

# **Rail Tie Wind Project Albany County, Wyoming**

## **Project Application for Commercial Wind Energy Conversion System Permit Albany County, Wyoming**

March 2021

**Prepared for:**  
**ConnectGen Albany County LLC**

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## ACRONYMS AND ABBREVIATIONS

ADLS	Aircraft Detection Lighting System
APLIC	Avian Power Line Interaction Committee
Applicant	ConnectGen Albany County LLC
BBCS	Bird and Bat Conservation Strategy
BMP	Best Management Practice
ConnectGen	ConnectGen Albany County LLC
dba	A-weighted decibels
ECP	Eagle Conservation Plan
EIS	Environmental Impact Statement
EMF	Electric and Magnetic Field
EPM	Environmental Protection Measure
ERP	Emergency Response Plan
FAA	Federal Aviation Administration
gen-tie	Generation-Tie
HPTP	Historic Properties Treatment Plan
HSSE	Health, Safety, Security, and Environment
ISC	Industrial Siting Council
KOP	Key Observation Point
kV	Kilovolt
MET	Meteorological
MW	Megawatt
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
Regulations	Albany County Wind Energy and Solar Energy Siting Regulations
ROW	Right-of-Way
SCADA	Supervisory Control and Data Acquisition
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control and Countermeasures
SWPPP	Stormwater Pollution Prevention Plan
USFWS	U.S. Fish and Wildlife Service
VFD	Volunteer Fire Department
WAPA	Western Area Power Administration
WECS	Wind Energy Conversion System

W.S. Wyoming Statute  
WGFD Wyoming Game and Fish Department  
WYDEQ Wyoming Department of Environmental Quality  
WYDOT Wyoming Department of Transportation

## **ALBANY COUNTY COMMERCIAL WIND ENERGY SITING REGULATIONS REQUIREMENTS CHECKLIST**

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
<b>Siting Approval Application</b>		
To obtain siting approval, the Applicant(s) must first submit a WECS Project Permit application, for a WECS Project, to the County Planning Office.	Section 12, F.1	See application package.
The WECS Project Permit application shall contain or be accompanied by the following information:	Section 12, F.2	See below.
A Project Summary, including: (1) a general description of the project, including its approximate name plate generating capacity; the potential equipment manufacturer, type of WECSs, number of WECS, and name plate generating capacity of each WECS; the maximum height of the WECS towers and maximum diameter of the WECS rotor; the general location of the project.	Section 12, F.2 (a)(1)	Section 1.2
A Project Summary, including: (2) a description of the Applicant, Owner, Operator, including their respective business structures.	Section 12, F.2 (a)(2)	Section 1.2
The names, addresses, and phone numbers of the Applicants, Owners and Operators, and all property owners.	Section 12, F.2 (b)	Section 1.3, 1.4, 1.5; Appendix A
A site plan for the installation of a WECS Project showing the planned location of each WECS Tower, anchor bases (if any), Primary Structures, property lines (including identification of adjoining properties), setback lines, public access roads and turnout locations, Substations, electrical cabling from the WECS Tower to the Substations' ancillary equipment, transmission lines, and layout of all structures within the geographical boundaries of any applicable setback.	Section 12, F.2 (c)	Figure 2: Preliminary Project Site Plan
All required studies, reports, certifications, and approvals demonstrating compliance with the provisions of these regulations.	Section 12, F.2 (d)	Appendices A through O
Letters of consent to construction from all surface property owners on which the WECS Project is located.	Section 12, F.2 (e)	Appendix A
Any other information required by the County Planning Office as part of its zoning regulations.	Section 12, F.2 (f)	Section 3, Section 4
<b>Application and Approval Process</b>		
Application Submission. A completed application signed by the owner(s) and applicant shall be submitted to the County Planning Office.	Section 12, F.4 (a)	Behind Cover Page; Appendix A
Certified list of adjacent property owners. A certified list of adjacent property owners shall be submitted to the Planning Office. Adjacent property owners are defined as within a five (5) mile radius of the WECS Project's exterior boundaries. This list shall be obtained from the real estate records filed with the Albany County Clerk's Office or the assessment records on file with the Albany County Assessor's Office or the appropriate governing body. Use of any information which is not up to date shall not invalidate this notice requirement. A title insurance company, a Professional Engineer, a Professional Land Surveyor, or an attorney must certify the list.	Section 12, F.4 (b)	Appendix B
Notice Requirements. The following notice requirements must be met. If all notice requirements are not timely given, a WECS project permit or a Solar Wind Energy Facility permit shall not be granted.	Section 12, F.4 (c)	See below.

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
Mail: Applicant shall be responsible for mailing notice, by certified mail, to property owners identified on the certified list of property owners, Wyoming Department of Transportation, and to incorporated municipalities within twenty (20) miles of the WECS Project. Notice of pending proposals for development shall be given at least fourteen (14) days prior to the Planning and Zoning Commission meeting and at least twenty (20) days prior to the Board of County Commissioners public hearing. Applicant shall submit to the Planning Office both an affidavit of mailing of the certified mail notice and copies of the signed return by recipients of the notice. The affidavit and the receipt copies shall be submitted to the Planning Office at least five (5) days prior to the respective Planning and Zoning Commission and Board of County Commissioners meetings.	Section 12, F.4 (c)(1)	Notices will be mailed following the requirements of Section 12, F.4 (c)(1).
Publication: The Planning Department shall propose and place in the local newspaper a legal notice of the proposed development. The publication shall provide at least fourteen (14) days' notice of a development proposal hearing before Planning and Zoning Commission and twenty (20) days' notice prior to the hearing before the Board of County Commissioners.	Section 12, F.4 (c)(2)	Legal notices will be published by the Planning Department following the requirements of Section 12, F.4 (c)(2).
Signage: Applicant shall obtain at the time of the application submission, at least one (1) sign to be placed along and clearly visible from each publicly used road abutting the property. The sign shall state the property is being proposed for development and shall give contact information for the Planning Department. The sign(s) shall be posted at least fourteen (14) days prior to consideration of a development proposal before the Planning and Zoning Commission and the Board of County Commissioners.	Section 12, F.4 (c)(3)	Signs will be posted according to the requirements of Section 12, F.4 (c)(3).
Fee: Applicant shall remit a fee in the amount of one hundred (\$100) dollars to cover notice expenses at the time of filing a development proposal. This fee shall be in addition to the application filing fee.	Section 12, F.4 (c)(4)	Submitted with Application.
Content of Notice: All mailed and publication notices shall include a brief description of the WECS Project including the name of the applicant, its location, the projected number and capacity of turbines, and likely routes of ingress and egress, and the likely location of electric transmission and other related facilities; contact information for the Planning Department; and invite the public to submit comments, identify the location, date, time and reviewing body for the public meeting or hearing.	Section 12, F.4 (c)(5)	Notices and publications will include the requirements listed in Section 12, F.4 (c)(5).
Notice to record owners and claimants of mineral rights: Before submitting the application, record owners of mineral rights located on and under lands where the wind energy facility will be constructed shall be notified. The notice shall consist of a statement of the applicant's intention to construct the project, features of the project, a legal description of the boundaries of the project, locations where the application may be examined, and persons to contact for additional information. Notice shall be provided by first class mail to all record owners of mineral rights whose identity and current addresses are readily obtainable from publicly available documents and notice shall be published twice in a newspaper of general circulation. Copies of the notice and any other pertinent documentation shall be provided to the Planning Office with the application and will be part of the record.	Section 12, F.4 (c)(6)	Section 2.3; Appendix D

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
<b>Findings Necessary for Approval</b>		
That the Applicant has provided such Site Plans and/or survey maps as required.	Section 12, F.4 (f)(1)	Figure 2: Preliminary Project Site Plan
That the proposed WECS Project will not adversely affect the public health, safety, and welfare of the community.	Section 12, F.4 (f)(2)	Section 3.2
That the proposed WECS Project shall not adversely affect the public interest by overburdening County services.	Section 12, F.4 (f)(3)	Section 3.3
That the Applicant has adequately addressed the following impacts.	Section 12, F.4 (f)(4)	See below.
Economic or Social Impacts: Demonstrate that the Applicant has addressed any complaints specified during the public comment period concerning any negative economic or social impacts. In addition, other impacts identified by studies or reports for the project concerning economic or social impact shall be addressed.	Section 12, F.4 (f)(4)(i)	Section 3.4
Air Quality: Mitigate any air quality impact at or beyond the property line: fumes, smoke, odor, dust, heat, etc.	Section 12, F.4 (f)(4)(ii)	Section 3.5
Water Quality: Mitigate any water quality impacts.	Section 12, F.4 (f)(4)(iii)	Section 3.6
General Nuisances. Minimize light, glare, heat, noise, vibration, odors, fumes, smoke, or other nuisances generated by the WECS project that may affect off-site property owners.	Section 12, F.4 (f)(4)(iv)	Section 3.7; Appendix H; Appendix I; Appendix G
Soil Disturbance: Show that soil disturbance on the site will be minimized and that appropriate measures will be taken to restore disturbed areas to its former state.	Section 12, F.4 (f)(4)(v)	Section 3.8
Wildlife Impacts: Show that the WECS project will not be a significantly negative impact on wildlife species in the area. For WECS projects specifically, the applicant shall show that their project is consistent with the Wyoming Game and Fish Department's document entitled "Wildlife Protection Recommendations for Wind Energy Development in Wyoming" (November 17, 2010) and that it will follow recommendations made by the Wyoming Game and Fish Department. Any reports prepared for the Wyoming Industrial Siting Council (ISC) to address wildlife impacts shall be provided.	Section 12, F.4 (f)(4)(vi)	Section 3.9; Appendix K; Appendix M
Cultural Resource Impacts. Show that appropriate measures will be taken to mitigate disturbance of any cultural resources on the site. Any reports prepared for the Wyoming ISC to address cultural resource impacts shall be provided.	Section 12, F.4 (f)(4)(vii)	Section 3.10; Appendix L; Appendix M
<b>Design and Installation</b>		
Design Safety Certification for WECS Projects. Following the granting of WECS project under these regulations, a professional engineer shall certify, as part of the Zoning Certificate application, prior to construction that the foundation and tower design of the WECS is within accepted professional standards, given local soil and climate conditions.	Section 12, G.1	Section 4.1
Color for WECS Projects. Towers and blades shall be painted white or gray or another non-reflective, unobtrusive color as agreed to by the County Planner and the Applicant that will help the project blend with the natural visual character of the area.	Section 12, G.2	Section 3.7, Section 4.1

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
Noise for WECS Projects. Noise associated with WECS operation shall not exceed 55 dBA as measured at any point along the common property lines between a non-participating property and a participating property.	Section 12, G.3 (a)-(d)	Section 3.7, Section 4.1.1; Appendix I
Signage for WECS Projects. There shall be no signage, or logo, advertising or promotional lettering of any type allowed on the WECS towers, nacelles, or blades with the exception of reasonable manufacturer safety warning and emergency contact signs. Any other signage shall only be allowed as approved by the County.	Section 12, G.4	Section 4.1
Warnings. A reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.	Section 12, G.5	Section 4.1
Climb Prevention for WECS Projects. All WECS towers must be unclimbable by design or protected by anti-climbing devices.	Section 12, G.6	Section 4.1
Setbacks for WECS Projects. (See Siting Regulations for a description of (a)-(j).)	Section 12, G.7 (a)-(j)	Section 4.1.2
Applicants, Owners, or Operators proposing to use any county, improvement district, municipal, or state roads, for the purpose of transporting WECSs or substation parts and/or equipment for construction, operation, or maintenance of the WECSs or Substations shall:	Section 12, G.9 (a)	See below.
Identify all such public roads. Detailed mapping of haul routes shall be submitted after the specific haul routes have been identified. No public roads shall be used for construction activities related to a WECS Project until specific haul routes have been identified and maps have been submitted to the County Planning Office and appropriate approvals obtained.	Section 12, G.9 (a)(1)	Section 4.2; Appendix F
Obtain access permits and utility crossing permits from the County.	Section 12, G.9 (a)(2)	Section 4.2
The Applicants shall include a traffic study of any public roads leading to and away from the proposed WECS Project, and at the discretion of the Board of County Commissioners, may be requested to provide additional studies and reports prepared by qualified professionals to determine if impacts to public roads will occur. If impacts are determined, a mitigation plan and/or long term road maintenance agreement between the Applicant and Albany County will be required at the discretion of the Board of County Commissioners. Wyoming Department of Transportation may also require a road maintenance agreement with the Applicant for use and maintenance of state highways. If required, the long-term road maintenance agreement shall be fully executed prior to any development within the project boundaries.	Section 12, G.9 (a)(3)	Appendix F
If potential road impacts are determined to extend beyond County boundaries the Applicants will be responsible to contact all potentially impacted jurisdictions (other states or counties) and to provide written documentation of the contacts as well as written statements from the jurisdictions that they are aware of the potential impact.	Section 12, G.9 (a)(4)	Appendix F
Private Roads. The applicant shall describe how private roads within the WECS project will be designated as private roads and acknowledge that the County is not required to accept the dedication for public use, repair, or maintain any private road.	Section 12, G.9 (c)	Appendix F
Access. The Applicant must provide documentation that adequate legal access is available to the WECS project.	Section 12, G.9 (d)	Appendix A

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
Sediment Control. Owners or operators shall do the following to minimize soil erosion and damage to existing vegetation during construction and maintenance of a WECS project: (a) minimize disturbance and construction on erodible slopes; (b) minimize the number of new roads and construction staging areas; (c) minimize the grading width of roads. One-lane roadways with turnouts are recommended; (d) owners or operators shall reclaim areas disturbed by construction activities with native vegetation as areas of the WECS project complete construction.	Section 12, G.10 (a)-(d)	Section 3.8, Section 4.3
Oversight of Project Construction. All phases of construction shall be routinely inspected by a professional licensed in the State of Wyoming. The inspector shall be contracted by the owner or operator of the project. The inspector shall inspect construction of the project and all standards required in the adopted WECS Permit. Monthly written reports shall be provided to the Albany County Planning Office. Laramie Rivers Conservation District must be consulted to ensure potential erosion impacts are mitigated and disturbed areas are revegetated with native grasses.	Section 12, G.11	Section 4.4
<b>Operation</b>		
Owner of the WECS must maintain and operate the WECS in compliance with all state and federal occupational and environmental health and safety regulations. All WECS that remain inoperative for 12 months or longer must be removed unless the owner provides a written plan and schedule acceptable to the County Planning Office for refurbishing and reactivation inoperative WECS. The owner of the WECS shall submit to the County Planning Office a statement on March 1 <sup>st</sup> of each year that lists all WECS currently inoperative for longer than 12 months.	Section 12, H.1 (a)	Section 4.4
The Owners or Operators of the WECS shall control and eradicate noxious and invasive weed species as designated by County Weed and Pest within the disturbed areas of the project, during and for a minimum of five (5) years after the life of the operation. This shall be maintained to the satisfaction of County Weed and Pest. The Owners or Operators may choose to contract with the County or outside services to control weeds.	Section 12, H.1 (b)	Section 4.5; Appendix J-2
Disturbed areas shall be preliminarily delineated at the time of application and shall include, as a minimum: proposed future easements for new roads, transmission lines, WECS, buildings, and any other property that may be disturbed or accessed by the Owner. If the delineated disturbed areas change, the Owner shall notify the County Weed and Pest District.		
Periodic maintenance will include upkeep to all structures and grounds for aesthetics. Routine scheduled maintenance shall include the repainting of equipment and structures and groundwork or landscaping as appropriate to the location.	Section 12, H.1 (c)	Section 4.4
The Applicants shall provide the applicable microwave transmission providers and local emergency service providers (911 operators) copies of the project summary and site plan. To the extent that the above providers demonstrate a likelihood of interference with its communications resulting from the WECS, the Applicants shall take reasonable measures to mitigate such anticipated interference.	Section 12, H.2 (a-b)	Section 4.6; Appendix D; Appendix N
The owners or operators shall mitigate light impact on existing residences as reasonably feasible and still meet Federal Aviation Administration (FAA) requirements. The Board of County Commissioners shall require installation and maintenance of aircraft detection lighting systems (ADLS) in order to mitigate light impacts to nearby residential areas, if approved by the FAA. If required, such FAA approved systems shall require the turbine tower warning	Section 12, H.2 (c)	Section 3.8, Section 4.7

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
lights to be off except when necessary to alert aircraft in the area. Lights shall remain off at night unless aircraft are detected within FAA proximity minimums in the area by the ADLS or if FAA requirements dictate otherwise.		
The applicants, owners, or operators shall submit to the local fire departments and/or emergency Management Coordinator a copy of the Site Plan.	Section 12, H.3 (a)	Section 4.8; Appendix E
The Applicant shall submit to the County Fire Warden, the Emergency Management Coordinator, and the County Sheriff an emergency management plan for review and comment prior to permit approval. If a WECS Project Permit is granted, the plan shall be supplemental and revised following construction of the facility and prior to its operation if there are any variations in the facility's construction which would materially impact the original emergency management plan.	Section 12, H.3 (b)	Section 3.2, Section 4.8; Appendix E
The owners or operators shall provide the County Planning Office with a detailed map of the site within 90 days of when operation begins. This map will include the geographic coordinates of each WECS structure, all roads within the WECS Project Area, and public roads and turnouts connecting to roads of the WECS Project. This Map shall be updated every 5 years or after the completion of any significant additional construction, whichever occurs first.	Section 12, H.4	Section 1.2
Additional Requirements		
Socio-Economic Impacts: Any reports prepared for the Wyoming ISC that address economic and social impacts shall be provided for review and used to determine proper mitigation of these impacts is proposed in the application.	Section 12, I	Section 3.4
Wyoming Game and Fish Department: The Applicants are advised to request, during initial site selection, information from WGFD on critical habitat of protected species that may be present. The Applicant should obtain a letter from WGFD verifying that the Applicant has coordinated with WGFD about the project site selection and describing any annual monitoring of wildlife impacts and mortalities, as recommended by the WGFD. The Applicant will need to ensure access to the wind development area for the purposes of annual wildlife monitoring activities, if required. The Applicant need not complete duplicative studies but shall provide the County Planning Office with wildlife studies contained in existing environmental assessments and/or formal NEPA studies such as the Environmental Impact Statements that cover the project area.	Section 12, J	Section 3.9; Appendix K; Appendix M
Archeological and Historical Resources: The Applicants are advised to seek comments and approval from appropriate agencies for matters concerning archaeology studies, historical importance, and any other relevant Federal, State and Local issues and to include relevant reports in the application process. The Applicant need not complete duplicative studies but shall provide the County Planning Office with relevant historical or archeological studies contained in reports required by other jurisdictions.	Section 12, K	Section 3.10; Appendix L; Appendix M
Liability Insurance: The Owners or Operators of the WECS Project shall maintain a current commercial general liability policy covering bodily injury and property damage with limits of at least one (1) million dollars per occurrence and five (5) million dollars in the aggregate. The Applicants shall provide a certificate of insurance to the Board of County Commissioners prior to the Board's approval of the submitted application, which certificate shall give no less than thirty (30) days' notice if the policy is cancelled or coverage is materially changed. If the application is approved, the Owners or Operators of the WECS facility shall provide a certificate of insurance to the Board of	Section 12, L	Section 4.9; Appendix B

Requirement	Regulatory Reference <sup>1</sup>	Application Package Reference
County Commissioners annually throughout the life of the WECS Project. Notice of cancellation or material change, if not remedied prior to loss of such insurance, shall constitute <i>prima facie</i> evidence requiring revocation of the WECS Permit.		
Waste Management Plan: A waste management plan that includes an inventory of estimated solid wastes and proposed disposal program for the construction, operation, and eventual decommissioning of the proposed WECS Project. On-site disposal of construction waste shall not be permitted.	Section 12, M	Section 4.10; Appendix O
Decommissioning and Reclamation: Provide a site and facility reclamation and decommissioning plan which indicates the planned life of the wind energy facility and the means by which the facility and its site will be decommissioned and reclaimed at the end of the facility's life and which certifies that any property owner within the wind energy facility and its site who is not the applicant has been consulted in development of the reclamation and decommissioning plan. Such plan shall comply with all requirements adopted by the Wyoming ISC under §§35-12-105 (d). If the permit is granted, the plan shall be updated every five (5) years until site reclamation and decommissioning is complete.	Section 12, N (1)	Section 4.11; Appendix J
All applications for a WECS Permit shall meet the requirements adopted pursuant to §§35-12-105 (d) and (e) regardless of whether the facility is referred to the Wyoming ISC pursuant to §§18-5-509 or is otherwise subject to the Wyoming ISC.	Section 12, N (2)	Section 4.11; Appendix J
Albany County will request that the Wyoming ISC include Albany County as an entity that can access the financial assurance provided for decommissioning and reclamation of the project to ensure proper decommissioning and reclamation occurs at the end of the project's life.	Section 12, N (3)	Acknowledged.

1 This checklist was developed to comply with the ordinance revisions to the Albany County Siting Regulations formally adopted on March 2, 2021 (Albany County 2021).

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## 1 INTRODUCTION

ConnectGen Albany County LLC (ConnectGen or Applicant) respectfully submits this application (Application) to the Albany County Planning Office for a Wind Energy Conversion System (WECS) Project Permit to construct and operate the up to 504-megawatt (MW) Rail Tie Wind Project (Project). The Project meets the definition of a WECS Project as defined by the Albany County Wind Energy and Solar Energy Siting Regulations, as amended on March 2, 2021 (Regulations; Albany County 2021). In accordance with Chapter 4 of the Regulations, wind energy facilities are a conditionally permitted use in the Agricultural Zoning District, in which the Project is located.

The information provided in this application has been developed to comply with the current Regulations. A checklist outlining this Application's compliance with the filing requirements of the Regulations is included in pages vi through xii of this Application.

### 1.1 Albany County Jurisdiction

The Albany County Regulations are adopted under the authority granted by Wyoming Statute (W.S.) Title 18 Counties, Chapter 5 Planning and Zoning, Article 2 Planning and Zoning Commission (W.S. §§18-5-201 to 18-5-207), and Article 5 Wind and Solar Energy Facilities (W.S. §§18-5-501 to 18-5-513). These Regulations govern the siting of WECS Projects in Albany County that provide electricity to be sold to wholesale or retail markets. Table 1 provides a list of Project parcels by jurisdiction.

**Table 1: Project Jurisdiction**

Jurisdiction	Township	Range	Section	Acreage
Albany County, Wyoming	T12N	R72W	03, 05, 06, 07, 09, 17, 18, 19	3,072.91
	T12N	R73W	02, 03, 12, 13	1,207.64
	T13N	R71W	07, 17, 18, 19	1,116.35
	T13N	R72W	01, 02, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35	12,072.56
	T13N	R73W	22, 23, 26, 27, 28, 34, 35	3,760.67
	T14N	R72N	35	75.56
	<b>Total County Lands</b>			<b>21,305.69</b>
State of Wyoming Office of State Lands and Investments	T12N	R72W	04, 08, 16, 18	2,217.05
	T12N	R73W	01, 12	954.34
	T13N	R72W	36	631.11
	T13N	R73W	25,36	949.95
	<b>Total State Lands</b>			<b>4,752.44</b>
	<b>Total Project Area</b>			<b>26,058.13</b>

## 1.2 Project Summary

The Project is a utility-scale WECS located in southeastern Albany County, Wyoming, and encompasses approximately 26,000 acres of ranchland on private and Wyoming State Lands near Tie Siding, Wyoming (Project Area; Figure 1). The proposed Project layout includes 120 wind turbine generators, each approximately 4.2 MW in size, for a maximum nameplate capacity of 504 MW. No federally managed lands are located within the Project Area. The Project proposes to interconnect to the existing transmission system of the Western Area Power Administration (WAPA) via the Ault-Craig 345-kilovolt (kV) transmission line, which runs through the Project Area. The operation of the Project would include the following proposed components:

- 120 wind turbines and related equipment
- Up to 52 miles of new permanent access roads
- Up to 73 miles of underground electrical collection and communication lines
- Supervisory Control and Data Acquisition (SCADA) system (installed with the collector lines)
- A single Operation and Maintenance (O&M) facility
- Two Project substation facilities
- Interconnection switchyard
- Approximately 4.4 miles of overhead generation tie (gen-tie) transmission line
- Up to three permanent meteorological (MET) towers

Construction of the Project would also require temporary access roads, crane paths, and two construction laydown yards each with a concrete batch plant with the capacity to produce up to 1,500 cubic yards of concrete daily. Although the Project Area includes approximately 26,000 acres of land, the actual physical footprint of the Project is much smaller. Construction activities would occur on approximately 1,280.76 acres of land, while the operating footprint of the proposed components following post-construction restoration would use approximately 165.93 acres. A more detailed description of the estimated ground disturbance for construction and operation of the Project is provided in Table 2.

**Table 2: Estimated Project Disturbance**

Project Phase and Facility	Private Land (acres)	State Land (acres)	Total (acres)
<b>CONSTRUCTION</b>			
WAPA interconnection switchyard	10.00	0.00	10.00
Wind turbines	188.82	52.23	241.05
Electrical collection system	339.01	78.57	417.58
Electrical substations	14.00	0.00	14.00
345 kV electric gen-tie line	53.59	0.00	53.59
O&M facility	7.00	0.00	7.00

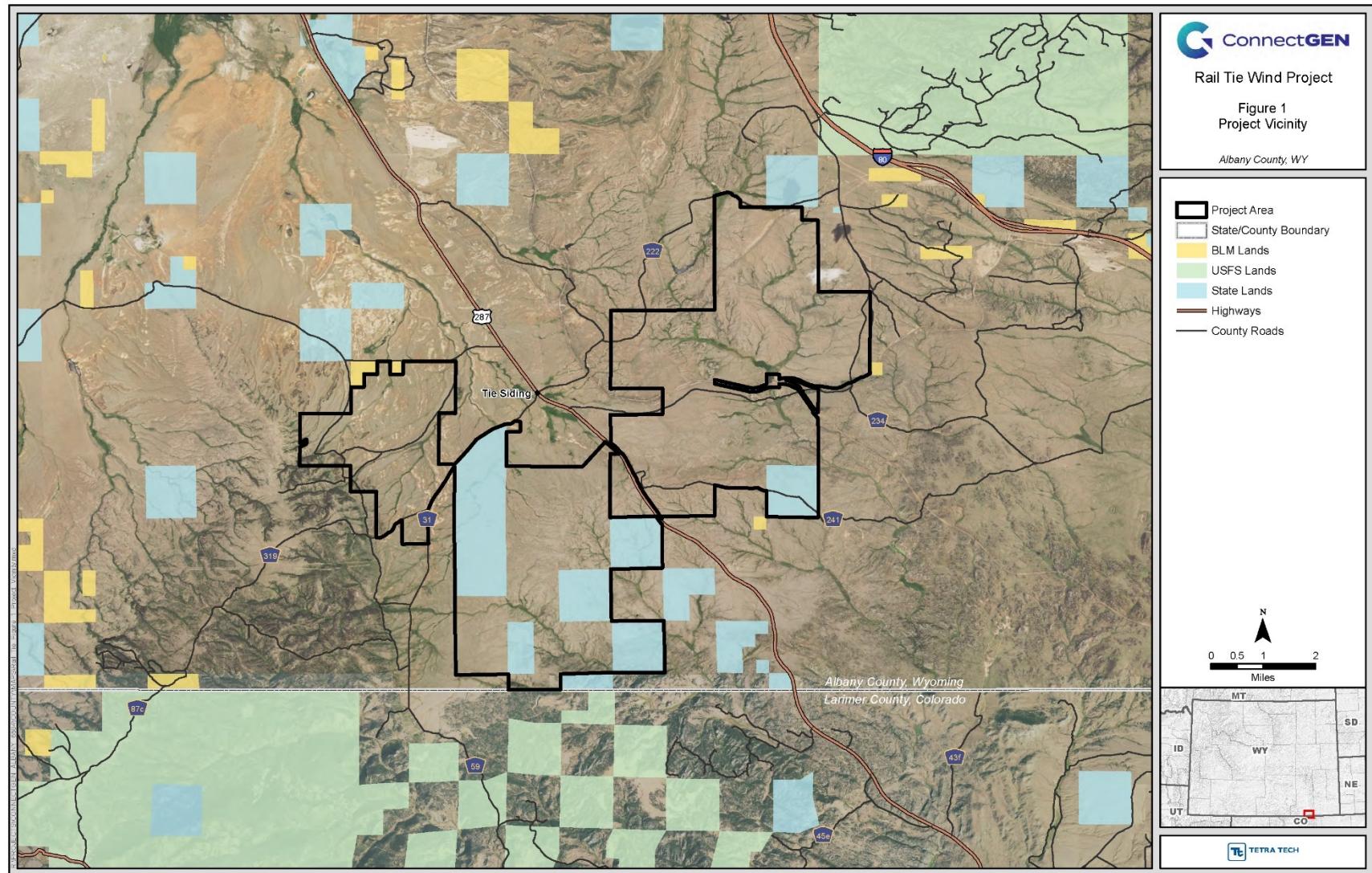
**Table 2: Estimated Project Disturbance**

Project Phase and Facility	Private Land (acres)	State Land (acres)	Total (acres)
Meteorological equipment	2.76	0.00	2.76
Access roads	502.22	125.08	627.30
Crane paths	147.97	12.07	160.04
Construction laydown yards	30.00	0.00	30.00
<b>Total construction disturbance<sup>1</sup></b>	<b>1,295.37</b>	<b>267.95</b>	<b>1,280.76</b>
<b>OPERATIONS</b>			
WAPA interconnection switchyard	8.00	0.00	8.00
Wind turbines	6.07	1.68	7.75
Electrical substations	10.00	0.00	10.00
345 kV electric gen-tie line	10.69	0.00	10.69
O&M facility	5.00	0.00	5.00
Meteorological equipment	0.03	0.00	0.03
Access roads	100.41	25.00	125.41
<b>Total operations disturbance<sup>1</sup></b>	<b>140.20</b>	<b>26.68</b>	<b>165.93</b>

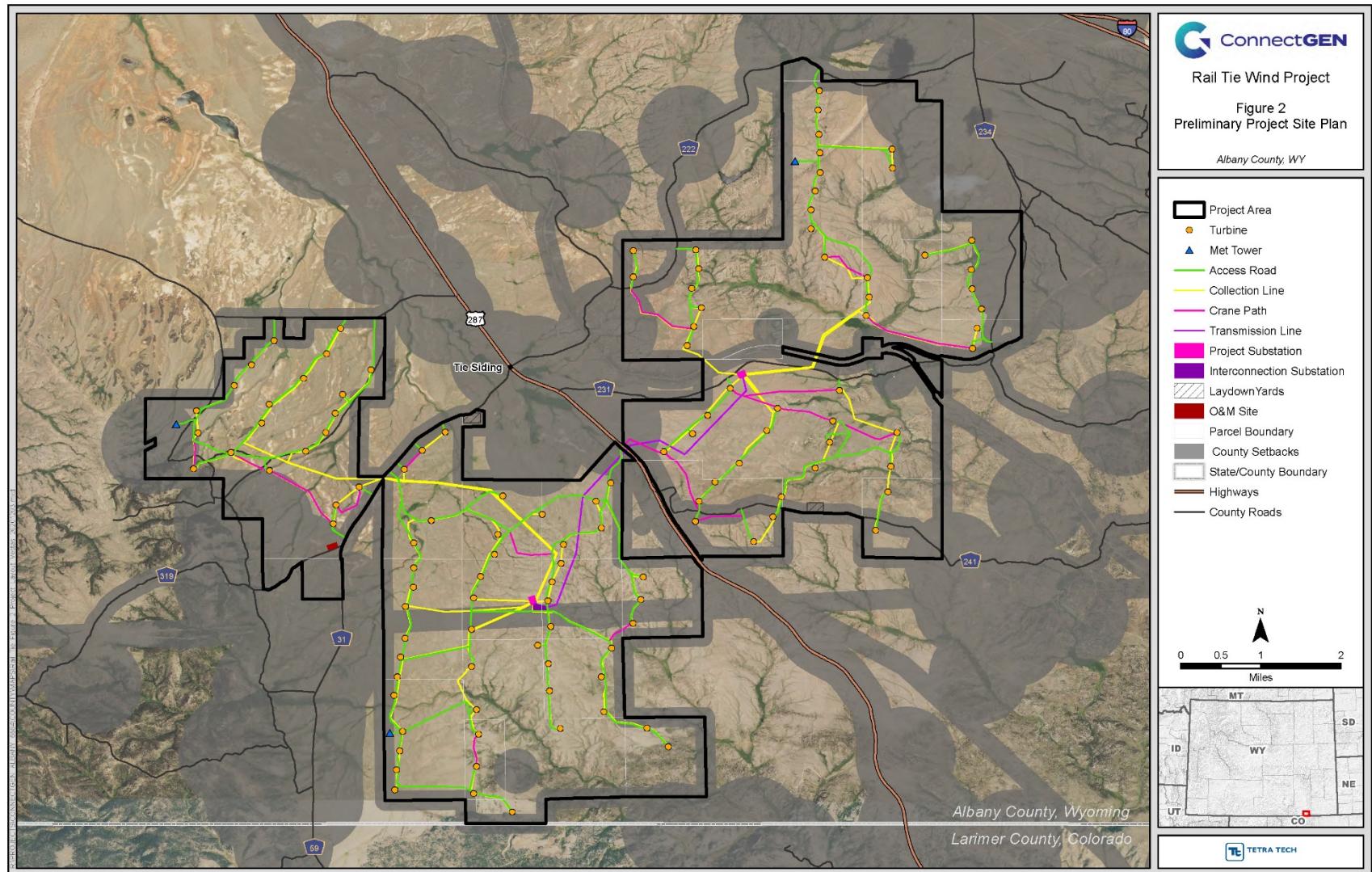
1 Acreages derived from geospatial data correspond to the representative layout with the Vestas V150 4.2 MW. Total disturbance acres have been adjusted to remove overlapping facilities. Construction disturbance acreages include areas that would continue to be disturbed during operations.

A Project Site Plan is included as Figure 2. The Project Site Plan is representative of the Project layout, but remains preliminary because Project final engineering and micrositing has not yet been completed. Final turbine numbers, layout, configuration, and turbine type are subject to change based on turbine availability, final engineering, and other economic and environmental considerations. The Albany County Regulations (Chapter 5, Section 12, D) authorize approved WECS project permittees to move individual WECS within a project boundary as the variables of the individual project dictate. An updated Site Plan would be filed with the building permit application prior to construction. A final Site Plan would be provided to the County Planning Office at least 90 days prior to commencement of Project operations.

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**Figure 1: Project Vicinity Map**



**Figure 2: Preliminary Project Site Plan**

### 1.2.1 Wind Turbine Description

ConnectGen has considered several turbine models with capacities between 3 MW and 6 MW each. The turbine model currently being described in the WECS application is the Vestas V150 4.2 MW. The total number of wind turbines would depend on the turbine model selected and final design, but is currently proposed at 120 turbines. Each turbine, with associated foundations and equipment, would have a permanent physical footprint of approximately 0.1 acre. The turbine specifications for this model is provided in Table 3.

**Table 3: Project Turbine Characteristics**

Feature	Vestas V150 4.2 MW
Nameplate capacity	Up to 4,200 kW
Hub height <sup>1</sup>	105 m
Rotor Diameter	150 m
Total height <sup>2</sup>	180 m
Swept Area	17,671 m <sup>2</sup>
Cut-in wind speed <sup>3</sup>	3 m/s
Cut-out wind speed <sup>4</sup>	24.5 m/s
Tower	Multi-coated, conical tubular steel with safety ladder to the nacelle
Turbine foundation	68-foot-wide octagonal foundation, 10 feet deep

Notes: kW—kilowatts; m—meter; m/s—meters per second

1 Hub height = the turbine height from the ground to the top of the nacelle.

2 Total height = the total turbine height from the ground to the tip of the blade in an upright position.

3 Cut-in wind speed = wind speed at which turbine begins operation

4 Cut-out wind speed = wind speed above which turbine shuts down operation

The Project's wind turbines would consist of a hub, nacelle, three blades, tower, and foundation. Enclosed within the nacelle lies the gear box, low- and high-speed shaft, generator, controller, transformer, and brake. The hub and blades together form the rotor. The tower supports the nacelle, hub, and blades, and is made from tubular steel. Turbines would possess a 4 MVA 700 V/34.5 kV generator step-up transformer located inside the nacelle. Additionally, a control panel inside each turbine houses communication and electronic circuitry.

The Project's design includes safety and control mechanisms. These mechanisms are generally monitored using a SCADA system. Each turbine is connected to the SCADA system via a fiber-optic cable that allows the turbines to be monitored in real time by the operations and maintenance staff. The SCADA system also allows the Project to be remotely monitored, thereby providing real-time supervisory management and oversight.

The wind turbines would be arranged in collinear strings located within 1,000-foot-wide wind turbine siting corridors. This corridor design approach provides flexibility in turbine placement during the design stage to avoid and minimize impacts to wetlands, waterbodies, cultural sites,

and other environmentally sensitive areas to the extent practicable. Access roads and electrical collection lines would also be located within these corridors where feasible to minimize the Project's overall footprint. For the portions of the Project where it is not feasible to locate access roads and electrical collection lines within the turbine siting corridors, 100-foot-wide and 50-foot-wide siting corridors, respectively, have been identified in these areas.

### **1.3 Applicant**

The Applicant for the Project is ConnectGen Albany County LLC, a wholly owned subsidiary of ConnectGen Operating LLC. The Applicant is a limited liability company organized in Delaware and authorized to do business in Wyoming. The Applicant will also be the owner and operator of the Project. Contact information is provided below.

Amanda MacDonald  
Project Manager, ConnectGen Albany County LLC  
1001 McKinney St., Ste. 700  
Houston, TX 77002  
508-246-6269  
Email: [amacdonald@connectgenllc.com](mailto:amacdonald@connectgenllc.com)

### **1.4 Property Owners**

The Project would be developed on private and Wyoming State Lands within the Project Area. Pursuant to Section 12, F.2 (e) of the Regulations, memorandums of wind lease agreements, letters of consent, and signatures for right of ingress for all participating property owners are included in Appendix A. As necessary, updated letters of consent or memorandums of wind lease agreements will be provided to the County prior to construction.

### **1.5 Adjacent Property Owners**

A certified list of property owners within 5 miles of the Project Area is included in Appendix B-1. The list of Albany County, WY property owners was certified by Wyoming Professional Engineer & Surveyor Mark Rehwaldt and the list of Larimer County, CO property owners was certified by Land Title Guarantee Company.

### **1.6 Construction Schedule and Workforce**

For construction planning and site optimization, the Project consists of two separate stages, each approximately 252 MW. These stages are defined as the East stage and the West stage as differentiated by U.S. Highway 287 (U.S. 287). Construction of the Project is expected to begin in 2022, and will require 2 years to fully construct. It is anticipated that the first 252 MW West stage would be completed and fully operational by the end of 2022, and the second East

stage operational in 2023. Construction of the Project is anticipated to take up to 22 months, during which time the average monthly workforce would be 120 workers.

Operation of the Project is expected to provide direct employment for 23 workers, all of whom would likely reside in Albany County. Workers would either be hired locally or permanently relocate to the area.

## 1.7 Other Permits, Plans, and Approvals

The construction of the Project would need to comply with the federal, state, and local statutes, regulations, and permit requirements. ConnectGen would obtain all permits and approvals that are required prior to the start of construction including, but not limited to, the following:

- State of Wyoming Industrial Siting Council (ISC) Permit
- Non-Roadway Easement from the Wyoming Office of State Lands and Investments
- Wyoming Department of Environmental Quality (WYDEQ) Large Construction General Permit
- Wyoming Department of Transportation (WYDOT) Port of Entry Permit for Oversized/Overweight Loads
- WYDOT M-54 license for utility crossings of State Highway

ConnectGen has applied to interconnect the Project to the existing Ault-Craig 345 kV transmission line that intersects the Project Area under the WAPA Large Generator Interconnection Process. The Ault-Craig 345 kV transmission line is jointly owned by WAPA; Tri-State Generation and Transmission Association, Inc.; and Platte River Power Authority. The Project is currently being reviewed as a connected action to WAPA's federal decision to grant an interconnection to its transmission system. WAPA is preparing an Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act of 1969 (NEPA). Additional information and updates on WAPA's preparation of the EIS for the Project is available at the following website:

<https://www.wapa.gov/transmission/EnvironmentalReviewNEPA/Pages/rail-tie-wind-project.aspx>.

In addition, the Project is subject to review and approval by the Wyoming ISC under the Wyoming Industrial Development Information and Siting Act for all wind energy projects consisting of 20 or more turbines and/or exceeding the statutory threshold construction cost amount of \$222.8 million. The Project anticipates submitting an application outlining the evaluation of potential Project impacts and mitigation measures related to environmental, social, and economic resources in April 2021.

ConnectGen is developing and implementing the environmental-related plans listed in Table 4 for activities completed during construction, operations and maintenance, and decommissioning of the Project. Each of these plans would be prepared in the time frame noted and with the agencies noted for coordination or approval.

**Table 4: Anticipated Environmental-Related Plans**

Plan	Anticipated Timeframe	Agency Coordination or Review
Bird and Bat Conservation Strategy (BBCS)	Prior to construction	Coordination with U.S. Fish and Wildlife Service (USFWS) and Wyoming Game and Fish Department (WGFD)
Blasting Plan	Prior to construction	Compliance with all applicable local, state, and federal regulations
Decommissioning and Reclamation Plans	Developed in support of Albany County and Wyoming ISC permit applications (Appendix J of this application)	Compliance with Wyoming Industrial Development Information and Siting Act and WYDEQ regulations and Albany County Zoning Resolution
Eagle Conservation Plan	Prior to operation	Coordination with USFWS
Emergency Response Plan	Developed in support of Albany County and Wyoming ISC permit applications (Appendix E of this application)	Coordination with Albany County Fire Warden, Emergency Management Coordinator, and County Sheriff
Erosion Control Plan	Prior to construction	Compliance with measures outlined in Wyoming Pollutant Discharge Elimination System construction stormwater permit
Fugitive Dust Plan	Prior to construction	Developed pursuant to Wyoming Air Quality Standards and Regulations
Health, Safety, Security, and Environment (HSSE) Plan	Prior to construction	Compliance with Occupational Safety and Health Administration regulations
Historic Properties Treatment Plan	Prior to construction	Compliance with Section 106
Lighting Plan	Prior to construction	Compliance with Federal Aviation Administration (FAA) lighting requirements
Spill Prevention, Control and Countermeasures (SPCC) Plan	Prior to construction	Compliance with Spill Prevention, Control, and Countermeasure Rule (40 CFR part 112)
Stormwater Pollution Prevention Plan (SWPPP)	Prior to construction	Approval by WYDEQ
Public Roads Use Plan	Developed in support of Albany County and Wyoming ISC permit applications (Appendix F of this application)	Coordination with Wyoming Department of Transportation and Albany County Road and Bridge Department
Unanticipated Discoveries Plan	Prior to construction	Compliance with Programmatic Agreement
Waste Management Plan	Developed in support of Albany County and Wyoming ISC permit applications (Appendix O of this application)	Compliance with Wyoming ISC regulations and Albany County Zoning Resolution

Plan	Anticipated Timeframe	Agency Coordination or Review
Weed Management Plan	Developed in support of the Wyoming ISC permit application	Coordination with Albany County Weed and Pest District
Wind Energy Monitoring Plan	Developed in support of the Wyoming ISC permit application	Coordination with WGFD and participating landowners

## 1.8 Environmental Protection Measures

ConnectGen would plan, coordinate, and conduct each of the Project stages in a manner that protects the quality of the environment. ConnectGen has developed and would implement Environmental Protection Measures (EPMs) to avoid or minimize adverse effects on environmental resources from construction, operations and maintenance, and decommissioning of the Project. Certain areas would be designated as environmentally sensitive and actions would be taken to avoid or minimize effects on these areas. For example, environmentally sensitive areas may include wetlands, certain waterbodies, cultural resources, or wildlife habitat.

ConnectGen would implement the EPMs listed in Appendix C during the Project stages as noted in the table. Project activities described herein would incorporate and be subject to the EPMs as well as potential conditions or requirements imposed as part of federal, state, and local permits and authorizations.

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## 2 PUBLIC MEETINGS AND NOTICES

### 2.1 Public Meetings

Information on the Project and ConnectGen has been disseminated to the public through multiple forms of media and events beginning in 2019. Prior to WAPA's initiation of the federal NEPA process, ConnectGen provided information about the Project through the Project's website [www.RailTieWind.com](http://www.RailTieWind.com). Information presented on the website includes Project details, Frequently Asked Questions, and Project contact information to facilitate direct coordination with Project Team.

Through the NEPA scoping process, WAPA held two informational and scoping meetings for the public in January 2020. The scoping process shared Project information with the public, interested parties and agencies, and gathered input on which issues and resources are important and deserve greater analysis in the EIS. Scoping meeting details are provided below:

Date: January 14, 2020  
Meeting 1: 9 a.m. to 12 p.m.  
Meeting 2: 5 p.m. to 8 p.m.  
Location: Hilton Garden Inn Laramie  
2229 Grand Ave.  
Laramie, WY 82070

The scoping process was initiated on December 30, 2019, by mailing a description of the Project and invitation to the scoping meetings to a mailing list comprised of names and addresses obtained from the Larimer and Albany County Assessors' websites encompassing a 3-mile radius from the Project Area. The scoping meetings were advertised in a variety of formats, including publication in the Federal Register as well as newspapers with local circulation, mailed invitations to the Project mailing list, publication on WAPA's website, and news releases. In each format, the advertisements provided logistics, explained the purpose of the public meetings, gave the schedule for the public comment (scoping) period, outlined additional ways to comment, and provided methods for obtaining additional information.

In addition, the Project held two virtual public informational meeting sessions in February 2021 in accordance with the Wyoming ISC permit application requirements. Representatives from ConnectGen provided an overview of the proposed Project and responded to stakeholder questions. The public informational meeting details are provided below:

Date: February 10, 2021  
Session 1: 9 a.m. to 10:30 a.m.

Session 2: 5 p.m. to 6:30 p.m.

Location: Virtual Meeting via the Project website at [www.railtiewind.com](http://www.railtiewind.com)

## **2.2 Written Notice to Local Governments and Affected Landowners**

As required by Wyoming ISC Rules, Chapter 1, Section 5(b) ConnectGen prepared a notice to local governments (as well as affected landowners) that included a description of the Project, its location, the expected construction period, the number of construction workers, transportation routes for construction materials, the anticipated economic benefits of the Project, and offers methods to provide comments to ConnectGen. The notice also invited representatives of the local governments or affected landowners to attend scheduled informational meetings hosted by ConnectGen regarding the Project, as described above. This notice was mailed on January 22, 2021, to 5 local governments, 23 joint power boards, 32 state agencies, 3 tribes, 12 participating landowners, and 39 adjacent property owners.

As required by the Regulations under Chapter 5, Section 12, F.4 (c)(1), a notice will be mailed at least 14 days prior to the Planning and Zoning Commission meeting and at least 20 days prior to the Board of County Commissioners public hearing. ConnectGen will submit an affidavit of certified mailing of the notice and copies of the signed receipt to the Planning Office at least 5 days prior to the respective Planning and Zoning Commission and Board of County Commissioners meetings.

ConnectGen will obtain and place signage along public roads abutting the Project Area in accordance with the Regulations under Chapter 5, Section 12, F.4 (c)(3). Signage would be placed at least 14 days prior to the consideration of the proposal before the Planning and Zoning Commission and the Board of County Commissioners.

## **2.3 Notice to the Recorded Owners of Mineral Rights**

As required by the Regulations under Chapter 5, Section 12, F.4 (c)(6), prior to submittal of the Application, record owners of mineral rights located on and under the Project Area were notified by letter and two published notices within the Laramie Boomerang in January 2021. The letter was mailed to 22 mineral rights owners on January 22, 2021, with newspaper notices published on January 27<sup>th</sup> and January 29<sup>th</sup>, 2021. Copies of the notices and pertinent information are included as Appendix D-1.

### 3 REVIEW CRITERIA

As outlined in Chapter 5, Section 12, A.2, the Regulations have been adopted for the following purposes:

- a) *To assure that any development and production of wind-generated electricity in Albany County is safe, effective, and that it will minimize impacts to wildlife;*
- b) *To acknowledge that these facilities are clearly visible and cannot be hidden from view, however, design consideration should include minimizing the degradation of the visual character of the area;*
- c) *To facilitate economic opportunities for local residents;*
- d) *To promote the supply of wind energy in support of Wyoming's goal of increasing energy production from renewable energy sources; and*
- e) *To be consistent with the Albany County Comprehensive Plan.*

To ensure compliance with the above purpose of the Regulations, Chapter 5, Section 12, F.4 (f)—Findings Necessary for Approval sets forth the criteria for determining conditional use permit approval of proposed WECS projects. How these approval criteria have been fulfilled by ConnectGen are summarized in the sections below. In addition, resource-specific technical reports were completed by ConnectGen to support review of potential project direct and indirect effects, and provide baseline information to support project permitting and environmental review. Relevant technical reports are provided as appendices to this application, and additional detailed analysis of potential environmental impacts will be described in WAPA's Draft EIS.

After publication, the Draft EIS will be available on the WAPA website:

<https://www.wapa.gov/transmission/EnvironmentalReviewNEPA/Pages/rail-tie-wind-project.aspx>.

#### 3.1 Site Plan

*That the Applicant has provided such site plans and/or survey maps as required (12, F.4 (f)(1)).*

A Project Site Plan is included as Figure 2. The Site Plan delineates the Project boundary; planned location of each turbine, substations, and any other primary structures; property lines; any applicable setbacks; public access roads and turnout locations and any other current or proposed roads within the Project Area; electrical cabling from the turbines to the substations' ancillary equipment; and transmission lines. As outlined above, the Project Site Plan is representative of the Project layout but remains preliminary because final Project engineering and micrositing have not yet been completed. Final turbine numbers, layout, configuration, and turbine type are subject to change based on turbine availability, final engineering, and other economic and environmental considerations. The Regulations (Chapter 5, Section 12, D) authorize approved WECS project permittees to move individual WECS within a project

boundary as the variables of the individual project dictate. An updated Site Plan would be filed with the building permit application prior to construction. The final Site Plan is anticipated to include locations of any easements within the Project Area; delineated areas within the Project Area that would be disturbed during and after construction that would be subject to restoration requirements; any other significant features or improvements. A final Site Plan would be provided to the County Planning Office at least 90 days prior to commencement of Project operations.

### **3.2 Public Health, Safety, and Welfare**

*That the proposed WECS Project will not adversely affect the public health, safety, and welfare of the community (12, F.4 (f)(2)).*

The Project is not anticipated to adversely affect the public health, safety, and welfare of the community. ConnectGen has designed the Project to comply with the County setbacks requirements, and would construct and operate the Project according to all local, state, and federal requirements related to maintaining health and safety of the employees and the local community. The Project has evaluated several aspects of public health and safety raised by the local community regarding electric and magnetic fields (EMFs), ice throw, traffic safety, as well as fire and lightning risk. In addition to the information provided below, additional analysis of these resources is expected in the Draft EIS. EPMs for impacts related to Public Health, Safety, and Welfare are included in Appendix C as PHS-1 through PHS-19. As outlined in Chapter 5, Section 12, H.3 (a)-(b) of the Regulations, ConnectGen has prepared a draft Emergency Response Plan (ERP) that includes consultation with local emergency services to minimize safety hazards and ensure adequate response times (PHS-13). A copy of the draft ERP is included as Appendix E.

#### **3.2.1 Electric and Magnetic Fields**

EMFs are invisible areas of energy, often referred to as radiation, that are associated with the use of electrical power and various forms of natural and man-made lighting (NIEHS 2019). Because the use of electric power is so widespread, people frequently are exposed to EMFs from secondary power lines, home wiring and lighting, and electric appliances and tools. Existing sources of EMF within the Project Area include 345 kV and 230 kV transmission lines and electric distribution lines. EMFs are highest closest to these types of electrical equipment or devices and decreases rapidly with distance. This means that the strength of the field reaching a house or structure will be significantly weaker than it was at its point of origin. EMFs may be shielded and further weakened by buildings, trees, and other objects that conduct electricity (NIEHS 2019).

Project EMF effects could occur from operation of the transmission interconnection line. Approximately four miles of new single circuit, 345 kV overhead line would connect the two

Project substations to the WAPA switchyard. In the case of transmission lines, the strength of the EMFs varies depending on the configuration of the transmission interconnection line. EMFs are usually highest directly under the conductor and diminish as one moves further away from the conductor. EMF levels associated with the interconnection at the edge of the right-of-way are anticipated to be similar to those associated with household electric appliances and would diminish rapidly to ambient background outside of the right-of-way. EMF levels associated with the interconnection line are reflective of the existing EMF levels associated with the two 345 kV and 230 kV transmission lines that traverse the Project Area. EMFs associated with other Project facilities, including substations, switching station, and turbines, would have a negligible EMF output. EMFs in close proximity to a substation are mainly produced by the entering power lines (WAPA n.d.).

The edge of the right-of-way would generally mark the boundary of any long-term residential exposure levels that could be considered a possible health concern. Since there would be no residences or occupied buildings within the right-of-way of the transmission interconnection line or near other electrical infrastructure, long-term exposures would not occur. Effects of EMFs within the Project Area would be expected to be negligible given the design of the facilities, remoteness of the Project location, and distances between Project facilities and existing residences. Nuisance electrical shocks would be avoided through proper equipment operation and through adequate grounding techniques. The following EPMs (listed in Appendix C) would be administered to address potential impacts from EMFs:

- The Project design would be constructed and operated in compliance with appropriate zoning and siting and environmental regulations (GEN-1).
- The Project would include development and implementation of an HSSE Plan that would incorporate all necessary protections for worker health and safety in accordance with OSHA (PHS-5).
- During construction and operations, chain-link fencing would be installed at the substation and switchyard to prevent unauthorized entry (PHS-9).

### 3.2.2 Ice Throw

Ice throw from wind turbines can occur if ice builds up on the turbine blades. The accumulation of ice depends on the local weather conditions and the turbines operational state (Wahl and Giguere 2006). Gravity and the mechanical forces of the moving blades may cause ice to be shed from the turbine and the rotating blades may propel ice fragments some distance from the turbine. Falling ice may cause damage to nearby structures, personnel, and the general public (Wahl and Giguere 2006). The risk of ice throw is considered when planning and siting turbines and can be mitigated through offsite monitoring of ice accumulation, physical and visual

warnings to personnel and third parties, weather-related curtailment, and adhering to setback requirements. During an icing event, ConnectGen will monitor the blades and proactively take the turbines out of service; the turbines will not be returned to service until the ice has been shed from the blades. Appropriate setback distances from residences and public roads would also be factored into Project final design and placement of individual turbines. The following EPMs (listed in Appendix C) would be administered to address potential impacts from ice throw:

- During operation of the Project, wind turbines would be operated in conformance with the manufacturer's operational parameters (PHS-7).
- Staff would perform routine inspections of wind turbines and other Project facilities to identify any potential safety hazards (PHS-8).

### **3.2.3 Traffic**

Impacts to traffic and conditions along roads associated with Project development could also pose potential public safety risks associated with potentially hazardous winter driving conditions associated with turbine locations and Project construction traffic. As wind turbines will be sited to comply with Albany County setback requirements, wind turbines will be set back from residences, public roads, and railroads in order to minimize hazards associated with turbulence, ground blizzards, and drifting snow caused by wind turbines, and in the rare event of blade breakage or ice throw.

Construction traffic associated with the Project will comply with Project safety requirements associated with speed, signage, escort vehicles, permits, road maintenance, and notifications to adhere to safe transport of Project components and prevent potential impacts to both local and non-local travelers. The following EPMs (listed in Appendix C) would be administered to address potential impacts to traffic:

- A Transportation and Traffic Management Plan would be developed and implemented in coordination with WYDOT and Albany County to manage turbine component deliveries, traffic, and circulation in and around the Project Area and minimize potential hazards from increased truck traffic and worker traffic (TRANS-1).
- Project-related travel during construction would be restricted to routes identified in the Project Site Plan (GEN-3).
- Speed limits would be implemented on Project routes during all stages of the Project (GEN-4).
- Access restrictions would be implemented on roads constructed for the Project (PHS-12).

Additional details and assessment information can be found in the Public Roads Use Plan and the Transportation Analysis Technical Report included as Appendix F-1 and F-2, respectively.

### **3.2.4 Fire**

Increased fire risks within the Project Area associated with Project development are considered remote. Potential sources of fire associated with the Project construction, operation or decommissioning activities could include grassland fires from smoking, welding, truck or equipment operation. Turbine fires are rare and not part of normal operations. In the event of a fire, sensors within the wind turbine nacelle would detect interior fires and immediately shut down machinery. If a turbine fire were to occur, the objective for fire control would be to contain any potential ground fires that could result from falling debris. ConnectGen would not attempt to control the fire at the source if it is up-tower. The operation staff would follow the Emergency Response Plan and contact local fire departments to provide ground support. The nearest volunteer fire departments that serve the Project Area are the Tie Siding Volunteer Fire Department (VFD) and the Vedauwoo VFD. The Laramie Fire Department also serves the Project Area.

Accidental fires could occur resulting from human activities such as smoking, the use of construction equipment and vehicles in dry areas, accidental ignition of flammable liquids, mechanical malfunction or incidental fires from lightning or other natural weather events, and mechanical malfunction associated with the wind turbines, electrical transformers, substations, switching station, and transmission line. These factors could lead to increased worker or public safety risks of fire or explosion. Hazards associated with the use of flammable, volatile and hazardous materials and storage of materials onsite during construction, operations, and maintenance could also present fire risks.

The Project's electrical design will comply with the National Electric Safety Code and National Fire Protection Association standards. Construction and operation staff will be trained in fire prevention and response procedures, and equipped with appropriate fire-fighting equipment. The following EPMs (listed in Appendix C) would be administered to address potential impacts from accidental fires:

- All wind turbines and associated electrical equipment would be constructed with nonflammable material around the base of the equipment to reduce the spread of fire should equipment ignite (PHS-17).
- All construction and maintenance vehicles would be equipped with fire extinguishers to allow timely response to equipment fires, and fire suppression equipment would be maintained in the Project Area during construction and operations (PHS-19).

- Rail Tie will coordinate with local emergency services, including the Tie Siding Volunteer Fire Department personnel and Laramie Fire Department in development of response or evacuation plans and procedures. Rail Tie personnel will continue routine coordination with local emergency services throughout the life of the Project (PHS-2).
- Fueling of vehicles will be conducted in accordance with procedures that will minimize the risk of fires and spills (PHS-3)
- Wildfire Mitigation Measures will be developed in coordination with the Laramie Fire Department and Tie Siding Volunteer Fire Department and will be incorporated in the Project's Emergency Response Plan (PHS-14).
- Onsite personnel will routinely inspect the wind farm facilities for fire hazards (PHS-15).
- Wind turbines will be outfitted with lightning protection systems that will reduce the chance of fires igniting from lightning strikes (PHS-16).
- Each wind turbine and associated electrical equipment will be constructed with non-flammable material around the base of the equipment to reduce the spread of fire should electrical equipment ignite (PHS-17).
- All construction and maintenance vehicles will be equipped with fire extinguishers in the event of an equipment fire. Should an onsite fire occur, Project personnel will call 911 to alert the Laramie Fire Department and Tie Siding Volunteer Fire Department (PHS-18).
- Fire suppression equipment, including a trailer-mounted tank of 500 gallons or more capacity with a gasoline powered pump, shall be maintained in the Project Area at all times during construction and operations (PHS-19).

### 3.3 County Services

*That the proposed WECS Project shall not adversely affect the public interest by overburdening County services (12, F.4 (f)(3)).*

Public services include police and law enforcement, fire prevention and suppression, emergency medical responses, hospitals, and public education. The peak workforce for Project construction is estimated at approximately 195 workers. Because risks related to increased injury or illness from the Project would be reduced through the Project design and implementation of industry standards and regulatory requirements, Project-related demands on emergency services are not anticipated to result in the exceedance of capacities or materials of existing emergency response providers servicing the Project Area. The ERP, provided as Appendix E, has been developed in coordination with local and county emergency services, and

coordination will continue throughout the life of the Project. In addition, prior to the start of construction, a Transportation and Traffic Management Plan will be developed in coordination with WYDOT and Albany County to minimize changes to traffic and circulation patterns and avoid access or delays during the movement of turbine components (TRANS-1). As a result, degradation to emergency response times or services due to Project-related activities would not be anticipated.

Temporary increases in population during Project construction is not expected to adversely affect the ability of law enforcement agencies to serve existing constituencies in Albany County. Operation of the Project is expected to provide direct employment for 23 workers, all of whom would likely reside in Albany County. The permanent relocation of a portion of this workforce to Albany County from elsewhere is not expected to adversely affect existing law enforcement capabilities.

The Albany County Emergency Management Office is coordinated by the Laramie Fire Department and is responsible for responding to natural disasters and hazardous materials spills and for implementing the County's Hazard Mitigation Plan. It is not anticipated that construction, operations and maintenance, or decommissioning of the Project would interfere with the County's Hazard Mitigation Plan or subject emergency response personnel to an above-normal response request or outside of the normal operational response area. Effects of traffic delays, due to road closures or construction traffic, are discussed in the Public Roads Use Plan and the Transportation Analysis Technical Report (Appendix F). Rail Tie will enter into a Road Use and Maintenance Agreement with Laramie County, to ensure all potential Project road impacts and potential burdens to county services are mitigated.

Temporary and permanent population changes would be small and would not adversely impact healthcare facilities or services. Similarly, school-aged children would represent a very small portion of temporary and permanent population changes and would not adversely impact public schools.

Potential impacts to county services would be further addressed through the Wyoming ISC process. The Project anticipates the Wyoming ISC will identify the need for Impact Assistance Funds for local communities. Allocation of these funds would help offset the potential economic constraints that the project could have on county services.

### 3.4 Economic or Social Impacts

*Demonstrate that the applicant has addressed any complaints specified during the public comment period concerning any negative economic or social impacts. In addition, other impacts identified by studies or reports for the project concerning economic or social impact shall be addressed (12, F.4 (f)(4)(i)).*

In addition to the review criteria outlined above, Chapter 5, Section 12, I of the Regulations also state: “*Any reports prepared for the Wyoming Industrial Siting Council that address economic and social impacts shall be provided for review and used to determine proper mitigation of these impacts is proposed in the application*”. A socioeconomic analysis is currently being developed as part of the Wyoming ISC permit application. A summary of this analysis has been provided below.

Project construction will provide direct employment for an estimated average of 120 workers for the 20-month construction phase. Overall Project employment is expected to peak in July 2023 with an estimated 195 workers employed on-site, with a similar peak in July 2022 (178 workers on-site). An estimated average of 22 workers are expected to be hired locally (within daily commuting distance of the Project), with local employment expected to peak with 34 local workers on-site in July 2023.

In addition to directly hiring workers on-site, the Project will support jobs elsewhere in the local and regional economy through construction-related expenditures on materials and supplies, and spending by workers employed on the Project. Overall, construction of the first Project phase in 2022 is estimated to support 174 total jobs in Albany County and approximately \$7.3 million in labor income, with total economic output of approximately \$21.2 million.<sup>12</sup> Construction of the second phase in 2023 would have very similar impacts to the first phase and support an estimated 177 total jobs in Albany County, approximately \$7.6 million in labor income, and total economic output of approximately \$21.6 million.

During construction, total Project expenditures on equipment and materials and local spending by non-local workers would generate an estimated total of \$27.0 million in state and local sales and use tax revenues, with \$14.6 million of this total expected to accrue to Albany County (Table 5).<sup>3</sup> Viewed by year, Project-related increases in sales and use tax revenues in 2022 and

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<sup>1</sup> The total job estimates presented here are expressed as full-time equivalents (FTEs), with each job representing 2,080 hours of employment. Part-time or temporary jobs constitute a fraction of a job. For example, if an engineer works just 3 months on a construction project, that would be considered one-quarter of an FTE job.

<sup>2</sup> Economic output represents the total value of goods and services produced as a result of the Project and serves as a broad measure of economic activity.

<sup>3</sup> Expenditures by non-local construction workers temporarily relocating to the Project area would also generate sales tax revenues during construction. These potential revenues, which would be relatively small, are not included in these estimates.

2023 would be equivalent to approximately 38 percent and 39 percent of the corresponding revenues generated in Albany County in 2019.

Once the construction phase has been completed, the Project operations and maintenance activities would continue to contribute to the local economy. Full operation of the Project once both phases are complete will provide permanent, full-time employment for 23 workers, all of whom will reside in Albany County. Operation-related purchases and lease payments to landowners would also generate annual benefits to the local economy over the assumed 35-year operating life of the Project. In addition, operation of the Project would generate property tax revenues, sales, and use tax revenues and, after 3 years of operation, excise tax revenues based on the amount of electricity generated. Overall, operation of the Project is expected to support 60 total jobs in Albany County and approximately \$2.3 million in labor income, with total output of approximately \$10.5 million.

Following completion of both phases, the Project will generate an estimated \$4.3 million in ad valorem tax revenues in the first full year of operation (2024), equivalent to 13 percent of total ad valorem tax revenues generated in Albany County in 2020. Over an operating life of 35 years, the Project will generate an estimated total of \$67.9 million in ad valorem tax revenues. The Project will also generate approximately \$0.5 million in annual sales and use tax revenues, as well as wind excise tax revenues of almost \$2 million once both phases of the Project have been operating for three years. Forty percent of the estimated wind excise tax revenues would be deposited in the State general fund, with the remaining 60 percent distributed to Albany County (Table 5)

**Table 5: Project Tax Revenues Paid to State and County**

	Sales and Use Tax (Construction, One-Time)	Sales & Use Tax (Operations, Avg. Annual)	Excise Tax on Wind Generation (Annual)	Property Tax (Avg. Annual)	Total Tax Revenues over Project Life
State of Wyoming	\$12.4 million	\$0.2 million	\$0.8 million		\$45 million
Albany County	\$14.6 million	\$0.3 million	\$1.2 million	\$1.94 million	\$131 million
<b>Total</b>	<b>\$27.0 million</b>	<b>\$0.5 million</b>	<b>\$2.0 million</b>	<b>\$1.94 million</b>	<b>\$176 million</b>

The influx of temporary and permanent workers to Albany County would place an increased demand on local services, including temporary housing during construction. Project-related demand for hotel and motel rooms and other temporary housing would be beneficial during non-peak months, when demand is usually low. During the peak summer months, estimated Project-related demand would continue to be lower than the estimated supply of temporary housing normally available for rent. Viewed on a per capita basis, temporary and permanent increases in local population during construction and operation would likely cause modest increases in demand for community services and infrastructure. Based on the size and in the case of construction, temporary nature, of these demands, impacts to local public services are anticipated to be modest (as discussed in Section 3.3).

The potential for the Project to affect surrounding property values is a concern that is often raised when a new wind facility is proposed. Typical concerns related to the potential impact of wind power facilities on residential property values include scenic vista stigma and nuisance stigma (Hoen et al. 2009). Scenic vista stigma is the concern that a home may be devalued because of the view of a wind energy facility and the potential impact of that view on an otherwise scenic vista. Nuisance stigma refers to the potential impact of other factors, such as sound and shadow flicker on residential property values. A number of studies addressing the potential impact of wind projects on property values have been conducted since the early 2000s in the United States and elsewhere. Various studies that have addressed these types of potential impacts in rural settings in the United States are summarized below.

- Laposia and Mueller (2010) used hedonic price models to evaluate the announcement effect of a proposed wind farm development on an 11,000-acre ranch in Larimer County, Colorado on surrounding rural housing prices. The study focused on the announcement effect because the facility had not been built at the time of the study. The facility was initially announced in March 2007, which coincided with the beginning of national and regional housing price declines. Using data from 2,910 single-family home transactions before and after the wind farm announcement and adjusting for the economic recession, the study concluded that the wind farm announcement had “insignificant and minimal impacts to surrounding home values and sales,” noting that the wind farm was one of multiple variables affecting home sales prices (Laposia and Mueller 2010, p. 383).
- Hoen et al. (2011), in a study published in the Journal of Real Estate Research used data from 7,459 sales of single-family homes within 10 miles of 24 existing wind facilities. Using four different hedonic models and a number of robustness tests this study assessed the potential impacts of Scenic Vista Stigma, Area Stigma, and Nuisance Stigma on residential property values.<sup>4</sup> The study concluded that “no statistical evidence of the presence of these stigmas was found for the 24 wind facilities and 7,459 residential real estate transactions included in the sample” (Hoen et al. 2011, p. 308). The authors continue “if impacts do exist, they are either too small or too infrequent to result in any statistically observable impact among this sample.” While no statistical evidence of the three identified stigma was found, the authors did identify some evidence that post-announcement reductions in price occurred prior to actual construction and then faded once construction was complete.
- Magnusson and Gittell (2012) used a statistical comparison (primarily analysis of variance or ANOVA) to assess the impact of a 12-turbine wind farm on property values.

<sup>4</sup> Hoen et al. (2011, p. 280) define “area stigma” as “(a) perception that the general area surrounding a wind energy facility will appear more developed, which may adversely affect home values in the local community regardless of whether any individual home has a view of the wind turbines.”

Built in 2008, the wind farm is located in the town of Lempster in Sullivan County, New Hampshire. Using data from 2,065 transactions from 2005 through 2011, this study primarily focused on the visual impact of the turbines, comparing sales information for homes in the vicinity with a clear view, obscure view, or no view. While acknowledging that isolated cases of property value impacts may exist, the authors concluded that this study found “no evidence that the Project has had a consistent, statistically significant impact on property values within the Lempster region” (Magnusson and Gittell 2012, p. 28).

- Hoen et al. (2013) used a pooled data set collected from more than 50,000 home sales from within 10 miles of 67 different wind facilities in nine states, including a substantially larger sample size of homes within 1 mile of facilities than Hoen et al. (2011). Two pairs of hedonic models and a set of robustness tests were used to examine average effects near the turbines across the pooled sample, while controlling for the effects of other potentially competing influences. The models in each pair consist of 1-mile models, or all homes within 1 mile of an existing turbine (1,198 sales), and 0.5-mile models, or homes within a 0.5 mile (331 sales), where effects are thought more likely to appear but fewer data are typically available. Impacts were assessed for three time periods: pre-announcement, post-announcement/pre-construction, and post-construction, with home sales between 3 and 10 miles from a turbine used as the reference category. The study found “no statistical evidence that home prices near wind turbines were affected in either the post-announcement/preconstruction or post-construction periods” (Hoen et al. 2013, p. 38). In other words, the authors stated, there was no statistical evidence that homes in either period that sold near turbines (within 0.5 mile or 1 mile) did so for less than similar homes between 3 and 10 miles away that sold during the same period. The authors, therefore, concluded that if effects do exist, the average impacts are relatively small (within the margin of error of the models) and/or affect only a small subset of homes.

None of the above studies found statistical evidence that wind projects resulted in significant impacts to residential property values. However, as in any property-related transactions, the factors affecting price are complex and would vary depending on the details of each transaction. Isolated cases of property value impacts may exist even though overall impacts are not statistically significant. Other factors typically affecting residential property values include location, property size and condition, proximity to public services and infrastructure, market trends, and purchaser preferences. A property’s value is ultimately determined by the amount a purchaser is willing to pay.

Overall, construction and operations of the Project would provide increases in state and local tax revenues, cause modest increases in demand for local services and infrastructure, and could contribute to changes in residential property values for nearby homes; however, studies of the effects of wind facilities on residential property values have shown that residential property

values could increase or decrease, are not statistically significantly related to the announcement or presence of wind facilities, and are influenced by multiple other factors. Based on the analysis of these issues, no significant adverse socioeconomic impacts are anticipated from the Project. As needed, ConnectGen will work with Albany County to resolve complaints specified during the public comment period concerning any negative economic or social impacts not already addressed in this application. Furthermore, potential social and economic impacts will be considered during the Wyoming ISC process. The Project anticipates the Wyoming ISC will identify the need for Impact Assistance Funds for local communities to further offset the potential for social and economic impacts.

### 3.5 Air Quality

*Mitigate any air quality impact at or beyond the property line: fumes, smoke, odor, dust, heat, etc. (12, F.4 (f)(4)(ii)).*

Direct short-term air emissions would be generated from fossil fuel combustion from construction equipment and vehicles such as haul trucks, cranes, drill rigs, and numerous other pieces of earthmoving equipment, flatbeds, water trucks for dust suppression, and pickup trucks. In addition, a portable concrete batch plant would be located in the Project laydown yards during construction. The portable concrete batch plant would be properly permitted pursuant to the WYDEQ–Air Quality Division regulations as either a portable source or a temporary source and would be subject to emission thresholds regulated by the Division. Soil disturbance and construction traffic on unpaved access roads would generate particulate matter in the form of fugitive dust. To minimize levels of fugitive dust, a Fugitive Dust Control Plan would be prepared prior to construction. The Plan would identify potential sources of fugitive dust, and application of specific treatment options. The following EPMs (listed in Appendix C) would be administered to address potential impacts to air quality:

- A Fugitive Dust Control Plan will be prepared pursuant to Wyoming Air Quality Standards and Regulations Chapter 3, Section 2(f) (AQ-1).
- All unpaved roads and disturbed areas where construction activities are occurring, including temporary laydown areas, will be treated with water or other surfactants as frequently as necessary to control fugitive dust. Wind erosion control techniques such as windbreaks, water, WYDEQ-approved chemical dust suppressants, and/or vegetation will be applied to soil disturbance areas that could potentially result in wind-blown soils (AQ-2).
- All construction equipment vehicle tires will be cleaned via track pad entrances as necessary to limit tracking of soil onto public roadways prior to leaving the construction site (AQ-3).

- All vehicles that are used to transport solid bulk material on public roadways and have the potential to cause visible dust emissions on public roadways either will be covered or the materials sufficiently wetted in a manner to minimize fugitive dust emissions (AQ-4).
- Idling equipment will be turned off when not in use (AQ-5).
- Any stationary sources associated with construction or operations activities requiring WYDEQ—Air Quality Division permits or waivers will be controlled in accordance with relevant regulations and permit conditions (AQ-6).

Construction emissions would not exceed state and/or federal ambient air quality standards, cause sensitive receptors to be exposed to pollution concentrations exceeding state and/or federal standards, conflict with any applicable air quality plan (general conformity), or impact any air quality related values associated with any state or federal Class I areas.

Emissions during the operational phase of Project would consist primarily of (1) fugitive dust from the use of on-site paved and graveled roads, (2) exhaust emissions from site maintenance vehicles, and (3) emissions from any on-site permitted devices such as emergency generators, degreasers, etc. Operations-related emissions would not exceed state and/or federal ambient air quality standards, cause sensitive receptors (i.e., residences) to be exposed to pollution concentrations exceeding state and/or federal standards, conflict with an applicable air quality plan (general conformity), or impact any air quality related values associated with any state or federal Class I areas. Furthermore, the addition of 504 MW of clean energy to the region would potentially displace an equivalent amount of power generated from fossil fuel combustion. Thus, the Project can potentially provide a reduction of criteria pollutant, hazardous air pollutants, and greenhouse gas emissions within the region.

### **3.6 Water Quality**

*Mitigate any water quality impacts (12, F.4 (f)(4)(iii)).*

Permanent direct effects to wetlands and other waterbodies could result from the construction of access roads and the gen-tie transmission line. Direct short-term habitat loss could occur within areas temporarily disturbed during construction of these Project features as well as construction of crane paths, electrical collection lines, and turbine pads. ConnectGen continues to refine siting of Project features based on the results of environmental assessments to avoid and minimize potential impacts to wetland and other waterbodies.

Potential impacts to surface water quality from Project construction or operation would occur if contamination of surface water from erosion or stormwater runoff resulted in a violation of water quality standards, impacts to human use or use by aquatic species, or impacts to off-site erosion and downstream ecosystems due to alteration of existing drainage patterns. A

Reconnaissance Level Assessment is being developed as part of the Wyoming ISC application that would identify areas of potential erosion and sedimentation for use in final siting and construction of road crossings and other infrastructure to reduce downstream surface water impacts. A Stormwater Pollution Prevention Plan (SWPPP) outlining specific erosion control measures would also be prepared in accordance with federal and state requirements to reduce potential on-site or downstream impacts to surface water resources from erosion and sedimentation associated with construction activities. The following EPMs (listed in Appendix C) would be administered to address potential impacts to water quality:

- The Project will identify, avoid, and/or minimize adverse effects to wetlands and waterbodies (WQ-1).
- Woody vegetation in potentially disturbed wetlands will be cut at ground level to leave the root systems intact and encourage sprouting of the existing species following construction (WQ-2).
- Equipment operation in or directly adjacent to wetlands or waterbodies will be kept to the minimum necessary to safely perform the work. Prefabricated equipment matting will be used to avoid rutting, soil compaction, and other ground disturbance where temporary work areas occur in wetlands or waterbodies (WQ-3).
- Wetland and aquatic resource boundaries will be clearly identified on all construction plans and will be posted with signs and flagging in the field (WQ-4).
- Appropriate permits will be secured should any fill or dredge activities in wetlands or other waters of the United States be required. No parking or servicing of construction-related vehicles will occur within any wetland boundary (WQ-5).
- Erosion control barriers and other measures, such as silt fencing, fiber logs, and/or hay bales will be placed immediately upgradient of wetlands and waterbodies to minimize sediment transport and deposition (WQ-6).
- Access roads will be designed and constructed to minimize disruption of natural drainage patterns including perennial, intermittent, and ephemeral streams (WQ-7).
- A SWPPP outlining specific erosion control measures will be prepared, and its requirements will be implemented onsite for the proposed Project. The SWPPP will comply with U.S. Environmental Protection Agency and WYDEQ requirements (WQ-8).
- Construction activities shall be performed using methods that prevent entrance or accidental spillage of solid matter, contaminant debris, and other objectionable pollutants

and wastes into flowing streams or dry watercourses, lakes, and underground water sources (WQ-9).

- Borrow pits, if required, shall be excavated so that the water will not collect and stand therein. Upon completion of construction, the sides of borrow pits will be brought to stable slopes, with slope intersections shaped to carry the natural contour of adjacent, undisturbed terrain into the pit or borrow area, giving a natural appearance (WQ-10).
- Waterbody crossings would incorporate Wyoming Game and Fish Department (WGFD) design specifications and professional engineering standards, as applicable. Open-bottom culverts will be used where appropriate to avoid changing stream morphology or removing suitable fish habitat. In addition, such waterbody crossings and culverts would be constructed in a manner that prevents sediment erosion, deposition of sediment, and minimizes impacts to any environmentally sensitive areas (WQ-11).
- Excavated material or other construction materials will not be stockpiled or deposited on or near stream banks, pond shorelines, or other watercourse perimeters where they can be washed away by storm runoff or can, in any way, encroach upon the actual water body itself (WQ-12).
- Water quality Best Management Practices (BMPs) would be implemented at waterbody crossings to minimize any unforeseen impacts to the Platte River System's watershed and associated vegetation communities (WQ-13).
- If new groundwater wells are required for construction or operation, the Project will coordinate with the WY State Engineer's Office to ensure withdrawal volumes will not adversely affect supplies for other uses (WQ-14).

### 3.7 General Nuisances

*Minimize light, glare, heat, noise, vibration, odors, fumes, smoke, or other nuisances generated by the WECS Project that may affect off-site property owners (12, F.4 (f)(4)(iv)).*

ConnectGen would abide by the noise requirements and County setbacks outlined in Sections 4.1.1 and 4.1.2 of this Application to ensure the minimization of potential nuisances to nearby sensitive receptors. No adverse effects on off-site property owners from glare, heat, noise, vibration, odors, fumes, or smoke are anticipated. Additional information on shadow flicker, visual effects (including nighttime lighting), and noise and vibration are provided below.

### **3.7.1 Shadow Flicker**

A potential nuisance identified for wind energy projects is shadow flicker - the effect of rotating turbine blades causing brightness levels to vary periodically at locations where they obstruct the sun's rays. Within a two-mile buffer of the Project Area, 184 potential sensitive receptor locations (residences, businesses, historic properties, etc.) were evaluated for impacts related to shadow flicker (Appendix G). For the purposes of this analysis, potential shadow flicker impacts were assessed against the widely used industry standard threshold of 30 hours per year, which is the threshold that is cited in numerous state energy siting regulations and county zoning regulations across the country.

The results of the analysis concluded that all sensitive receptor locations had modeled shadow flicker below the industry standard threshold of 30 hours per year. The sensitive receptor with the highest level of shadow flicker for any layout scenario was a participating landowner located in the southern portion of the Project Area, with a maximum predicted shadow flicker of 25 hours and 6 minutes per year. This represents approximately 0.6 percent of the potential available daylight hours.

The results of the analysis indicate that shadow flicker effects associated with the Project are expected to be minor and well within acceptable industry-standard ranges for avoiding or minimizing nuisance. The analysis assumes that the sensitive receptors all have a direct in-line view of the incoming shadow flicker sunlight and does not account for trees or other obstructions that may block sunlight. In reality, the windows of many houses will not face the sun directly during the key times of shadow flicker occurrence. For these reasons, shadow flicker occurrence is expected to be less than estimated in this conservative analysis.

### **3.7.2 Visual Effects**

Where visible and noticeable, the Project facilities have the potential to create visual effects. Short-term visual effects would occur during construction of the Project and would result from construction activities and the presence of construction equipment and work crews. Long-term visual effects during operation of the Project would result from the visibility of the aboveground components associated with the Project, including the wind turbines, MET towers, aboveground electrical collection lines, substations and switchyard, overhead transmission line, O&M facility, and access roads. The wind turbines would be the Project's most visible component and would introduce contrasting elements of form, line, color, and texture to the existing landscape. The tall cylinders of the turbine towers would create a cluster of strong vertical lines that are unlike any other elements in the landscape. The movement of the turbine blades would be another source of visual contrast with the existing landscape. As distance from the viewer and the wind turbines increase, contrast would decrease. The degree in which contrast would be decreased is dependent upon factors such as setting and viewer sensitivity (Sullivan et al. 2013). The overall visual impact of the wind turbines, based on consideration of the respective sources of contrast

associated with the turbines and the applicable receptor characteristics, would vary by viewing location.

To assess potential visual impacts from development of the Project, a Visual Impact Assessment was completed for minimum (3 MW; 500 ft) and maximum (6 MW; 675 ft) turbine height scenarios, generally inclusive of the anticipated impacts for the proposed V150 4.2 MW layout (Appendix H). Based on the viewshed analyses for both the minimum and maximum turbine height scenarios, views are primarily limited to within 5 miles of the Project Area to the west, south, and east, with additional areas of potential visibility in relatively higher-elevation areas and extended visibility to the northwest. Potential areas from which the Project may be visible include residences surrounding the Project Area, residential areas along the southern edge of Laramie, local roads within and adjacent to the Project Area, and portions of major travelways including Interstate 80, U.S. Highways 30 and 287, and Wyoming Highways 130 and 230.

Photographic simulations of both the maximum and minimum turbine height scenarios were completed at 7 representative key observation points (KOPs) with high viewer sensitivity and high potential for impacts to existing visual resources in order to demonstrate how the constructed Project would appear to future viewers. These simulations are included as part of the Visual Impact Assessment provided as Appendix H. The following EPMs (listed in Appendix C) would be administered to address potential impacts to visual resources:

- Collection lines will be buried and collocated with access roads to the extent practicable (VIS-1).
- The operations and maintenance building will be designed with rural and agricultural architectural elements to minimize contrast with existing structures. The building will be painted with earth-tone colors identified in the Bureau of Land Management (BLM) Standard Environmental Colors palette or as required by Albany County to reduce visual contrasts from color (VIS-2).
- Outdoor facility lighting will be designed with light caps and/or directed downward to minimize offsite glare (VIS-3).
- In accordance with Chapter 5, Section 12, G.2 of the Regulations, turbine components will be painted with a light, non-reflective white color (VIS-4).

Nighttime lighting required by the Federal Aviation Administration (FAA) would also introduce visual contrast to the landscape during nighttime hours. FAA warning lights could be visible for more than 20 miles, depending on atmospheric conditions, and would, therefore, introduce strong impacts within the night sky environment. Although the Project would follow FAA

Obstruction Marking and Lighting requirements as defined by Advisory Circular No 70/7460-1L, ConnectGen would coordinate with the FAA on the feasibility of implementing an Aircraft Detection Lighting System (ADLS) to reduce the potential impact of nighttime lighting (VIS-5), in accordance with Chapter 5, Section 12, H.2 (c) of the Regulations. The ADLS would minimize the impact of nighttime obstruction lighting by limiting illumination to only when there is aircraft activity in the vicinity, reducing the duration of night-time illumination. Information on lighting requirements is provided in Section 4.7 of this Application.

### **3.7.3 Noise and Vibration**

During construction of the Project, noise and vibration may be experienced in the vicinity of the Project Area. The estimated maximum noise level at the nearest sensitive receptor (a participating landowner) is expected to range from approximately 60 dBA to 66 dBA per overall construction phase. Construction of the Project would directly and unavoidably increase noise levels, however construction noise impacts would be short term during construction, ceasing with the use of the construction equipment, and would not violate any allowable noise levels established by federal, state, or local regulations. Vibration from activities associated with Project construction would not be noticeable at the nearest sensitive receptor. If hard rock is encountered within the planned foundation area of turbines, blasting could be required to loosen or fracture the rock. Blasting would be limited to between sunrise and sunset if blasting is necessary during construction. Blasting plans would be required for all proposed blasting activities, demonstrating compliance with state and local blasting regulations, including the use of properly licensed personnel and obtaining necessary permits and authorizations.

During operation of the Project, noise may be generated by operating turbines and associated infrastructure. As outlined in the Acoustical Assessment Technical Report developed for the Project (Appendix I), noise associated with WECS operation would not exceed 55 A-weighted decibels (dBA) as measured at any point along the common property lines between a non-participating property and a participating property (Chapter 5, Section 12, G.3 of the Regulations). More detailed information on the results of the acoustical assessment completed for the Project is provided in Section 4.1.1. The following EPMs (listed in Appendix C) would be administered to address potential noise impacts from the Project:

- Construction vehicles and equipment will be maintained in proper operating condition and will be equipped with manufacturers' standard noise control devices or better (e.g., mufflers, engine enclosures) (NOISE-1).
- Construction and hauling equipment will be maintained adequately and equipped with appropriate mufflers (NOISE-2).
- Blasting or hydraulic hammering will be limited to daylight hours (NOISE-3).

### 3.8 Soil Disturbance

*Show that soil disturbance on the site will be minimized and that appropriate measures will be taken to restore disturbed areas to its former state (12, F.4 (f)(4)(v)).*

Project construction and decommissioning would require temporary ground disturbance activities such as vegetation removal, grading, and excavation. These activities are expected to result in approximately 1,280.76 acres of soil disturbance. Permanent soil disturbance would occur on approximately 165.93 acres and would be associated with the footprint of the Project facilities. The Project was designed to minimize the overall footprint of the site and potential impacts to soils by collocating Project access roads with existing two-track roads and siting Project features to minimize development on steep slopes and/or highly erodible soils. As outlined in the SWPPP and Final Restoration Plan that would be developed for the Project prior to construction, temporarily disturbed soils would be stabilized and managed during active construction, and would be permanently restored following completion of construction activities. During decommissioning, temporary soil disturbance would be required in order to remove Project facilities, and the same restoration standards and techniques utilized for construction would be applied.

The Project would utilize the measures and practices outlined in the SWPPP, the Decommissioning Plan (Appendix J-1), and the Reclamation Plan (Appendix J-2) to address revegetation/reclamation, protection of water resources, and erosion control measures adequately during Project construction, operations and maintenance, and decommissioning. These plans will comply with all requirements adopted by the Wyoming ISC under W.S. 35-12-105(d & e) for site reclamation standards. These plans will also be developed in accordance with Chapter 5, Section 12, G.10 (a)-(d) of the Regulations outlining sediment control requirements. Information on sediment control is provided in Section 4.3 of this Application. The following EPMs (listed in Appendix C) would be administered to address potential impacts to soils:

- Temporary ground disturbance activities will be limited to the minimum amount necessary in order to safely construct project facilities (GEO-1).
- Ground disturbance activities in areas of highly erodible soils and steep slopes will be avoided to the extent practicable (GEO-2).
- Roads will be designed to follow existing contours and to avoid steep slopes that would require extensive cut-and-fill construction (GEO-3).
- Soils excavated from the turbine pads will be segregated into separate stockpiles for topsoil and subsoil. Subsoil will be used primarily as backfill while topsoil will be spread

as the topmost layer of soil to support revegetation. Any unused soils or excavated rock will be removed from the site or disposed of in coordination with the landowner (GEO-4).

- An Erosion Control Plan will be developed to identify areas of potentially higher erodibility due to excavation, grading, or ground disturbance. The Erosion Control Plan will define appropriate erosion control measures that may be implemented during and after construction (GEO-5).
- Erosion control measures will be periodically inspected, and as required after precipitation events. Erosion control measures will be repaired or replaced as necessary (GEO-6).
- As soon as practicable following completion of ground disturbance activities, areas of temporary ground disturbance will be regraded and recontoured to blend with the natural terrain while maintaining existing drainage patterns (GEO-7).
- All private landowner's existing drainage and erosion control structures such as diversions, irrigation ditches and tile lines shall be avoided by the Project, or in the alternative, appropriate measures are to be taken to maintain the design and effectiveness of the existing structures. Any structures disturbed during construction shall be repaired to as close to original condition as possible, as soon as possible (GEO-8).

### 3.9 Wildlife Impacts

Show that the WECS Project will not be a significantly negative impact on wildlife species in the area. For WECS Projects specifically, the applicant shall show that their project is consistent with the Wyoming Game and Fish Department's document entitled "Wildlife Protection Recommendations for Wind Energy Development in Wyoming" (November 17, 2010) and that it will follow recommendations made by the Wyoming Game and Fish Department. Any reports prepared for the Wyoming Industrial Siting Council to address wildlife impacts shall be provided (12, F.4 (f)(4)(vi)).

ConnectGen has been coordinating with U.S. Fish and Wildlife Service (USFWS) and WGFD to address potential impacts to wildlife species from development of the Project. Coordination with WGFD is being conducted in accordance with Chapter 5, Section 12, J of the Regulations. A record of this coordination is provided in Appendix M. As outlined in the WGFD Wildlife Protection Recommendations for Wind Energy Development in Wyoming (WGFD 2010), Tier 1 and 2 site characterization studies were completed from 2018 to 2020 that described the site, habitats, and potential species of concern in the Project Area. Table 6 provides a summary of all wildlife-related studies and technical reports prepared to date for the Project. These reports and their results are also provided in Appendix K.

**Table 6: Wildlife Technical Reports**

Report Title	Date	Appendix
Biological Resources Evaluation	April 2020	Appendix K-1
Avian Use Study Rail Tie Wind Project Albany County, Wyoming—Final Report January-December 2019	February 2020	Appendix K-2
Avian Use Study Rail Tie Wind Project Albany County, Wyoming—Final Report January-December 2020	February 2021	Appendix K-3
2019 Golden Eagle and Raptor Nest Survey Report, Rail Tie, WY	June 2017	Appendix K-4
2020 Golden Eagle and Raptor Nest Survey Report, Rail Tie, WY	December 2020	Appendix K-5
Bat Activity Surveys for the Rail Tie Wind Project, Albany County, Wyoming—Final Report	January 2020	Appendix K-6
Year 2 NABat Surveys for the Rail Tie Wind Project, Albany County, Wyoming—Final Report	September 2020	Appendix K-7
Swift Fox Presence/Absence Remote Camera Surveys	November 2020	Appendix K-8
Burrowing Owl Presence/Absence Surveys	September 2020	Appendix K-9

Baseline avian studies were conducted in 2019 and 2020 for the Project in accordance with the ECPG (USFWS 2013), the Eagle Rule Revision (USFWS 2016), the WEGs (USFWS 2012), and the WGFD Wind Energy Recommendations (WGFD 2010). From January 2019 to December 2020, avian use surveys consisting of standardized point counts for large and small birds were conducted within the Project. Eagle and raptor nest surveys were conducted in 2019 and 2020 within the Project Area and surrounding 10-mile buffer (in 2019) and 6-mile buffer (in 2020). Bat acoustic monitoring for the Project was conducted in 2019 and 2020 in accordance with the WEGs (USFWS 2012) and WGFD Wind Energy Recommendations (WGFD 2010). Further discussion on the results of the baseline avian and bat surveys is provided in the individual reports included within Appendix K. The potential risk to avian and bat species is a concern associated with wind energy operation, and these baseline surveys are important in understanding potential avian and bat interaction with the operating facility. In applying the WGFD Wind Energy Recommendations, Rail Tie has committed to completion of additional post-construction studies and continued coordination with WGFD on approaches to reduce impacts to birds and bats.

Based on coordination with WGFD (Appendix M), burrowing owl (*Athene cunicularia*) surveys were conducted over three separate survey periods between April and August of 2020, in accordance with the survey techniques outlined in Chapter 19 of the 2007 WGFD Handbook of Biological Techniques (revised 2013) for determining burrowing owl presence/absence (WGFD 2007a). Presence/absence surveys for burrowing owl surveys completed in 2020 consisted of three rounds of survey at 73 survey locations within the Project Area. No burrowing owls or signs of burrowing owls were observed. Swift fox (*Vulpes velox*) remote camera surveys were conducted in September 2020 in accordance with the survey techniques outlined in Chapter 20

of the 2007 WGFD Handbook of Biological Techniques (revised 2013) for determining swift fox presence/absence by remote camera (WGFD 2007b). Camera surveys confirmed the presence of swift fox within the Project Area, and as part of its continued review and coordination with WGFD, ConnectGen intends to conduct additional swift fox spotlight surveys for the Project in May 2021.

A habitat suitability assessment for potentially suitable Preble's meadow jumping mouse (*Zapus hudsonius preblei*) habitat within the Project Area was performed in May 2020 utilizing methodology provided in the 2004 USFWS Preble's Meadow Jumping Mouse Survey Guidelines (USFWS 2004). The assessment identified potentially suitable habitat within some of the perennial stream reaches within the Project Area. The results of the survey have been utilized for Project design and siting to avoid areas of suitable habitat to the extent practicable.

The Project Area contains WGFD-designated Mule Deer Crucial Range (winter/yearlong), but is located outside designated Ungulate Migration Corridors (WGFD 2019a,b). In total there are approximately 1,651 acres of Mule Deer Crucial Winter Range in the Project Area, of which approximately 292 acres falls within the siting corridors. This is approximately 0.001 percent of the total mapped crucial winter mule deer range in Wyoming. Habitat is present throughout the Project Area for elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), and pronghorn (*Antilocapra Americana*), and all three species have been incidentally observed foraging within the Project Area during pre-construction survey efforts.

Resource survey and monitoring efforts will continue through construction and post construction in order to document species presence and use of the Project Area, conduct mortality monitoring and risk assessment, and document the results of EPMs and agency coordination that will be implemented to address potential impacts from Project development. This includes documentation of reclamation and noxious weed management activities to address potential impacts to habitat from Project development. Data collected during pre-and post-construction monitoring supports the Tier 3 review process, as outlined in the WGFD Wildlife Protection Recommendations for Wind Energy Development in Wyoming (WGFD 2010), which focuses on identifying impacts through construction and post-construction monitoring.

A project-specific Bird and Bat Conservation Strategy (BBCS) and Eagle Conservation Plan (ECP) will be developed in coordination with WGFD and USFWS in accordance with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, and will identify post-construction monitoring methods for the Project. In addition, the Project has developed a Wind Energy Monitoring Plan to be signed by WGFD and host landowners that will establish commitments to voluntary wildlife monitoring, reclamation, avoidance and minimization measures that ConnectGen proposes to follow during the pre-construction, construction, and post-construction phases of the Project. The following EPMs (listed in Appendix C) illustrate the specific measures that would be administered to address potential impacts to wildlife:

- The Project will delineate environmentally sensitive areas (e.g., wetlands, waters, habitats) located within or adjacent to the Project Area and will identify those locations in construction planning documents. Construction and operations personnel will be informed of the appropriate practices that may be applicable to avoid or minimize impacts to these areas (GEN-2).
- Construction travel will be restricted to existing roads and permanent or temporary access roads identified in the final Project Site Plan (GEN-3).
- The Project will implement speed limits on construction and permanent access roads to minimize potential for fugitive dust, impacts to wildlife, and for safety purposes. Speed limit signs will be posted as appropriate (GEN-4).
- During construction, temporary plastic mesh fencing will be installed to protect public and worker safety near excavated wind turbine foundations, electrical collection system trenches, material laydown areas, or any other areas deemed hazardous. Open holes and trenches without fencing will be covered or fenced to deter wildlife and livestock from becoming trapped or injured (PHS-10).
- Temporary ground disturbance activities will be limited to the minimum amount necessary in order to safely construct project facilities (GEO-1).
- A Reclamation Plan (Appendix J-2) will be prepared prior to the onset of construction that will guide the revegetation of disturbed areas during and following the construction process (VEG-1).
- Revegetation will be implemented for all areas temporarily disturbed by construction or decommissioning of the facility in conformance with landowner agreements and in compliance with state and/or federal permitting requirements. Temporarily disturbed areas will be revegetated as soon as practicable, either through natural revegetation practices or through the use of reseeding. Plant species native to the affected ecosystems will be utilized whenever practicable (VEG-2).
- The Reclamation Plan will identify locally-approved, weed free, seed mixtures that prioritize plant species native to the ecosystems affected by site construction (VEG-3).
- The Project will develop and implement an Integrated Weed Management Plan that identifies appropriate controls to avoid, minimize, or treat the spread of noxious weeds directly resulting from construction, operations, and decommissioning (VEG-4).

- The Project will identify, avoid, and/or minimize adverse effects to wetlands and waterbodies (WQ-1).
- A Stormwater Pollution Prevention Plan (SWPPP) outlining specific erosion control measures will be prepared, and its requirements will be implemented onsite for the proposed Project. The SWPPP will be based on U.S. Environmental Protection Agency and Wyoming Department of Environmental Quality requirements (WQ-8).
- Waterbody crossings would incorporate WGFD design specifications and professional engineering standards, as applicable. Open-bottom culverts will be used where appropriate to avoid changing stream morphology or removing suitable fish habitat. In addition, such waterbody crossings and culverts would be constructed in a manner that prevents sediment erosion, deposition of sediment, and minimizes impacts to any environmentally sensitive areas (WQ-11).
- Water quality best management practices would be implemented at waterbody crossings to minimize any unforeseen impacts to the Platte River System's watershed and associated vegetation communities (WQ-13).
- Initial vegetation clearing would be performed during the non-breeding season for birds (September 1 through April 15) if feasible. If vegetation clearing cannot occur during the non-breeding season, surveys will be performed in breeding bird habitat to identify avian nesting activity within the Project Area. Nest sites would be avoided until determined to be inactive (WL-1).
- The Project will develop and implement a Bird and Bat Conservation Strategy to avoid and reduce potential impacts to non-listed bird and bat species that may result from the operations of the Project (WL-2).
- The Project will develop and implement eagle conservation practices and seek to avoid the unintentional take of eagles at wind energy facilities (WL-3).
- In consideration of the USFWS' Land Based Wind Energy Guidelines (2012), the Project will perform post-construction mortality surveys to calculate the fatality rate of birds and bats (WL-4).
- All trash and refuse will be disposed of in designated, covered waste receptacles and regularly removed from the site in order to avoid attracting scavenger (WL-5).
- The overhead power to ground wire wires associated with the 345 kV transmission line will be marked with bird flight diverters consistent with methods suggested in the Avian

Power Line Interaction Committee's Reducing Avian Collisions with Power Lines (2012) (WL-6).

- If overhead collection lines are included in the Project's final design, the electric lines will be designed to incorporate appropriate spacing of energized parts to avoid or reduce the potential for electrocution risk to large birds, specifically raptors. The Project's design would consider the Avian Power Line Interaction Committee's Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (WL-7).
- The Project will notify the USFWS within 24 hours of federally listed species or eagle mortality documented on the Project site (WL-8).
- Wind turbine generators would be set back at least 1 mile from known, occupied eagle nests based on existing and future nest surveys, and the Project would continue to coordinate with the FWS to identify appropriate nest-specific avoidance or minimization measures (WL-9).
- To the extent practicable, herptile habitats for Species of Greatest Conservation Need, such as fallen trees, prairie dog colonies, and potential basking rocks, will be left intact (WL-10)
- Construction activities will be avoided between Nov 15 – April 30 in areas of Mule Deer Crucial Winter Range (WL-11).

### 3.10 Cultural Resource Impacts

*Show that appropriate measures will be taken to mitigate disturbance of any cultural resources on the site. Any reports prepared for the Wyoming Industrial Siting Council to address cultural resource impacts shall be provided (12, F.4 (f)(4)(vii)).*

In coordination with WAPA, ConnectGen is consulting with the Wyoming State Historic Preservation Office (SHPO) and its consulting parties pursuant to the regulations guiding Section 106 of the National Historic Preservation Act (NHPA), as amended (36 CFR 800), which requires the consideration of effects on National Register of Historic Places (NHRP)-eligible cultural resources from development of the project. This involves identification and assessment of impacts of cultural resources and development and implementation of a programmatic agreement (PA) to address any identification efforts and assessment of effects that could not fully be determined prior to the approval of the Project, and for implementing the avoidance, minimization, or mitigation of adverse effects to complete the Section 106 process in coordination with NEPA. Coordination with SHPO is in accordance with Chapter 5, Section 12, K of the Regulations. A record of this coordination is provided in Appendix M. Also, separate from the Section 106 process, ConnectGen has performed outreach to sixteen Native American

tribes to provide Project information, gather information on properties of religious or cultural significance, and discuss participation in the cultural review process.

A desktop cultural records search was completed for the Project Area and a one-mile buffer (Research Area) to determine if the Project would potentially result in physical or nonphysical impacts that could alter the characteristics of the resource that make it eligible for listing in the NRHP. In addition, a Visual Impact Assessment was conducted for NRHP-eligible cultural resources within a 10-mile buffer where installation of aboveground Project infrastructure could result in nonphysical impacts. These reports and their results are provided as Appendix L-1 and Appendix L-2, respectively.

In accordance with the PA, prior to the start of construction, intensive field surveys for cultural resources identification would proceed within areas of proposed Project ground disturbance within the Project siting corridors. Any NRHP-eligible cultural resources identified during the survey that could be adversely affected would have adverse effects as required by the PA. All adverse effects to cultural resources, both physical and nonphysical, from the Project would be resolved through a Historic Properties Treatment Plan (HPTP) under the PA and in accordance with the regulations guiding the Section 106 process (36 CFR 800). The following EPMs (listed in Appendix C) outline additional measures that would be administered to address potential impacts to cultural resources:

- The Project will delineate environmentally sensitive areas located within or adjacent to the Project Area and will identify those locations in construction planning documents. Construction and operations personnel will be informed of the appropriate practices that may be applicable to avoid or minimize impacts to these areas (GEN-2).
- Construction travel will be restricted to existing roads and permanent or temporary access roads identified in the final Project Site Plan (GEN-3).
- Development of an Unanticipated Discoveries Plan that describes procedures for responding to the discovery of archaeological or other cultural resources, including unmarked graves, during construction (CR-1).
- Conduct appropriate worker education concerning the recognition and protection of cultural resources (CR-2).
- Conduct a new Class I records search for the Project and Class III cultural resources inventory for all work areas where ground disturbance may occur to comply with Section 106 of the NHPA. The Class III inventory should be performed subsequent to the Draft EIS and after the Project design is finalized. The survey results will be shared with the

Wyoming SHPO to identify and avoid resources eligible for the National Register of Historic Places (CR-3).

- Construction activities will avoid impacts to cultural resource sites that may be identified within the Project Area. Appropriate buffers around cultural resource sites will be delineated on construction drawings and will be flagged in the field with signage to prevent unauthorized entry (CR-4).
- Conduct a systematic architectural inventory of the Project Area and use setbacks to avoid direct impacts to historic architectural resources (CR-5).

ConnectGen will also incorporate any additional measures for avoidance, minimization, and mitigation for resolving adverse effects on NRHP-eligible resources that may be included in the HPTPs tiering to the PA.

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## 4 OTHER REQUIREMENTS

### 4.1 Design and Installation

ConnectGen would comply with Albany County Design and Installation standards as outlined in Chapter 5, Section 12, G of the Regulations, including color, noise, signage, setbacks, and climb prevention requirements. Prior to construction, a professional engineer would certify that the foundation and tower design of the WECS is within accepted professional standards as part of the Zoning Certificate Application.

The turbines would be uniformly painted in a non-reflective and unobtrusive off-white color approved by the FAA for daylight marking to help the turbines blend in with the natural visual character of the area. Each tower would have a locked access door at its base, and have tamper-resistant locks to secure turbines for the Project and an internal ladder and/or lift system providing access to the nacelle. There would be no exterior climbing access on the turbines.

Signage would follow the requirements from Chapter 5, Section 12, G.4 of the Regulations. No turbine, tower, building, or other structure associated with the Project would be used to advertise or promote any product or service. One sign with emergency contact information would be posted on the WECS towers. Approved signage may include safety signs, warning signs, identification signs or numbers, and emergency contact signs as applied by the manufacturer. Signs warning of high voltage would be posted at the Project substations and switching station locations. The Project turbines would not have external pad-mounted transformers.

ConnectGen is coordinating with the County and other local and state officials regarding site design, layout, and emergency response. Appendix M includes a table summarizing these agency discussions.

#### 4.1.1 Noise Requirements

Chapter 5, Section 12, G.3 of the Regulations limits noise from commercial wind energy facilities to 55 dBA as measured at a point along the common property lines between a non-participating property and a participating property. An acoustical assessment was completed to analyze potential noise impacts resulting from development of the Project (Appendix I). The analysis area for this acoustical assessment incorporated 184 noise sensitive areas (e.g., residences, businesses, and historic properties) within a 2-mile radius of the Project Area. The assessment was performed for the V150-4.2 MW turbine model and associated 120 turbine layout, as well as the two proposed substations.

The results of the assessment indicated that none of the noise sensitive areas within the 2-mile analysis area would experience operational Project noise greater than the expected existing

ambient noise range within the Project Area (45-53 dBA). In addition, there are no common property lines that experience noise greater than 55 dBA. Therefore, the Project complies with all noise restrictions outlined in the Chapter 5, Section 12, G.3 of the Regulations.

#### 4.1.2 Setbacks

As outlined in Chapter 5, Section 12, A.2 (a), setbacks have been established by the county to “assure that any development and production of wind-generated electricity in Albany County is safe”. The Project turbines and associated infrastructure would be sited in accordance with all applicable setbacks as outlined in Chapter 5, Section 12, G.7 of the Regulations (Table 7). No waivers or variances to these standard setbacks are being requested as part of this Application. Setbacks are shown in the attached Site Plan (Figure 2), and were calculated on the maximum WECS tower height (tip height) currently being contemplated for the site.

**Table 7: Albany County Zoning Regulations Setbacks for WECS Projects**

Feature	Setback
1 Primary Structure	0.25 mile or 5.5 times the WECS tower height
2 Third-Party Transmission Lines and Communication Towers	1.10 times the WECS tower height
3 Adjacent Property Lines	1.10 times the WECS tower height
4 Any Platted Subdivisions	0.5 mile or 5.5 times the WECS tower height
5 Incorporated Municipalities	1-mile buffer from nearest WECS tower
6 ROW (Interstate 80), State Highway 13, and U.S. Highway 287 and U.S. Highway 30	0.25 mile from nearest WECS tower
7 ROW (Public Roads and Railroads)	1.10 times the WECS tower height
8 State Parks and Wildlife Refuges	0.25 mile from nearest WECS tower
9 County Residential Zone District and any City and Town	0.5 mile or 5.5 times the WECS tower height

#### 4.2 Use of Roads

To address County siting requirements outlined in Chapter 5, Section 12, G.9 of the Regulations, ConnectGen has developed a Public Roads Use Plan (Appendix F-1) and a Transportation Analysis Technical Report (Appendix F-2) as part of this Application. These documents outline the transportation features that are intended to be utilized as part of Project development, including a description of potential haul routes; identification of county, state, and private roads utilized by the Project; a basic road condition assessment of these roads; and a summary of potential impacts to these features. All access permits and utility crossing permits would be obtained in compliance with the regulations and prior to the start of construction. A Road Use and Maintenance Agreement would be developed and executed between Albany County and ConnectGen prior to the commencement of Project construction. The following

EPMs (listed in Appendix C) would be administered to address potential impacts to transportation resources:

- The Project will coordinate with WYDOT and Albany County to implement a Transportation and Traffic Management Plan that minimizes risks and inconvenience to the public, while ensuring safe and efficient construction of the Project. The plan will focus on turbine component deliveries, traffic and circulation primarily within and in the vicinity of the Project area. It will be designed to minimize potential hazards from increased truck traffic and worker traffic and to minimize impacts to traffic flow in the vicinity of the Project (TRANS-1).
- To minimize conflicts between Project traffic and background traffic, deliveries of project components will be scheduled around local volume peaks to the extent feasible (TRANS-2).
- Road clearances may include temporarily blocking road intersections via construction cones and/or staffing blocked intersections with a traffic-control flagger to allow haul trucks sole access to the road while delivering Project components. If required, public road closures are not expected to exceed 15 minutes during each/any road closure event (TRANS-3).
- The Project will coordinate with WYDOT to determine whether temporary speed limit reductions during construction are applicable where Project access points intersect with State Highway 287 (TRANS-4).
- Construction deliveries would be coordinated to avoid major traffic-generating events in Laramie including on the University of Wyoming campus, to the extent practicable (TRANS-5).
- The Project would coordinate with local law enforcement, to manage traffic flows and monitor traffic speed during deliveries (TRANS-6).
- All staging activities and parking of equipment and vehicles would occur within the Project Area and would not occur on maintained Albany County roads (TRANS-7).
- Equipment and material deliveries to the site would be performed by professional transportation companies familiar with the type of equipment, loads involved, and U.S. Department of Transportation, WYDOT, and Albany County regulations (TRANS-8).
- Road signs would be erected to notify travelers and local residents that construction is occurring in the area and provide information regarding the timing and route for

oversized vehicle movements and deliveries. The erection/placement of road signs and the Project construction activities would be performed in accordance with the Albany County Zoning Resolution (Albany County 2011) and coordinated with the Albany County Road and Bridge Department and WYDOT (TRANS-9).

#### **4.3 Sediment Control**

Construction activities such as clearing, grading, trench excavation and backfilling, as well as the movement of construction equipment within the construction workspace, may result soil erosion. Wind facilities are predominantly designed with turbines situated at higher elevations to minimize obstructions to wind. Pursuant to Chapter 5, Section 12, G.10 of the Regulations, access roads and collection lines have been sited to avoid steep slopes to the degree possible. Geotechnical soil borings would be conducted at wind turbine foundation and transmission line structure locations prior to final engineering and construction to determine the suitability of the soil to support turbine and transmission line structure foundations. This information would help dictate final design parameters of the turbine and structure foundations.

ConnectGen would prepare a SWPPP to identify potential sources of stormwater pollution from the Project Area and specify BMPs to control erosion and sedimentation and minimize negative impacts caused by stormwater discharges from the Project. The SWPPP would be prepared prior to construction of the Project. The SWPPP would be implemented from the initiation of construction and used through site restoration efforts. Erosion and sediment control devices would be inspected regularly and after storm events. Once construction has been completed, ConnectGen would backfill graded and excavated areas with the stored native material and return surface conditions to pre-construction conditions as outlined in the Decommissioning Plan (Appendix J-1) and Reclamation Plan (Appendix J-2). During Project operation, stormwater volume, stormwater flow and erosion, and sediment impact are not anticipated to change from pre-construction conditions. EPMs for Geology and Soil impacts are included in Appendix C as GEO-1 through GEO-8, and are listed above in Section 3.8.

#### **4.4 Project Oversight, Routine Scheduled Maintenance, and Operations**

In conformance with Chapter 5, Section 12, G.11 of the Regulations, construction of the Project will be routinely inspected by a professional licensed in the State of Wyoming to ensure all standards required in the adopted WECS Permit are being met. Monthly written reports will be provided to the Albany County Planning Office.

Operation and maintenance of the Project will be conducted in conformance with Chapter 5, Section 12, H of the Regulations. The expected life span of the Project is approximately 35 years. All proposed turbine models have SCADA communication technology to control and monitor the Project. The SCADA communications system permits automatic, independent

operation and remote supervision, allowing the simultaneous control of the wind turbines at all times. An operations and maintenance crew would be on-site during normal working hours to monitor turbine operation from the O&M facility and to conduct maintenance activities.

All major components of turbines would undergo routine maintenance according to the schedules established by the component manufacturer. Examples of such activities include lubrication filter replacements, gear oil changeouts, adding coolant, greasing, and applying paints or coatings for corrosion control. Over the life of the turbine, some mechanical components may also need repair or replacement.

Other activities include regrading and gravel replacement on access roads, routine electrical inspections, and the application of herbicides to control noxious and invasive weeds. ConnectGen would also conduct routine preventative maintenance testing of on-site emergency power generators and maintain fuel levels of on-site propane and fuel tanks.

Access doors to individual turbine towers would be secured against unauthorized entry at all times. Doors to the O&M facility and equipment enclosures would also be locked, and physical barriers such as fences would be maintained around the Project collection substation and interconnection switching station to prevent unauthorized entry.

#### **4.5 Weed Management**

ConnectGen will develop a Weed Management Plan to identify noxious weeds that may occur at the Project Area and to provide guidance for controlling the introduction and spread of these species during Project construction, operation, and decommissioning. The plan will be developed pursuant to noxious weed management requirements as outlined in Chapter 5, Section 12, H.1 (b) of the Regulations and Wyoming ISC Rules Chapter 1 Section 9(c)(iii)(G).

ConnectGen will coordinate with the Albany County Weed and Pest Control District on treatment and control options for disturbed areas within the Project for a minimum of 5 years after the life of the operation. The following EPMs (listed in Appendix C) outlined all specific measures that would be administered to address weed management for the Project:

- The Final Reclamation Plan will identify locally-approved, weed free, seed mixtures that prioritize plant species native to the ecosystems affected by site construction (VEG-3).
- The Project will develop and implement an Integrated Weed Management Plan that identifies appropriate controls to avoid, minimize, or treat the spread of noxious weeds directly resulting from construction, operations, and decommissioning (VEG-4).
- The Project will perform a preconstruction survey of the project footprint to identify existing locations of noxious weeds. Any locations delineated will be identified in the

Weed Management Plan, and appropriate controls will be applied to Project activities in these areas (VEG-5).

- Upon completion of construction, a post-construction weed inventory survey will be performed to validate the effectiveness of the weed management program and ensure that invasive weed levels have not exceeded preconstruction levels (VEG-6).
- The Project will coordinate with the weed management contractor and host landowners regarding specific treatment methods on their respective properties (VEG-7).
- Any herbicide use as part of vegetation management activities will follow label instructions and relevant federal, state, and local laws (VEG-8).

#### **4.6 Microwave Transmission and Emergency Communication Interference**

Pursuant to the Regulations under Chapter 5, Section 12, H.2, in January 2021 ConnectGen provided applicable microwave transmission providers and local emergency service providers (911 operators) copies of the project summary and site plan, along with a notification letter describing the Project and requesting feedback on potential interference with their transmission or communication systems. The letter was mailed to 7 microwave transmission and emergency communication providers on January 22, 2021. Copies of these notifications and pertinent information are included as Appendix D-2.

ConnectGen completed a Microwave Path Analysis and identified several microwave paths that operate within the Project Area (Appendix N). As a result of this analysis, ConnectGen applied 0.5 x rotor diameter buffers around the lateral boundaries of the Fresnel zones associated with paths low enough to potentially be impacted by the Project and sited wind turbines outside of these buffers in order to avoid the likelihood of signal blockage. To the extent that any wireless microwave transmission providers may still demonstrate a likelihood of interference with their communication systems, ConnectGen will take reasonable measures to mitigate such anticipated interference. ConnectGen will also take steps to respond to interference complaints with emergency services communications, local broadcast of residential television, or other communications venues as reasonably feasible.

#### **4.7 Lighting Requirements**

ConnectGen would be required to illuminate turbines to meet the FAA requirements for obstruction lighting or marking of structures over 200 feet above ground surface (US DOT FAA Advisory Circular 70/7460-I L dated October 8, 2016). The FAA lighting requirements are project-specific and take into consideration the configuration of wind turbines. The FAA-approved lighting plan would be submitted to the County when ConnectGen submits a building permit application.

In accordance with Chapter 5, Section 12, H.2 (c) of the Regulations, ConnectGen would coordinate with the FAA on the feasibility of implementing an ADLS system in order to mitigate light impacts to nearby residential areas. An ADLS minimizes the use of nighttime obstruction lighting at wind projects by limiting illumination to when there is aircraft activity in the vicinity. The ADLS utilizes a radar system that can detect the presence of aircraft up to 20 miles from a wind facility. If an aircraft is detected within a certain range (minimum of 3 nautical miles) the lights are turned on. If there are no aircraft within the detection area, the lighting remains off.

Implementation of an ADLS is dependent upon several factors, including flight paths, proximity of airports, commercial availability, technical feasibility, and agency review and approval. The short-duration synchronized flashing of the ADLS is anticipated to lessen potential visual impacts at night in comparison with the standard continuous, medium-intensity red strobe FAA warning system, which would help to reduce the significance of impacts of nighttime lighting depending on viewer location and proximity.

#### **4.8 Emergency Response Coordination**

As outlined in Chapter 5, Section 12, H.3 (a)-(b) of the Regulations, ConnectGen has prepared a draft ERP (Appendix E) that includes consultation with local emergency services to minimize safety hazards and ensure adequate response times (PHS-13). The draft ERP identifies activity risks, roles, and responsibilities for emergency response scenarios, key contacts for emergency response planning, and the locations of the nearest emergency service providers and medical facilities. To facilitate development of the draft ERP, ConnectGen has performed initial outreach to local fire departments and other emergency service providers. A summary of this outreach is available in Appendix M. The draft ERP would be submitted to the County Fire Warden, the Emergency Management Coordinator, County Sheriff, and other relevant emergency service providers for review and comment prior to WECS permit approval. ConnectGen would continue coordination with local emergency service providers to revise and update the ERP as necessary.

#### **4.9 Liability Insurance**

Pursuant to Chapter 5, Section 12, L of the Regulations, ConnectGen is covered by a commercial general liability policy covering bodily injury and property damage with limits of at least \$1 million per occurrence and \$5 million in the aggregate (Appendix B-2).

#### **4.10 Waste Management Plan**

As outlined in Chapter 5, Section 12, M of the Regulations, ConnectGen has developed a Waste Management Plan (Appendix O), which identifies the solid and hazardous waste to be generated by the Project and the proposed program for waste disposal, including strategies for waste minimization through salvage and reuse or recycling of materials. The Waste

Management Plan will be modified as needed to meet applicable regulations and to address the changing conditions and requirements of the Project. The following EPMS (listed in Appendix C) would be administered to address potential impacts from hazardous materials:

- Prior to commencing construction, a Hazard Communication Program will be developed to comply with Occupational Safety and Health Administration (OSHA) requirements under the Hazard Communication Standard. Elements of the Hazard Communication Program include a hazard determination process, approval process, materials inventory system, and training for site personnel. At a minimum, hazardous materials will be properly labeled and stored and material safety data sheets will be available at the site (HAZ-1).
- Care will be taken when selecting the location of hazardous materials storage areas within the site to avoid potentially sensitive areas (HAZ-2).
- In compliance with the Environmental Protection Agency's Spill Prevention, Control and Countermeasure Regulation, secondary containment for hazardous materials that are stored onsite will be provided to minimize potential effects to the surrounding environment. Examples of secondary containment are concrete bermed areas and manufactured containment pallets (HAZ-3).
- Concrete washout would only be disposed of in properly designed concrete washout facilities (HAZ-4).
- A Spill Prevention Control and Countermeasure (SPCC) Plan will be prepared per local, state and federal regulations and will be on site during construction, operation, and maintenance that defines procedures for storage, clean up and disposal of petroleum-based products. The SPCC will identify the types of equipment and materials that will be maintained on-site to facilitate a cleanup in the event of a spill. Construction and operations personnel will be trained to recognize and respond to accidental releases or spills in compliance with the SPCC. Regularly scheduled training modules will be provided to ensure prevention and preparedness throughout the life of the Project (HAZ-5).
- All refuse, wastes, or hazardous materials will be handled, processed, treated, stored, and properly disposed of in accordance with federal, state, and local regulations (HAZ-6).
- Should previously unknown hazardous materials such as contaminated soils be encountered within the site during construction, operations and maintenance, or

decommissioning, the materials will be characterized and the appropriate agency will be informed (HAZ-7).

#### **4.11 Decommissioning and Reclamation**

In accordance with Chapter 5, Section 12, N of the Regulations, ConnectGen has developed a Decommissioning Plan (Appendix J-1) and a Reclamation Plan (Appendix J-2) that comply with all requirements adopted by the Wyoming ISC under §§35-12-105 (d).

The anticipated Project life is approximately 35 years beyond the date of initiating commercial operation. At the end of the estimated 35-year life of the Project, a decision may be made on whether to continue operation with existing equipment or to retrofit the turbines and power system with upgrades based on newer technologies. If the decision is made to end commercial operations of the project, ConnectGen would be responsible for removing the wind facilities and the turbine foundations to a depth of 3 feet below grade. After turbine decommissioning and removal, disturbed areas will be reclaimed and returned to pre-Project land uses (grazing) and will follow landowner use agreements.

ConnectGen would be responsible for all costs to decommission the Project and associated facilities. The estimated cost analysis for decommissioning is provided in Appendix J-1.. The cost to decommission would depend on the prevailing rates for salvage value of the equipment and labor costs. The estimated gross cost of decommissioning of the Project is approximately \$17 to \$18 million (\$142,000 to \$150,000 per turbine). Prior to starting construction, ConnectGen will be required to provide financial assurances sufficient for complete decommissioning and reclamation of the Project at the end of its useful life. This financial assurance will remain in place even if ownership of the Project changes.

Due to the uncertainties surrounding future decommissioning costs and salvage values, ConnectGen will review and update the cost estimate of decommissioning and restoration for the Project every 5 years after Project commissioning, and will adjust the amount of financial assurance as necessary.

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## 5 LITERATURE CITED

- Albany County. 2021. Albany County Zoning Resolution. Originally Adopted August 1, 1997.  
Last Amended March 2, 2021. Albany County Planning Department.
- Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Washington, D.C.: Edison Electric Institute; Sacramento, California: California Energy Commission.
- APLIC. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Washington, D.C.: Edison Electric Institute.
- Hoen, B., Wiser, R., Cappers, P., Thayer, M.A. and Gautam, S. 2009. The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis. Available at: <https://eta-publications.lbl.gov/sites/default/files/report-lbnl-2829e.pdf>.
- Hoen, B., Wiser, R., Cappers, P., Thayer, M.A. and Sethi, G. 2011. Wind Energy Facilities and Residential Properties: The Effect of Proximity and View on Sales Prices. Journal of Real Estate Research 33(3):279–316.
- Hoen, B., Brown, J.P., Jackson, T., Wiser, R., Thayer, M. and P. Cappers. 2013. A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States. Lawrence Berkeley National Laboratory. Prepared for the Office of Energy Efficiency and Renewable Energy, Wind and Water Power Technologies Office, U.S. Department of Energy. August. 51 pages.
- Laposa, S.P. and A. Mueller. 2010. Wind Farm Announcements and Rural Home Prices: Maxwell Ranch and Rural Northern Colorado. Journal of Sustainable Real Estate 2(1):383–402.
- Magnusson, M. and R. Gittell. 2012. Impact of the Lempster Wind Power Project on Local Residential Property Values. Whittemore School of Business & Economics, University of New Hampshire. January.
- NIEHS (National Institute of Environmental Health Services). 2019. Electric and Magnetic Fields. Available online at: <https://www.niehs.nih.gov/health/topics/agents/emf/index.cfm>.
- Sullivan, R.G., L.B. Kirchler, T. Lahti, S. Roché, K. Beckman, B. Cantwell, P. Richmond. 2013. Wind Turbine Visibility and Visual Impact Threshold Distances in Western Landscapes. Available online at: <http://visualimpact.anl.gov/windvtd/>.
- USFWS (U.S. Fish and Wildlife Service). Preble's Meadow Jumping Mouse (*Zapus hudsonius preblei*) Survey Guidelines- Revised April 2004. Available online at: <https://www.fws.gov/mountain-prairie/es/protocols/PMJM2004.pdf>.

- USFWS. 2012. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines. Available online at: [http://www.fws.gov/windenergy/docs/WEG\\_final.pdf](http://www.fws.gov/windenergy/docs/WEG_final.pdf).
- USFWS. 2013. Eagle Conservation Plan Guidance. Module 1—Land-based Wind Energy. Version 2. USFWS Division of Migratory Bird Management. April 2013.
- USFWS. 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests. Federal Register Vol 81. No. 242. Pp 91494-91554. December 16, 2016.
- Wahl, David and Giguere, Philippe. 2006. Ice Shedding and Ice Throw—Risk and Mitigation. GE Energy. Available online at: [https://www.ge.com/content/dam/gepower-pgdp/global/en\\_US/documents/technical/ger/ger-4262-ice-shedding-ice-throw-risk-mitigation.pdf](https://www.ge.com/content/dam/gepower-pgdp/global/en_US/documents/technical/ger/ger-4262-ice-shedding-ice-throw-risk-mitigation.pdf).
- WAPA (Western Area Power Administration). n.d. Electric and Magnetic Field Facts. Available online at: <https://www.wapa.gov/newsroom/Publications/Documents/EMFbook.pdf>.
- WGFD (Wyoming Game and Fish Department). 2007a. Handbook of Biological Techniques Chapter 19: Nongame birds (revised 2013). Available online at: [https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Handbook-BioTechniques/19-NG\\_Birds\\_2013\\_revision.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Handbook-BioTechniques/19-NG_Birds_2013_revision.pdf).
- WGFD. 2007b. Handbook of Biological Techniques Chapter 20: Nongame mammals (revised 2013). Available online at: [https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Handbook-BioTechniques/20-NG\\_Mammals\\_2013\\_revision.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/Handbook-BioTechniques/20-NG_Mammals_2013_revision.pdf).
- WGFD. 2010. Wildlife Protection Recommendations for Wind Energy Development in Wyoming. Cheyenne, WY. Available online at: <https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Habitat%20Information/Wind%20Energy%20Development/Wildlife-Protection-Recommendations-for-Wind-Energy-Development.pdf>. Accessed December 2019.
- WGFD. 2019a. Wyoming Game and Fish Open Data. Available online at: <http://wyoming-wgfd.opendata.arcgis.com/>.
- WGFD. 2019b. Wyoming Game and Fish Department Ungulate Migration Corridor Strategy. Revised January 28, 2019. Available online at: [https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Habitat%20Information/Ungulate-Migration-Corridor-Strategy\\_Final\\_012819.pdf](https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/Habitat%20Information/Ungulate-Migration-Corridor-Strategy_Final_012819.pdf).

## **Appendix A: Property Owner Signatures and Lease Agreements/Letters of Consent**

- A-1—Property Owner Signatures
- A-2—Lease Agreements/Letters of Consent

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A-1—Property Owner Signatures

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A-2—Lease Agreements/Letters of Consent

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## Appendix B: Certifications

- B-1—Certified List of Adjacent Property Owners
- B-2—Certificate of Insurance

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B-1—Certified List of Adjacent Property Owners

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B-2—Certificate of Insurance

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## Appendix C: Environmental Protection Measures

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## Appendix D: Required Notifications

- D-1—Mineral Rights Owners Notifications
- D-2—Interference Notifications

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D-1—Mineral Rights Owners Notifications

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## D-2—Interference Notifications

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## Appendix E: Emergency Response Plan

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## Appendix F: Public Roads Use Plan

- F-1—Public Roads Use Plan
- F-2—Transportation Analysis Technical Report

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F-1—Public Roads Use Plan

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F-2—Transportation Analysis Technical Report

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## Appendix G: Shadow Flicker Assessment

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## Appendix H: Visual Impact Assessment

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## **Appendix I: Acoustical Assessment Technical Report**

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## **Appendix J: Decommissioning and Reclamation Plans**

J-1—Decommissioning Plan

J-2—Reclamation Plan

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J-1—Decommissioning Plan

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J-2—Reclamation Plan

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## Appendix K: Wildlife Technical Reports

- K-1—Biological Resources Evaluation
- K-2—2019 Avian Use Study Rail Tie Wind Project Albany County, Wyoming - Final Report
- K-3—2020 Avian Use Study Rail Tie Wind Project Albany County, Wyoming - Final Report
- K-4—2019 Golden Eagle and Raptor Nest Survey Report, Rail Tie, WY
- K-5—2020 Golden Eagle and Raptor Nest Survey Report, Rail Tie, WY
- K-6—Bat Activity Surveys for the Rail Tie Wind Project, Albany County, Wyoming—Final Report
- K-7—Year 2 Bat Surveys for the Rail Tie Wind Project, Albany County, Wyoming—Final Report
- K-8—Swift Fox Presence/Absence Remote Camera Surveys
- K-9—Burrowing Owl Presence/Absence Surveys

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K-1—Biological Resources Evaluation

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K-2— 2019 Avian Use Study Rail Tie Wind Project Albany County, Wyoming - Final Report

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K-3—2020 Avian Use Study Rail Tie Wind Project Albany County, Wyoming - Final Report

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K-4—2019 Golden Eagle and Raptor Nest Survey Report, Rail Tie, WY

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K-5—2020 Golden Eagle and Raptor Nest Survey Report, Rail Tie, WY

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K-6—Bat Activity Surveys for the Rail Tie Wind Project, Albany County, Wyoming—Final Report

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K-7—Year 2 Bat Surveys for the Rail Tie Wind Project, Albany County, Wyoming—Final Report

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K-8—Swift Fox Presence/Absence Remote Camera Surveys

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K-9—Burrowing Owl Presence/Absence Surveys

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## **Appendix L: Cultural Resource Technical Reports**

- L-1—Cultural Resources Evaluation Technical Report
- L-2—Historic Properties Visual Impact Assessment

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L-1—Cultural Resources Evaluation Technical Report

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L-2—Historic Properties Visual Impact Assessment

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## Appendix M: Project Coordination and Consultation

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## Appendix N: Microwave Path Analysis

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## Appendix O: Waste Management Plan

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