685,078 |
| Topsoil (cubic yards) and seed planting | 64,630 | \$10.60 | \$685,078 |

SUMMARY OF DECOMMISSION COSTS

The following is a summary of the total estimated costs for Project decommissioning. This estimate was developed using the various cost resources listed below:

- R.S. Means
- HDR Historical Data
- Vendor Quotes
- Current/Historic Commodity Prices
- Estimator Judgment

| Salvage Value | |
|---|---------------------|
| Turbine Component Salvage Value (134 Turbines x \$180,785) | \$24,225,217 |
| Decommissioning Costs | |
| Turbine Removal (134 x \$129,000) | \$17,286,000 |
| Turbine Foundation Removal | \$2,144,000 |
| Access Roadway Removal | \$1,148,551 |
| Crane Pad Removal | \$126,853 |
| Cable Removal | \$0 |
| Earthwork and Topsoil | \$1,370,154 |
| Subtotal | \$22,075,559 |
| Salvage Less Decommissioning | \$2,149,658 |
| Net Salvage Value per Turbine (134 Total) | \$16,042 |

The estimated total decommissioning costs of the Project can be completely recovered by the salvage and resale value of the turbine components. These values are based on estimated 2011 costs and do not assume any inflation costs or market fluctuations.

FINANCIAL ASSURANCE

To ensure accuracy in the material quantities outline above, HDR recommends that this report and the final engineering drawings be reviewed by our office prior to operation of the Project to verify final material quantities.

For Champaign County, financial assurances shall be 210% of an independent professional engineer's cost estimate to complete the decommissioning, or less, if specifically authorized by the County Board. The form of financial assurance will be a letter of credit. California Ridge Wind Energy LLC shall gradually pay down the value of the irrevocable letter of credit by placing cash deposits in an escrow account over the first 13 years of the Project operation as described by Champaign County Ordinance No. 848, Section 6.1.4.P. During the lifespan of the wind farm the amount of the irrevocable letter of credit shall be increased as necessary to reflect actual rates of inflation. The financial assurance will further provide that the terms of the Decommissioning Plan be binding upon California Ridge Wind Energy LLC and any successors, assigns, or heirs; and that the County will have access to the site, pursuant to reasonable notice, to effect or complete the decommissioning, if required. In order to provide funding for decommissioning at the time of decommissioning, California Ridge Wind Energy LLC may exchange a

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California Ridge Wind Energy Project

new irrevocable letter of credit in an amount equal to the amount in the escrow account in exchange for the Governing Body agreeing to a release of the full amount of the escrow account. California Ridge Wind Energy LLC shall comply with Champaign County Zoning Ordinance No. 848, 6.1.4 P Standard Condition for Decommissioning Plan and Site Reclamation Agreement

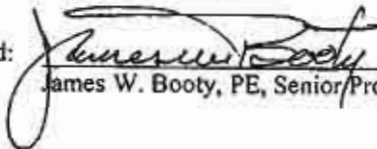
CONCLUSION

I certify that this report is an accurate representation of the anticipated decommissioning costs (or salvage value) at this preliminary stage of development and was prepared in accordance with industry standards of care for engineering evaluations of this type and contains no intentional false statements or misrepresentations.

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Illinois.

Signed: 
Matt Redington, PE, Project Manager

Matthew Redington
Date 6/27/11 Reg. No. 062-062441

Signed: 
James W. Booty, PE, Senior Project Engineer



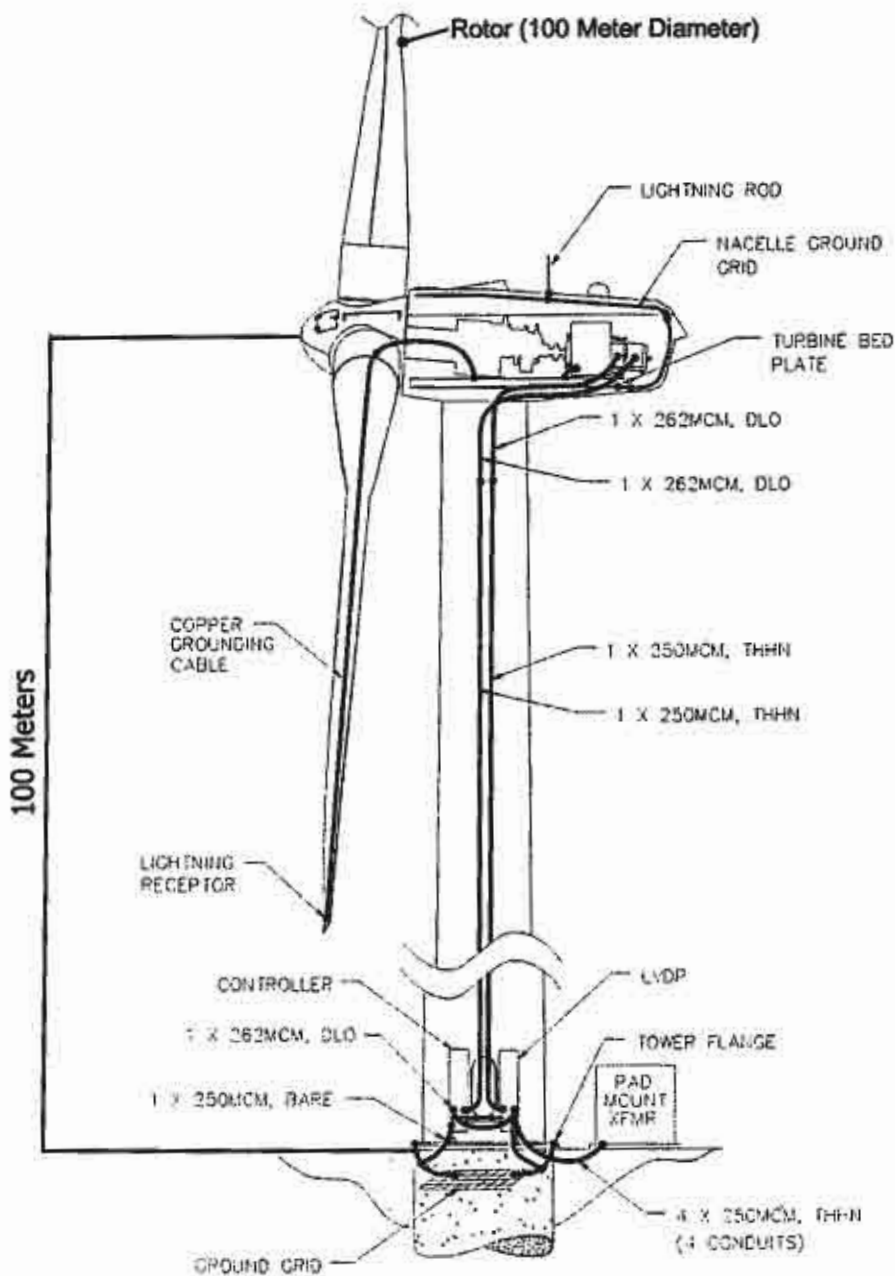
REFERENCES

GE Energy Commercial Documentation Wind Turbine Generator Systems 1.6-100 – 50 & 60 Hz, Weights and Dimensions; 2010 (1.6-100 xxHz_GD_all Comp_ContrDocWSDxxx00.doc)

Ton van de Wekken, KEMA Nederland B.V. 2007. *Distribution Generation and Renewables*. Wind Farm Case Study.

Steelmaking Commodity Prices, World steel raw materials & energy prices. Steelonthe net.com, accessed June 6, 2011.
http://www.steelonthenet.com/commodity_prices.html

**FIGURE 1
 INVENERGY WIND LLC
 CALIFORNIA RIDGE DECOMMISSIONING PLAN
 TYPICAL WIND TURBINE GENERATOR**

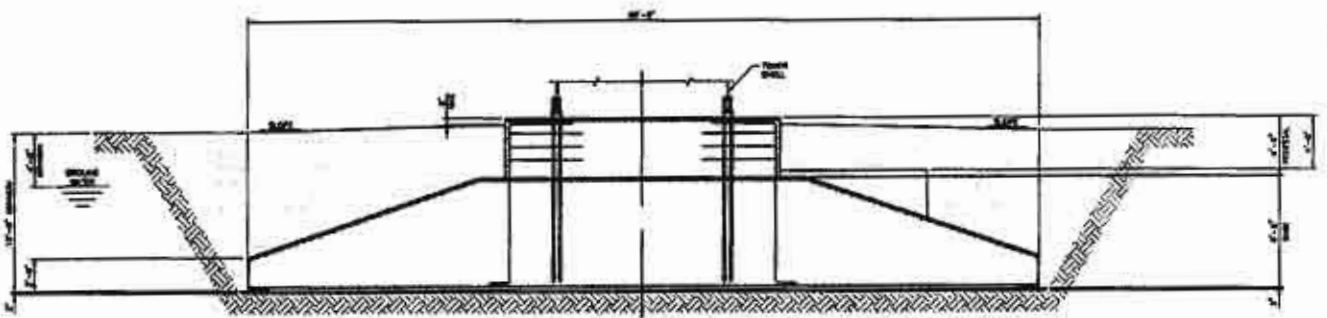


Note: Referenced Image from Technical Documentation,
 Wind Turbine Generator Systems, GE.

HDR

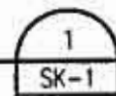
Invenergy

**FIGURE 2
INVENERGY WIND LLC
CALIFORNIA RIDGE DECOMMISSIONING PLAN
TYPICAL FOUNDATION SECTION**



TYPICAL FOUNDATION SECTION

SCALE: NONE

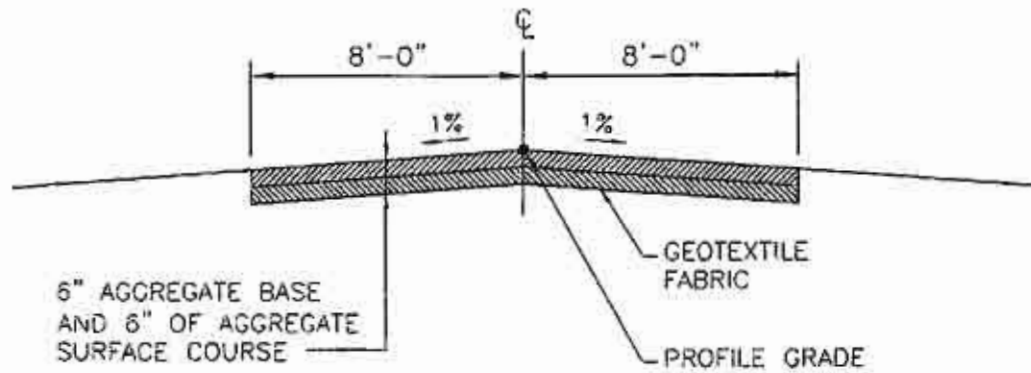


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**FIGURE 3
 INVENERGY WIND LLC
 CALIFORNIA RIDGE DECOMMISSIONING PLAN
 TYPICAL ACCESS ROAD SECTION**



TYPICAL ACCESS ROAD— SECTION A

SCALE: NONE

1
 SK-2

Map Document: \\nfs-pa-lake01\p\project\invenergy\map_docs\road\document\sectioning\CaliforniaRidge_De-commissioning\fig3.mxd
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APPENDIX H

Appendix H

Road Use and Repair Agreement

The Road Use and Repair Agreement with the Champaign County Engineer and the Compromise and Ogden Township Road Commissioners is still being negotiated and will be submitted once it is finalized.

In regard to Section 9.1.11.D of the Champaign County Zoning Ordinance, as amended (the "Zoning Ordinance"), provides that:

Any other provision of this ordinance notwithstanding, the BOARD or GOVERNING BODY, in granting any SPECIAL USE, may waive upon application any standard or requirement for the specific SPECIAL USE enumerated in Section 6.1.3 Schedule of Requirements and Standard Conditions, to the extent that they exceed the minimum standards of the DISTRICT, except for any state or federal regulation incorporated by reference, upon finding that such waiver is in accordance with the general purpose and intent of this ordinance, and will not be injurious to the neighborhood or to the public health, safety and welfare.

In accordance with that provision, California Ridge hereby requests that the Champaign County Board (the "Board") waive the requirement of §6.1.4.F.1.u of Champaign County Ordinance No. 848 (the "Wind Farm Ordinance"), which requires that:

Any WIND FARM Applicant proposing to use any County Highway or a township or municipal STREET for the purpose of transporting WIND FARM TOWERS or Substation parts and/or equipment for construction, operation or maintenance of the WIND FARM TOWERS or Substations(s)...shall enter into a Roadway Upgrade and Maintenance agreement approved by the County Engineer and State's Attorney; or Township Highway Commissioner; or municipality where relevant, and the signed and executed Roadway Upgrade and Maintenance agreements must provide for the following minimum conditions:

u. The Applicant shall agree that the County shall design all STREET upgrades in accordance with the IDOT Bureau of Local Roads and Streets Manual, 2005 edition.

By its terms, the above requirement applies to all County and Township "streets" that may be used during the course of this project. "Street" is defined in the Zoning Ordinance to include:

A thoroughfare dedicated to the public within a RIGHT-OF-WAY which affords the principal means of ACCESS to abutting PROPERTY. A STREET may be designated as an avenue, a boulevard, a drive, a highway, a lane, a parkway, a place, a road, a thoroughfare, or by other appropriate names. STREETS are identified on the Official Zoning Map according to type of USE, and generally as follows:

- (a) MAJOR STREET: Federal or State highways.
- (b) COLLECTOR STREET: COUNTY highways and urban arterial STREETS.

(c) MINOR STREET: Township roads and other local roads.

This application for a waiver of the above requirement is based on several factors:

First, the Wind Farm Ordinance already requires that California Ridge engage in extensive activities to insure that roadways are either not damaged or, if any damage occurs, that repairs be implemented in a professional manner and as expeditiously as possible. This includes pre-use planning, coordination with both the County Engineer and any independent consultant retained by the County, reimbursement of all costs incurred by the County, the posting of security to cover the costs of any necessary or potentially necessary repairs, and a substantial list of additional requirements – all with the intent of insuring that all roads used in connection with the Project will be in as good a condition after the Project as they were before the Project. Requiring upgrades and widening of roads, in addition to these extensive repair and rehabilitation requirements, is both duplicative and unnecessary.

Second, implementation of the upgrade requirements called for by the Bureau of Local Roads and Streets Manual would entail, among other things, substantial widening and reconstruction of a number of roads. This would impose a significant financial burden on California Ridge – to the extent that it would jeopardize the financial viability of the entire Project. Again, given the extensive repair and rehabilitation requirements called for by the Wind Farm Ordinance, requiring such an additional expenditure is both unnecessary and unreasonable.

Finally, an obligation that California Ridge, by agreement with the appropriate Township Highway Commissioner(s), widen, alter and upgrade township roads, as would be called for by the Bureau of Local Roads and Streets Manual, would violate Illinois law. Pursuant to §6-303 of the Illinois Highway Code, 605 ILCS 5/6-303, a Township Highway Commissioner does not have the authority to unilaterally agree to the widening or alteration of township roads.

For all of these reasons, California Ridge requests that the Board grant it a waiver from the requirements of §6.1.4.F.1.u of the Wind Farm Ordinance.

Champaign
County
Department of

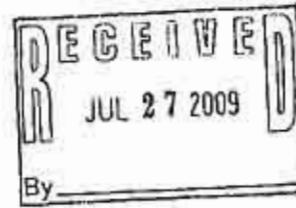


Brookens
Administrative Center
1776 E. Washington Street
Urbana, Illinois 61802

(217) 384-3708
FAX (217) 328-2426

July 24, 2009

Jeff Veazie, Project Engineer
Invenergy
Suite 1900
One South Wacker Drive
Chicago IL 60606



RE: California Ridge Wind Farm in Champaign County, Illinois

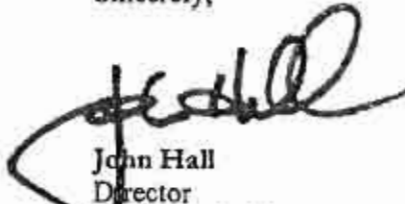
Dear Jeff:

I received a call today from our County Engineer, Jeff Blue, about the California Ridge Wind Farm. Jeff has reason to believe that Invenergy may be losing interest in the Champaign County portion of the California Ridge Wind Farm due to the Ordinance requirements related to public streets. Jeff's call reminded me what you had said in our meeting on June 16, 2009, regarding Art Fletcher's concerns about rebuilding to the Bureau of Local Roads Standards and I mentioned that to Jeff. At that meeting I explained that waivers can be requested for any requirement that seems unreasonable. Jeff Blue pointed out that rebuilding or repairing is not the same as an upgrade and the Ordinance only refers to the Bureau of Local Roads Standards in paragraph 6.1.4 F. 1.u. which pertains to upgrades.

I hope this helps clarify any concern that Art Fletcher may have about this particular standard. I encourage Mr. Fletcher or anyone to call at anytime there is a question about the Ordinance requirements. Jeff Blue and I will do all that we can to answer questions and assist you with your application.

It was good to see you at the conference last week in Bloomington. As I mentioned last week, we are managing the docket of zoning cases so that a wind farm application can be processed as promptly as possible once it is received. We also update the Zoning Board of Appeals regularly on the status of the anticipated wind farm application to ensure that this case can proceed as quickly as possible once the application is received.

Sincerely,



John Hall
Director
Zoning Administrator

XC: Jeff Blue, Champaign County Engineer
Barbara Wysocki, Chair, Champaign County Board Environment and Land
Use Committee

APPENDIX K

**Appendix K
Reclamation Agreement**

(The Reclamation Agreement will be forthcoming)

Figure 4-3
California Ridge
Wind Energy Project
Road Use Plan
 Champaign County, Illinois



- Legend**
- Construction Route
 - Turbine
 - Collection System
 - Access Road
 - Transmission Line
 - Substation
 - Meteorological Tower
 - ▭ Project Boundary
 - State Highway
 - Local Road
 - Railroad
 - Municipal Boundary
 - Section Boundary
 - Township Boundary
 - County Boundary

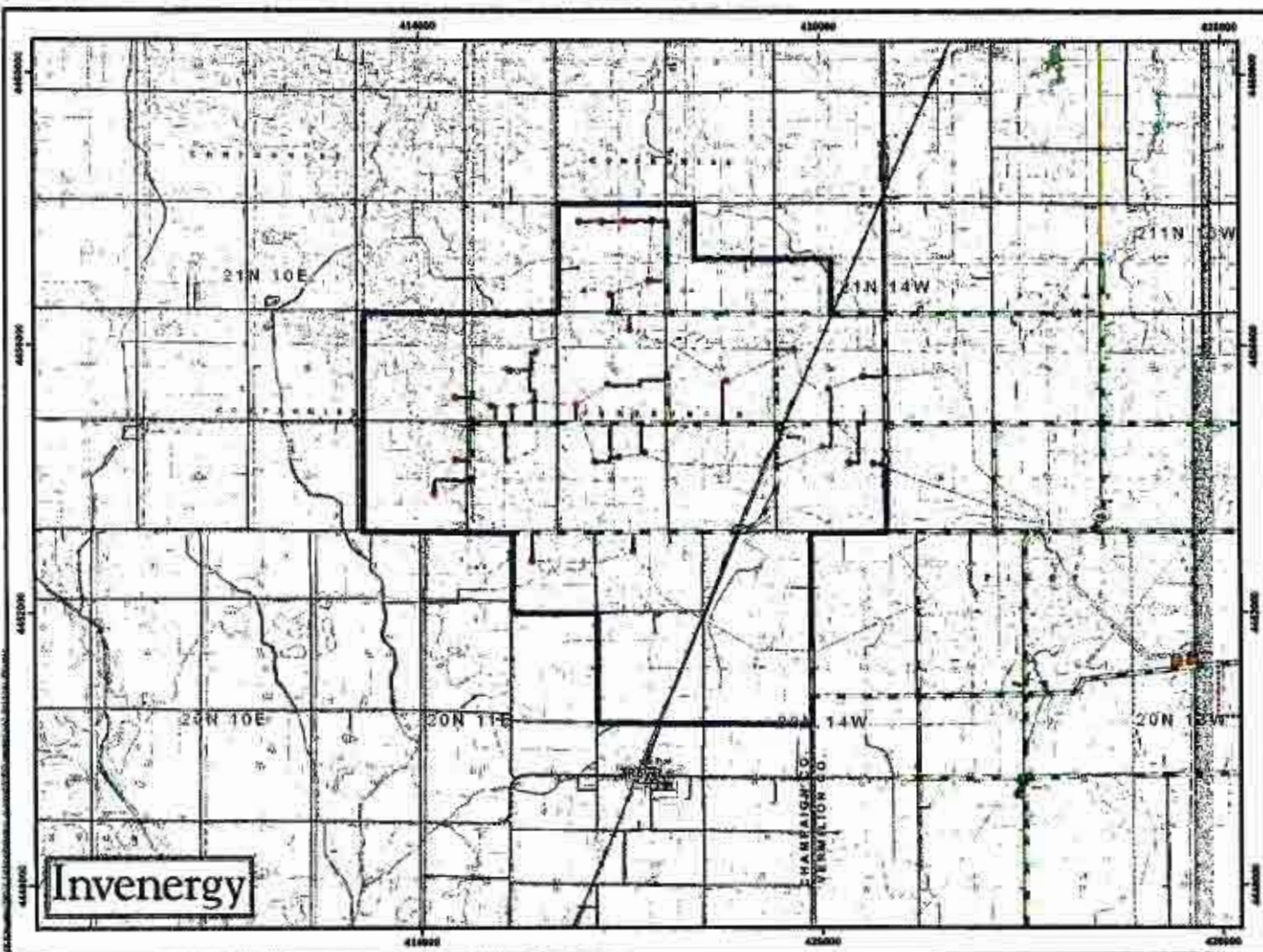
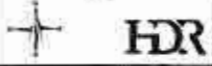
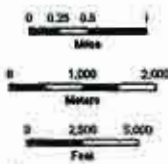
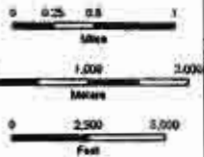


Figure 3-2
California Ridge
Wind Energy Project
Project Location
and Preliminary
Site Layout

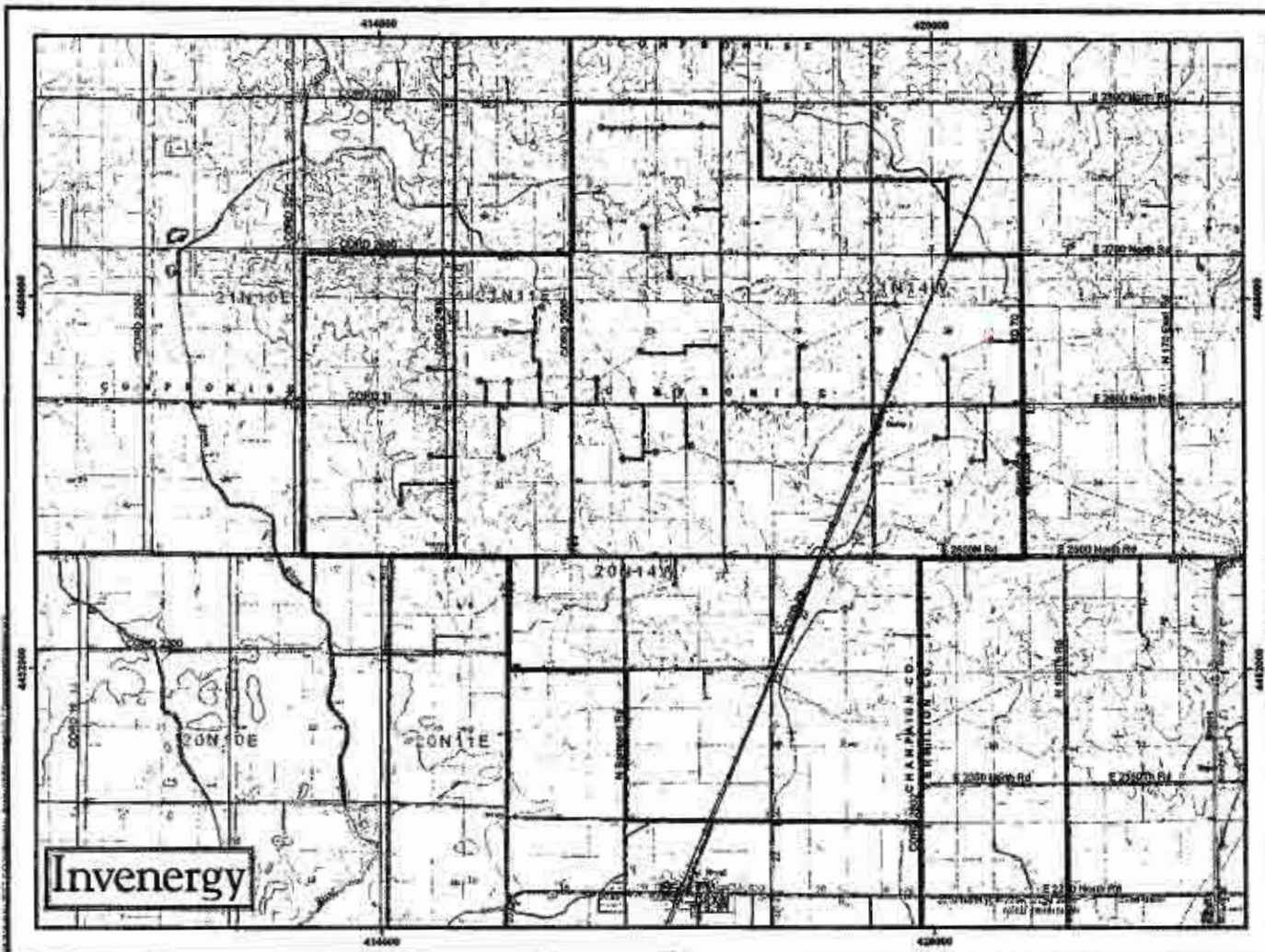
Champaign County, Illinois

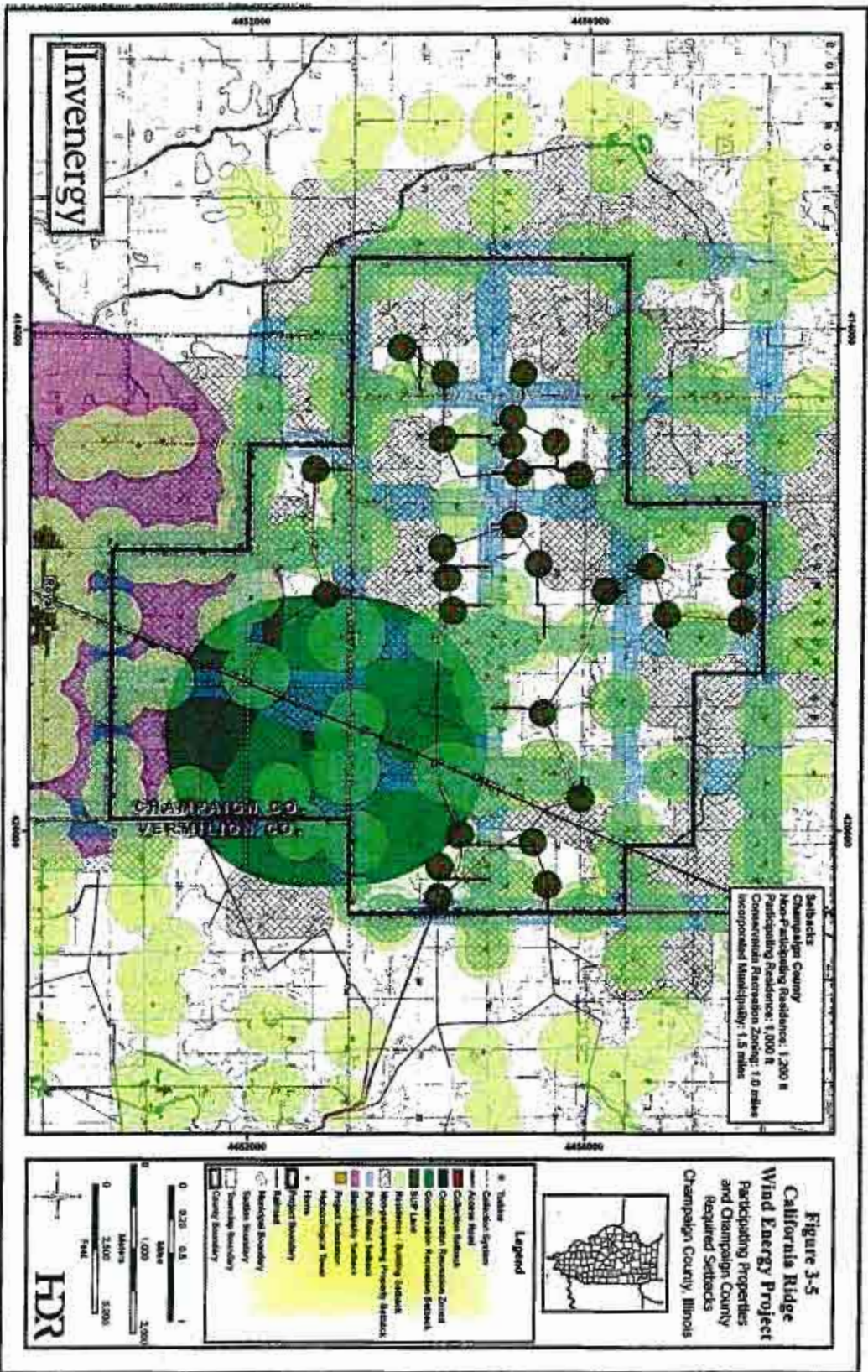


- Legend**
- Turbine
 - Collector System
 - Access Road
 - Meteorological Tower
 - ▭ Project Boundary
 - State Highway
 - Local Road
 - Local Road
 - Railroad
 - ▭ Municipal Boundary
 - ▭ Township Boundary
 - ▭ County Boundary



HDR







Legend

- ⊙ Proposed Turbine Location
- Principal Dwelling Structure
 - Not Participating
 - Participating
- 125' Turbine Buffer
- - - County Boundary
- Landowner Status
 - Participating
 - No Information

Separation distances between wind farm structures and non-participating dwellings or principal buildings are greater than minimum setbacks.

Distances indicated are from non-participating buildings or principal buildings to turbine buffer. Turbine buffer is 125' from current turbine centerpoint in order to account for field adjustments and microtipping issues.

Champaign County Non-Participating Dwelling Separation Summary

California Ridge Wind Energy Project, Champaign and Vermillion Counties, Illinois

Rev. 01
July 29, 2011

Invenergy

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Chicago, IL 60606
(312) 201-1100

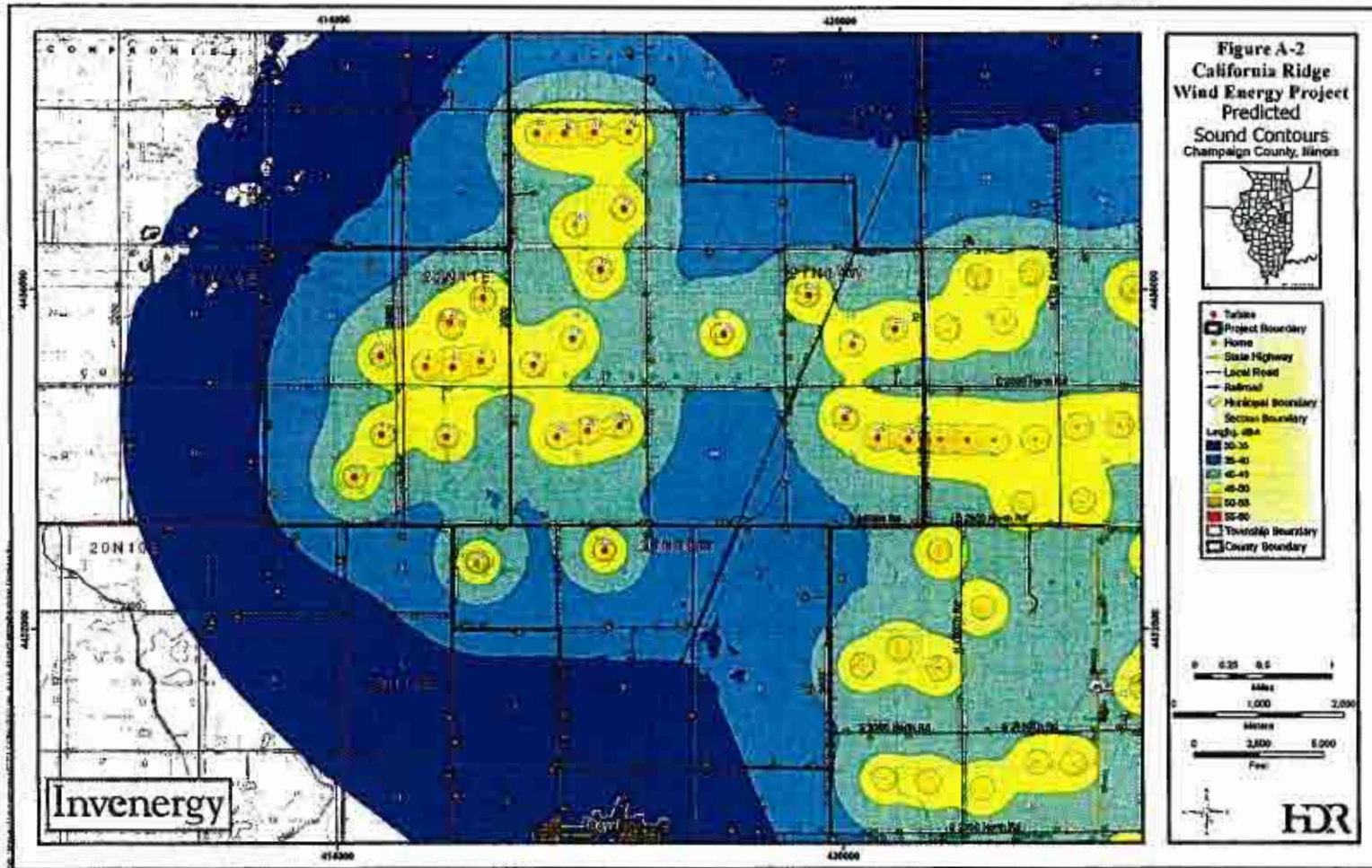


Figure 5-1 Shadow Effect Likely Hours per Year of Shadow Flicker

