APPLICATION TO THE PUBLIC UTILITIES COMMISSION OF THE STATE OF SOUTH DAKOTA FOR A FACILITY PERMIT TO CONSTRUCT A 120-MEGAWATT BATTERY ENERGY STORAGE SYSTEM

CROWNED RIDGE BATTERY ENERGY STORAGE SYSTEM

Crowned Ridge Energy Storage I, LLC

May 14, 2026

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KEY TERMS AND ABBREVIATIONS

AC	alternating current
ARSD	South Dakota Administrative Rules
BESS	battery energy storage system
BESS Site	the approximately 7.8-acre area in the northern portion of the Project Area where aboveground Project facilities will exist for the life of the Project
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
BMS	battery management systems
Commission	South Dakota Public Utilities Commission
CRES	Crowned Ridge Energy Storage I, LLC
CRW	Crowned Ridge Wind Energy Facility
CRWII	Crowned Ridge II Wind Energy Facility
dBA	A-weighted decibel
DC	direct current
EMF	electric and magnetic fields
ERP	Emergency Response Plan
EMS	energy management system
FE	federally endangered
FEMA	Federal Emergency Management Administration
First District	First District Association of Local Governments
fmsl	feet above mean sea level
FT	federally threatened
GLO	General Land Office
IPaC	Information for Planning and Consultation
L_{eq}, dBA	A-weighted equivalent sound levels
MISO	Midcontinent Independent System Operator
MW	megawatt
mV	medium voltage
NEC	National Electrical Code
NextEra Energy Resources	NextEra Energy Resources, LLC
NFPA	National Fire Protection Association
NLCD	National Land Cover Database
NRCS	Natural Resources Conservation Service

O&M	operations and maintenance
NRHP	National Register of Historic Places
SRHP	State Register of Historic Places
PCS	power conversion system
PE	federally proposed endangered
PEM	palustrine emergent freshwater wetland characterized by emergent marsh, fen, or wet meadow
$PM_{2.5}$	particulate matter 2.5 microns in diameter or less
PM_{10}	particulate matter 10 microns in diameter or less
Project	the 120-megawatt BESS, including all components and ancillary facilities, for which CRES seeks a facility permit from the Commission
Project Area	the approximately 52.7-acre area that encompasses all areas of both temporary and permanent impacts for which CRES has executed a voluntary lease with purchase option agreement
PT	federally proposed threatened
ROW	right-of-way
SCADA	supervisory control and data acquisition
SDCL	South Dakota Codified Law
SDDANR	South Dakota Department of Agriculture and Natural Resources
SDDOT	South Dakota Department of Transportation
SDGFP	South Dakota Game, Fish and Parks
SPCC	spill prevention, control, and countermeasure plan
ST	state listed
SWCA	SWCA Environmental Consultants
SWPPP	stormwater pollution prevention plan
UL	Underwriters Laboratories
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service

COMPLETENESS CHECKLIST

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11(1) through (12); 49-41B-35(2)	20:10:22:05	***Application contents**. The application for a permit for a facility shall contain a list of each permit that is known to be required from any other governmental entity at the time of the filing. The list of permits shall be updated, if needed, to include any permit the applicant becomes aware of after filing the application. The list shall state when each permit application will be filed. The application shall also list each notification that is required to be made to any other governmental entity.*	Section 29
49-41B-35; 49-41B-11(1)	20:10:22:06	***Names of participants required**. The application shall contain the name, address, and telephone number of all persons participating in the proposed facility at the time of filing, as well as the names of any individuals authorized to receive communications relating to the application on behalf of those persons.*	Section 3
49-41B-35; 49-41B-11(7)	20:10:22:07	***Name of owner and manager**. The application shall contain a complete description of the current and proposed rights of ownership of the proposed facility. It shall also contain the name of the project manager of the proposed facility.*	Section 3
49-41B-11(8)	20:10:22:08	***Purpose of facility**. The applicant shall describe the purpose of the proposed facility.*	Section 1; Section 4
49-41B-11(12)	20:10:22:09	***Estimated cost of facility**. The applicant shall describe the estimated construction cost of the proposed facility.*	Section 5
49-41B-11(9)	20:10:22:10	***Demand for facility**. The applicant shall provide a description of present and estimated consumer demand and estimated future energy needs of those customers to be directly served by the proposed facility. The applicant shall also provide data, data sources, assumptions, forecast methods or models, or other reasoning upon which the description is based. This statement shall also include information on the relative contribution to any power or energy distribution network or pool that the proposed facility is projected to supply and a statement on the consequences of delay or termination of the construction of the facility.*	Section 6
49-41B-11	20:10:22:11	***General site descriptions**. The application shall contain a general site description of the proposed facility including a description of the specific site and its location with respect to state, county, and other political subdivisions; a map showing prominent features such as cities, lakes and rivers; and maps showing cemeteries, places of historical significance, transportation facilities, or other public facilities adjacent to or abutting the plant or transmission site.*	Section 2; Appendix A, Figures A-1, A-2a, A-2b
49-41B-35(2); 49-41B-11(6); 49-41B-21; 34A-9-7(4)	20:10:22:12	***Alternative sites**. The applicant shall present information related to the selection of the proposed site for the facility, including the following:* *(1) The general criteria used to select alternative sites, how these criteria were measured and weighed, and reasons for selecting these criteria;* *(2) An evaluation of alternative sites considered by the applicant for the facility;* *(3) An evaluation of the proposed plant, wind energy, or transmission site and its advantages over the other alternative sites considered by the applicant, including a discussion of the extent to which reliance upon eminent domain powers could be reduced by use of an alternative site, alternative generation method, or alternative waste handling method.*	Section 8; Appendix A, Figure A-5

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:13	***Environmental information**. The applicant shall provide a description of the existing environment at the time of the submission of the application, estimates of changes in the existing environment which are anticipated to result from construction and operation of the proposed facility, and identification of irreversible changes which are anticipated to remain beyond the operating lifetime of the facility. The environmental effects shall be calculated to reveal and assess demonstrated or suspected hazards to the health and welfare of human, plant and animal communities which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating energy conversion facilities, existing or under construction. The applicant shall provide a list of other major industrial facilities under regulation which may have an adverse effect on the environment as a result of their construction or operation in the transmission site, wind energy site, or siting area.*	Sections 9–18
49-41B-11(11); 49-41B-22(2)	20:10:22:14	***Effect on physical environment**. The applicant shall provide information describing the effect of the proposed facility on the physical environment. The information shall include:* *(1) A written description of the regional land forms surrounding the proposed plant or wind energy site or through which the transmission facility will pass;* *(2) A topographic map of the plant, wind energy, or transmission site;* *(3) A written summary of the geological features of the plant, wind energy, or transmission site using the topographic map as a base showing the bedrock geology and surficial geology with sufficient cross-sections to depict the major subsurface variations in the siting area;* *(4) A description and location of economic deposits such as lignite, sand and gravel, scoria, and industrial and ceramic quality clay existent within the plant, wind energy, or transmission site;* *(5) A description of the soil type at the plant, wind energy, or transmission site;* *(6) An analysis of potential erosion or sedimentation which may result from site clearing, construction, or operating activities and measures which will be taken for their control;* *(7) Information on areas of seismic risks, subsidence potential and slope instability for the plant, wind energy, or transmission site; and* *(8) An analysis of any constraints that may be imposed by geological characteristics on the design, construction, or operation of the proposed facility and a description of plans to offset such constraints.*	Section 10; Appendix A, Figures A-2a and A-7

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:15	***Hydrology.*** *The applicant shall provide information concerning the hydrology in the area of the proposed plant, wind energy, or transmission site and the effect of the proposed site on surface and groundwater. The information shall include:* *(1) A map drawn to scale of the plant, wind energy, or transmission site showing surface water drainage patterns before and anticipated patterns after construction of the facility;* *(2) Using plans filed with any local, state, or federal agencies, indication on a map drawn to scale of the current planned water uses by communities, agriculture, recreation, fish, and wildlife which may be affected by the location of the proposed facility and a summary of those effects;* *(3) A map drawn to scale locating any known surface or groundwater supplies within the siting area to be used as a water source or a direct water discharge site for the proposed facility and all offsite pipelines or channels required for water transmission;* *(4) If aquifers are to be used as a source of potable water supply or process water, specifications of the aquifers to be used and definition of their characteristics, including the capacity of the aquifer to yield water, the estimated recharge rate, and the quality of ground water;* *(5) A description of designs for storage, reprocessing, and cooling prior to discharge of heated water entering natural drainage systems; and* *(6) If deep well injection is to be used for effluent disposal, a description of the reservoir storage capacity, rate of injection, and confinement characteristics and potential negative effects on any aquifers and groundwater users which may be affected.*	Section 11; Appendix A, Figure A-9
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:16	***Effect on terrestrial ecosystems****. The applicant shall provide information on the effect of the proposed facility on the terrestrial ecosystems, including existing information resulting from biological surveys conducted to identify and quantify the terrestrial fauna and flora potentially affected within the transmission site, wind energy site, or siting area; an analysis of the impact of construction and operation of the proposed facility on the terrestrial biotic environment, including breeding times and places and pathways of migration; important species; and planned measures to ameliorate negative biological impacts as a result of construction and operation of the proposed facility.*	Section 12
49-41B-11(11); 49-41B-21; 49-41B-22(2)	20:10:22:17	***Effect on aquatic ecosystems****. The applicant shall provide information of the effect of the proposed facility on aquatic ecosystems, and including existing information resulting from biological surveys conducted to identify and quantify the aquatic fauna and flora, potentially affected within the transmission site, wind energy site, or siting area, an analysis of the impact of the construction and operation of the proposed facility on the total aquatic biotic environment and planned measures to ameliorate negative biological impacts as a result of construction and operation of the proposed facility.*	Section 13

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11(11); 49-41B-22(2)	20:10:22:18	***Land use**. The applicant shall provide the following information concerning present and anticipated use or condition of the land:* *(1) A map or maps drawn to scale of the plant, wind energy, or transmission site identifying existing land use according to the following classification system:* *(a) Land used primarily for row and nonrow crops in rotation;* *(b) Irrigated lands;* *(c) Pasturelands and rangelands;* *(d) Haylands;* *(e) Undisturbed native grasslands;* *(f) Existing and potential extractive nonrenewable resources;* *(g) Other major industries;* *(h) Rural residences and farmsteads, family farms, and ranches* *(i) Residential;* *(j) Public, commercial, and institutional use;* *(k) Municipal water supply and water sources for organized rural water systems; and* *(l) Noise sensitive land uses;* *(2) Identification of the number of persons and homes which will be displaced by the location of the proposed facility;* *(3) An analysis of the compatibility of the proposed facility with present land use of the surrounding area, with special attention paid to the effects on rural life and the business of farming; and* *(4) A general analysis of the effects of the proposed facility and associated facilities on land uses and the planned measures to ameliorate adverse impacts.*	Section 14; Appendix A, Figure A-2b
49-41B-11; 49-41B-28	20:10:22:19	***Local land use controls**. The applicant shall provide a general description of local land use controls and the manner in which the proposed facility will comply with the local land use zoning or building rules, regulations or ordinances. If the proposed facility violates local land use controls, the applicant shall provide the commission with a detailed explanation of the reasons why the proposed facility should preempt the local controls. The explanation shall include a detailed description of the restrictiveness of the local controls in view of existing technology, factors of cost, economics, needs of parties, or any additional information to aid the commission in determining whether a permit may supersede or preempt a local control pursuant to SDCL 49-41B-28.*	Section 15
49-41B-11	20:10:22:20	***Water quality**. The applicant shall provide evidence that the proposed facility will comply with all water quality standards and regulations of any federal or state agency having jurisdiction and any variances permitted.*	Section 16
49-41B-11; 49-41B-21; 49-41B-22	20:10:22:21	***Air quality**. The applicant shall provide evidence that the proposed facility will comply with all air quality standards and regulations of any federal or state agency having jurisdiction and any variances permitted.*	Section 17
49-41B-11(3)	20:10:22:22	***Time schedule**. The applicant shall provide estimated time schedules for accomplishment of major events in the commencement and duration of construction of the proposed facility.*	Section 7.4.1

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11(3); 49-41B-22	20:10:22:23	***Community Impact.*** *The applicant shall include an identification and analysis of the effects the construction, operation, and maintenance of the proposed facility will have on the anticipated affected area including the following:* *(1) A forecast of the impact on commercial and industrial sectors, housing, land values, labor market, health facilities, energy, sewage and water, solid waste management facilities, fire protection, law enforcement, recreational facilities, schools, transportation facilities, and other community and government facilities or services;* *(2) A forecast of the immediate and long-range impact of property and other taxes of the affected taxing jurisdictions;* *(3) A forecast of the impact on agricultural production and uses;* *(4) A forecast of the impact on population, income, occupational distribution, and integration and cohesion of communities;* *(5) A forecast of the impact on transportation facilities;* *(6) A forecast of the impact on landmarks and cultural resources of historic, religious, archaeological, scenic, natural, or other cultural significance. The information shall include the applicant's plans to coordinate with the local and state office of disaster services in the event of accidental release of contaminants from the proposed facility; and* *(7) An indication of means of ameliorating negative social impact of the facility development.*	Section 18
49-41B-11	20:10:22:24	***Employment estimates****. The application shall contain the estimated number of jobs and a description of job classifications, together with the estimated annual employment expenditures of the applicants, the contractors, and the subcontractors during the construction phase of the proposed facility. In a separate tabulation, the application shall contain the same data with respect to the operating life of the proposed facility, to be made for the first ten years of commercial operation in one-year intervals. The application shall include plans of the applicant for utilization and training of the available labor force in South Dakota by categories of special skills required. There shall also be an assessment of the adequacy of local manpower to meet temporary and permanent labor requirements during construction and operation of the proposed facility and the estimated percentage that will remain within the county and the township in which the facility is located after construction is completed.*	Section 19
49-41B-11(5)	20:10:22:25	***Future additions and modifications.*** *The applicant shall describe any plans for future modification or expansion of the proposed facility or construction of additional facilities which the applicant may wish to be approved in the permit.*	Section 20

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11; 49-41B-21; 49-41B-22	20:10:22:26	***Nature of proposed energy conversion facility**. The application shall contain a description of the operating nature of the proposed facility, the expected source and quantity of its raw materials, and energy requirements. The preceding shall be illustrated by means of an annotated map. The description shall include the following:* *(1) The proposed on-line life of the facility and its projected operating capacity during its on-line life;* *(2) A general description of the major components of the proposed facility such as boilers, steam generators, turbine generators, cooling facilities, production equipment, pollution control equipment, and other associated facilities;* *(3) An identification of materials flowing into the facility, including all materials such as air, water, coal, and chemical compounds that will be utilized by the proposed facility, recorded in accordance with accepted scientific practices regarding their estimated consumption rate;* *(4) An inventory of all materials flowing out of the proposed facility, including the method of control, treatment, destination, and disposal monitoring programs of each of the materials; and* *(5) The procedures proposed to avoid or ameliorate the possibility that the discharges, emissions, or solid wastes would do any of the following:* *(a) Constitute a public nuisance;* *(b) Endanger the public health and safety;* *(c) Endanger human, animal, or plant life; or* *(d) Endanger recreational facilities.*	Section 21
49-41B-11	20:10:22:27	***Products to be produced**. The applicant shall describe both in general terms and by technical description the products and by-products to be produced by the proposed facility and their destinations.*	Section 22
49-41B-11	20:10:22:28	***Fuel type used**. The applicant shall provide a description of the type of fuel used, including:* *(1) Primary proposed fuel types;* *(2) Anticipated yield and range (BTU or appropriate unit); and* *(3) Approximate chemical analysis of the proposed design fuel.*	Section 23
49-41B-11	20:10:22:29	***Proposed primary and secondary fuel sources and transportation**. On a map drawn to scale, the applicant shall provide the location of proposed primary and secondary sources of fuel and method of its transportation. When possible, the map shall show the location of the proposed facility; where distances are too great to show the facility and proposed primary and alternate supply sources, smaller scale inserts showing relative location shall be presented. The applicant shall also describe any additional transportation facilities needed to deliver raw materials and to remove wastes.*	Section 24
49-41B-11; 49-41B-21; 34A-9-7(4)	20:10:22:30	***Alternative energy resources**. The applicant shall provide information concerning the alternate energy resources considered in the construction of the energy conversion facility. The applicant shall also discuss the reasons for selecting the proposed energy resource rather than an alternative resource.*	Section 25
49-41B-11	20:10:22:31	***Solid or radioactive waste**. The applicant shall provide information concerning the generation, treatment, storage, transport, and disposal of solid or radioactive waste generated by the proposed facility and evidence that all disposal of the waste will comply with the standards and regulations of any federal or state agency having jurisdiction. Any variations from these standards shall be indicated.*	Section 26

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-11; 49-41B-21; 49-41B-22; 34A-9-7(2)(5)	20:10:22:32	***Estimate of expected efficiency**. The applicant shall provide an estimate of the expected efficiency of the proposed energy conversion process and discuss the assumptions on which the estimate is based.*	Section 27
49-41B-35(3)	20:10:22:33.01	***Decommissioning**. The applicant shall provide a plan or policy statement on action to be taken at the end of the energy conversion facility's on-line life. Estimates of monetary costs, site condition after decommissioning, and the amount of land irretrievably committed shall be included in this statement.*	Section 28
49-41B-11	20:10:22:05	***Application contents.** The application for a permit for a facility shall contain a list of each permit that is known to be required from any other governmental entity at the time of the filing. The list of permits shall be updated, if needed, to include any permit the applicant becomes aware of after filing the application. The list shall state when each permit application will be filed. The application shall also list each notification that is required to be made to any other governmental entity.*	Section 29
49-41B-11	20:10:22:33.02	***Information concerning wind energy facilities and solar energy facilities.** If a wind energy facility or solar energy facility is proposed, the applicant shall provide the following information:* *(1) Configuration of the wind turbines, including the distance measured from ground level to the blade extended at its highest point, distance between the wind turbines, type of material, and color - or configuration of the solar panels;* *(2) The number of wind turbines or solar panels, including the number of anticipated additions of wind turbines or solar panels in each of the next five years;* *(3) Any warning lighting requirements for the wind turbines;* *(4) Setback distances from off-site buildings, rights-of-way of public roads, and property lines;* *(5) Anticipated noise levels at the exterior of all occupied residences located within the affected area during construction and operation;* *(6) Anticipated electromagnetic interference during operation of the facilities;* *(7) The proposed wind energy site or solar energy site and alternative site locations as depicted on overhead photographs and land use culture maps;* *(8) Reliability and safety;* *(9) Right-of-way or condemnation requirements;* *(10) Necessary clearing activities;* *(11) Configuration of towers and poles for any electric interconnection facilities, including material, overall height, and width;* *(12) Conductor configuration and size, length of span between structures, and number of circuits per pole or tower for any electric interconnection facilities; and* *(13) If any underground collection facilities are placed, the depth of burial, distance between access points, conductor configuration and size, and number of circuits.*	Section 7

South Dakota Codified Law (SDCL)*	South Dakota Administrative Rules (ARSD)	Required Information	Location in Application
49-41B-7; 49-41B-22	20:10:22:36	***Additional information in application.*** *The applicant shall also submit as part of the application any additional information necessary for the local review committees to assess the effects of the proposed facility pursuant to SDCL 49-41B-7. The applicant shall also submit as part of its application any additional information necessary to meet the burden of proof specified in SDCL 49-41B-22. Applicant's burden of proof. The applicant has the burden of proof to establish that:* *(1) The proposed facility will comply with all applicable laws and rules;* *(2) The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area;* *(3) The facility will not substantially impair the health, safety or welfare of the inhabitants; and* *(4) The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.*	Section 31
49-41B-11; 49-41B-22	20:10:22:39	***Testimony and exhibits****. Upon the filing of an application pursuant to SDCL 49-41B-11, an applicant shall also file all data, exhibits, and related testimony which the applicant intends to submit in support of its application. The application shall specifically show the witnesses supporting the information contained in the application.*	Section 32
49-41B-11	20:10:22:04 (5)	***Applicant's verification.*** *The truth and accuracy of the application shall be verified by the applicant. Each application shall be considered to be a continuing application, and the applicant must immediately notify the commission of any changes of facts or applicable law materially affecting the application. This duty continues up to and includes the date on which the permit is issued or denied.*	Section 33

* General Authority: SDCL 49-41B-35.

1 INTRODUCTION

Crowned Ridge Energy Storage I, LLC (CRES), a wholly owned, indirect subsidiary of NextEra Energy Resources, LLC (NextEra Energy Resources), submits this application for a facility permit to construct and operate a 120-megawatt (MW) battery energy storage system (BESS) (Project) to store excess energy available on the grid. The Project is proposed to be located within the existing Crowned Ridge Wind Energy Facility (CRW) project area[1], which is owned and operated by CRES's affiliate, Crowned Ridge Wind, LLC, in Codington County, South Dakota (Appendix A, Figure A-1).

The Project includes a 120-MW, 4-hour duration BESS facility with associated inverters; transformers; medium voltage (mV) collection cables; and other ancillary facilities, such as fencing, roads, and a supervisory control and data acquisition (SCADA) system. The Project will connect to the existing CRW Collector Substation via approximately 2,215-foot-long mV collection cables. The Project Area encompasses all areas of both temporary and permanent impacts and comprises approximately 52.7 acres of property for which CRES has executed a voluntary lease with purchase option agreement. CRES expects to start construction in May 2027 with commercial operation anticipated in May 2028. The BESS is expected to occupy approximately 7.8 acres within this Project Area following construction. The Project's anticipated lifespan is 35 years.

The Project will be capable of storing excess power from the grid when production exceeds system demand (oversupply). If the grid has excess energy (e.g., during periods of low demand), this energy will be absorbed by the Project for later release. The Project will provide additional reliability for and deliverability to the grid by having the ability to store low-cost, excess generation (relative to load) and inject it into the grid at times of increased demand.

Pursuant to South Dakota Codified Law (SDCL) 49-41B-11, CRES is filing this application following the permitting process for an energy conversion facility in accordance with South Dakota Administrative Rules (ARSD) 20:10:22. In this application, CRES presents the information required by the South Dakota Public Utilities Commission's (Commission's) siting rules. Information regarding Project design, construction, and operation has been included in this application to allow a thorough understanding of the Project and to aid review by the Commission, regulatory agencies, and the public.

CRES seeks a facility permit for the Project Area, rather than for specific infrastructure locations. This process allows flexibility in determining the final equipment layout as the design is finalized and specific technology is selected. A preconstruction conference call will be held with Commission staff to ensure that the final Project site plan conforms to the facility permit requirements. This siting process is consistent with South Dakota siting rules; consistent with Commission precedent; and provides CRES with the flexibility necessary to develop a timely, safe, cost-effective project in an environmentally responsible manner.

2 GENERAL SITE DESCRIPTION (ARSD 20:10:22:11)

ARSD 20:10:22:11. General site description. *The application shall contain a general site description of the proposed facility including a description of the specific site and its location with respect to state, county, and other political subdivisions; a map showing prominent features such as cities, lakes and rivers; and maps showing cemeteries, places of historical significance, transportation facilities, or other public facilities adjacent to or abutting the plant or transmission site.*

[1] The CRW was approved by the Codington County Planning Commission/Board of Adjustment on July 16, 2018, and by the South Dakota Public Utilities Commission (Commission) on July 26, 2019 (Commission Docket No. EL 19-003).

Appendix A, Figure A-1, shows the Project Area with respect to state, county, and other political subdivisions, as well as prominent features such as cities, lakes and rivers, and transportation facilities. No cemeteries, places of historic significance, or public facilities are adjacent to or abut the Project Area.

The Project Area is in Sections 2 and 1, Township 118 North, Range 51 West (Appendix A, Figures A-2a–A-2b). The Project Area encompasses approximately 52.7 acres southeast of the intersection of 464th Avenue and 161st Street in Codington County, South Dakota. Mapped land cover according to the National Land Cover Database (NLCD) within the Project Area is listed in Table 2-1 (NLCD 2025) and shown in Appendix A, Figure A-3. However, much of the Project Area has been previously disturbed, and no forested areas, woodlots, or tree lines are currently present. No human-made structures such as buildings, barns, or bridges are present in the Project Area except for the substation and one operating wind turbine.

Table 2-1. NLCD-Mapped Land Cover within the Project Area

Land Cover Type	Acres	Percentage of Total
Cultivated Crops	37.7	71.6%
Grassland/Herbaceous	9.4	17.9%
Deciduous Forest	2.7	5.2%
Pasture/Hay	1.1	2.1%
Developed Open Space	0.9	1.7%
Developed Low Intensity	0.4	0.8%
Developed Medium Intensity	0.4	0.8%
Total	**52.7**	**100.1%**

Source: NLCD (2025).

Note: The Project Area is zoned as agricultural (Agricultural Zoning District). Public utilities are considered permissible as a conditional use in the Agricultural Zoning District. CRES applied for a conditional use permit to Codington County on February 22, 2024, for the CRW Collector Substation with a BESS. CRES obtained the conditional use permit from Codington County on May 20, 2024 (Appendix B). CRES is coordinating with Codington County to apply for an extension to the conditional use permit before June 2026.

* Totals may be off slightly due to rounding.

Within the Project Area, CRES anticipates that up to an estimated 32.6 acres may be temporarily impacted for the construction of the Project. Temporary impacts will occur in the northern portion of the Project Area, along the collection cable route between the BESS and the existing substation, and in access areas. Following construction, aboveground Project facilities will occupy only approximately 7.8 acres in the northern portion of the Project Area. This area, where aboveground facilities will exist for the life of the Project, is referred to herein as the BESS Site. Detailed site plans are found in Appendix C.

3 NAME OF OWNER, MANAGER, AND PARTICIPANTS (ARSD 20:10:22:06; 20:10:22:07)

ARSD 20:10:22:06. Names of participants required*. The application shall contain the name, address, and telephone number of all persons participating in the proposed facility at the time of filing, as well as the names of any individuals authorized to receive communications relating to the application on behalf of those persons.*

ARSD 20:10:22:07. Name of owner and manager*. The application shall contain a complete description of the current and proposed rights of ownership of the proposed facility. It shall also contain the name of the project manager of the proposed facility.*

The individual authorized to receive communications relating to this application on behalf of Crowned Ridge Energy Storage I, LLC is:

Crowned Ridge Energy Storage I, LLC
Daulton Pearson, Lead Project Manager, Development
c/o NextEra Energy Resources, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

The owner and manager of the proposed Project is Crowned Ridge Energy Storage I, LLC, a wholly-owned indirect subsidiary of NextEra Energy Resources, LLC. The contact person is:

Crowned Ridge Energy Storage I, LLC
Daulton Pearson, Lead Project Manager, Development
c/o NextEra Energy Resources, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

NextEra Energy Resources, LLC, through its subsidiaries and affiliates, develops energy generation projects throughout the United States and Canada with a strategic focus centered on the development, construction, and operation of long-term contracted generation facilities, including renewables, nuclear, and natural gas, as well as battery storage facilities. NextEra Energy Resources, LLC, is a world leader in battery energy storage, with more than approximately 3,000 MW of operational energy storage capacity. In South Dakota, NextEra Energy Resources, LLC, subsidiaries own and/or operate four wind facilities with additional wind energy and energy storage projects currently in development. Since 2003, NextEra Energy Resources, LLC's, subsidiaries have been helping fuel South Dakota's economic growth, improving quality of life, and moving the state and country toward energy independence. NextEra Energy Resources, LLC's, subsidiaries design, construct, and operate their facilities in an environmentally sound and responsible manner.

4 PURPOSE OF FACILITY (ARSD 20:10:22:08)

ARSD 20:10:22:08. Purpose of facility. *The applicant shall describe the purpose of the proposed facility.*

The purpose of the Project is to store excess power from the grid when production exceeds system demand (oversupply). If the grid has excess energy (e.g., during periods of low demand), this energy will be absorbed by the Project for later release. The Project will provide additional reliability for and deliverability to the grid by having the ability to store low-cost, excess generation (relative to load) and inject it into the grid at times of increased demand.

Utility-scale BESS facilities, like the Project, enhance grid resilience during extreme weather events and disruptions by providing immediate backup power, stabilizing grid operations, and integrating renewable energy. BESS facilities can store energy during low demand and release it during peak demand, maintaining grid stability and reducing outages. BESS facilities also support critical infrastructure during emergencies. Quick response times and demand management capabilities make BESS essential for ensuring continuous, reliable power, even in adverse conditions.

5 ESTIMATED COST OF FACILITY (ARSD 20:10:22:09)

ARSD 20:10:22:09. Estimated cost of facility. *The applicant shall describe the estimated construction cost of the proposed facility.*

The current estimated cost of construction for the Project is $174 million. This includes all construction of BESS facilities, including costs associated with the construction of the Project's approximately 2,215-foot-long mV collection cables between the BESS and the existing CRW Collector Substation. Estimated costs are based on preliminary engineering and are subject to change based on the final Project design and marketplace escalation before contracts are executed. The cost estimates for the Project are based on CRES's affiliates' experience and the actual costs incurred for constructing prior similar projects. CRES then updated these data based on market conditions and included a risk reserve for unknown variables, such as unfavorable weather conditions, additional environmental or cultural mitigation measures, and material/contractor pricing.

6 DEMAND FOR FACILITY (20:10:22:10)

ARSD 20:10:22:10. Demand for facility. *The applicant shall provide a description of present and estimated consumer demand and estimated future energy needs of those customers to be directly served by the proposed facility. The applicant shall also provide data, data sources, assumptions, forecast methods or models, or other reasoning upon which the description is based. This statement shall also include information on the relative contribution to any power or energy distribution network or pool that the proposed facility is projected to supply and a statement on the consequences of delay or termination of the construction of the facility.*

The Project will provide dispatchable capacity next to an existing wind resource, allowing the offtaker, Northern States Power, to deliver reliable energy during peak demand periods, reduce reliance on higher-cost peaking generation, and better balance volatility on the grid of the Midcontinent Independent System Operator (MISO), the system operator. CRES executed an Energy Storage Agreement with Northern States Power on October 24, 2025, which has a term of 15 years. The Project will share the CRW Collector Substation, and the interconnection of the Project has been studied by MISO. CRES will execute a Surplus Interconnection Service Generator Interconnection Agreement with the interconnecting transmission utility, Otter Tail Power Company, and MISO, which it anticipates executing in June 2026. The interconnection agreement will allow the BESS to connect to the grid through the shared use of the existing CRW Collector Substation and transmission line without exceeding the original interconnection limit of the CRW's Generator Interconnection Agreement. Therefore, the combined energy output will not exceed the original wind interconnection limits.

The loss or delay of planned capacity associated with the Project would reduce reserve margins and require reliance on higher-cost, short-term alternatives, placing upward pressure on electricity rates. It would also delay critical infrastructure and reliability improvements while introducing uncertainty into future planning efforts needed to meet growing demand in a timely and cost-effective manner.

7 INFORMATION CONCERNING THE PROJECT (ARSD 20:10:22:33.02)

ARSD 20:10:22:33.02. Information concerning wind energy facilities and solar energy facilities*. If a wind energy facility or solar energy facility is proposed, the applicant shall provide the following information:*

Detailed information regarding Project components, as required by ARSD 20:10:33:02 and applicable to a BESS project, is provided in this section and in other sections of this application, as shown in Table 7-1.

Table 7-1. Location of Information Provided as Required by ARSD 20:10:22:33.02 Relevant to the BESS Project

Required Information	Location in Application
(1) Configuration of the wind turbines, including the distance measured from ground level to the blade extended at its highest point, distance between the wind turbines, type of material, and color - or configuration of the solar panels;	Section 7.1; Appendix A, Figure A-4
(2) The number of wind turbines or solar panels, including the number of anticipated additions of wind turbines or solar panels in each of the next five years;	Section 7.1
(3) Any warning lighting requirements for the wind turbines;	Not applicable; the Project does not include installation of lighting.
(4) Setback distances from off-site buildings, rights-of-way of public roads, and property lines;	Section 7.3; Appendix A, Figure A-4
(5) Anticipated noise levels at the exterior of all occupied residences located within the affected area during construction and operation;	Section 14.2
(6) Anticipated electromagnetic interference during operation of the facilities;	Section 7.7
(7) The proposed wind energy site or solar energy site and alternative site locations as depicted on overhead photographs and land use culture maps;	Section 8; Appendix A, Figures A-1, A-2a, A-4, and A-5
(8) Reliability and safety;	Section 7.6
(9) Right-of-way or condemnation requirements;	Section 8.3
(10) Necessary clearing activities;	Section 7.4.4
(11) Configuration of towers and poles for any electric interconnection facilities, including material, overall height, and width;	Section 7.1; Appendix A, Figure A-4
(12) Conductor configuration and size, length of span between structures, and number of circuits per pole or tower for any electric interconnection facilities; and	Section 7.1; Appendix A, Figure A-4
(13) If any underground collection facilities are placed, the depth of burial, distance between access points, conductor configuration and size, and number of circuits.	Section 7.1.11

7.1 Site Configuration and Components

7.1.1 Batteries

Individual lithium-ion battery cells are proposed to form the core of the BESS. Battery cells are connected in series and parallel configurations and enclosed within sealed battery modules. CRES will install battery modules in self-supporting racks that are electrically connected either in series or parallel. Individual self-supporting racks are then connected in series or parallel to deliver the BESS power rating.

CRES will initially install approximately 126 BESS cabinets for the Project. To maintain the Project's required energy capacity over its operational life, periodic augmentation will be planned to offset the anticipated gradual capacity reduction in the original battery systems. CRES will install additional augmentation equipment throughout the life of the Project, including approximately 24 additional BESS cabinets. The final numbers may change depending on final design and technology changes at the time of augmentation.

7.1.2 Battery Management and Energy Management Systems

BESS cabinets will house the batteries and the battery management systems (BMS). The BMSs are used in conjunction with the Project-wide energy management system (EMS) to monitor battery voltage, current, temperature, charge, discharge, thermal management, fault diagnosis, five-alarm monitoring, and more. The BMS will function independently of external signals to protect the battery from overcharge, overdischarge, and other fault conditions. Together, the BMS and EMS form a multi-level structure designed to provide controls for the battery cabinets and power conversion system (PCS) up to the point of connection with the CRW Collector Substation. The BMS and EMS will ensure that the BESS effectively responds to dispatch instructions and provides a secondary safety system designed to safely shut down the BESS in the event of an emergency.

7.1.3 System Cabinets

Each BESS cabinet has a self-contained system cabinet that houses the control, communication, protection, and auxiliary equipment needed to operate the battery system, such as the BMS, fire alarm control panel, thermal management system, controllers, breakers, and power distribution components (Images 7-1–7-3). System cabinets are in separate compartments or sections of the enclosure, allowing technicians to access controls, breakers, and communication equipment without being exposed to the battery modules. The height of an individual cabinet will not exceed 25 feet.

Image 7-1. Example of a self-contained energy storage system cabinet.
Photograph courtesy of NextEra Energy Resources.

Image 7-2. Example of a self-contained energy storage system cabinet.
Photograph courtesy of NextEra Energy Resources.

Image 7-3. Example of a self-contained energy storage system cabinet.
Photograph courtesy of NextEra Energy Resources.

7.1.3.1 HEATING, VENTILATION, AND AIR CONDITIONING

Each energy storage system cabinet will be equipped with heating, ventilation, air conditioning, and liquid cooling or other thermal management systems for thermal management of batteries. Power for the thermal management systems will be provided through excess capacity in the batteries when charging and discharging or via the grid when idle.

7.1.3.2 FIRE DETECTION AND PROTECTION SYSTEMS

CRES will incorporate fire detection systems into the BESS design in accordance with National Fire Protection Association (NFPA) safety standards, applicable Codington County requirements, and codes applicable to stationary energy storage. These systems will be tied to a central fire alarm control panel and have a dedicated fire network for communication with NextEra Energy Resources' Renewable Operations Control Center.

7.1.4 Power Conversion System

The PCS will consist of an inverter, protection equipment, direct current (DC) and alternating current (AC) circuit breakers, filter equipment, equipment terminals, and a connection cabling system. Electric energy is transferred from the existing power grid to the batteries during a battery charging cycle and from the batteries to the grid during a battery discharge cycle. The PCS converts electric energy from AC to DC when energy is transferred from the grid to the battery and from DC to AC when energy is transferred from the battery to the grid. The energy conversion is enabled by a bidirectional inverter that connects the DC battery system to the AC electrical grid. The PCS will also include a transformer that converts the low-voltage AC side output of the inverter to medium AC voltage to facilitate interconnection and to increase the overall efficiency of the BESS. The transformer and associated protection equipment also safeguard the PCS in the event of system electrical faults.

CRES will initially install approximately 46 PCSs for the Project. To maintain the Project's required energy capacity over its operational life, periodic augmentation will be planned to offset the anticipated gradual capacity reduction in the original battery systems. CRES will install additional augmentation equipment throughout the life of the Project, including approximately four additional PCSs. The final numbers may change depending on final design and technology changes at the time of augmentation.

7.1.5 Sound Wall

CRES will install a 20-foot-high sound wall along approximately 860 feet of the BESS Site in the northwest corner (Image 7-4; Appendix A, Figure A-4). The wall will block line-of-sight sound transmission originating from the BESS equipment (see Section 14.2). The wall is expected to comprise precast concrete with galvanized steel posts. The sound wall will also be weather-resistant and will consider use of aesthetic features.

Image 7-4. Example of a sound wall.

Photograph courtesy of Dura-Crete Walls and NextEra Energy Resources.

7.1.6 Site Access and Parking

Access to the BESS Site will be off 464th Avenue and 161st Street (see Appendix A, Figure A-4). Access roads will comprise compacted soil topped with an approximately 8-inch-thick aggregate base (e.g., crushed rock). Each entrance to the BESS Site will be gated with an approximately 40-foot-tall swing gate and locked. Site access will comply with Codington County Fire Protection District requirements. On-site parking spaces will be provided in open gravel areas and in accordance with Codington County requirements.

7.1.7 Fencing and Security

CRES will install approximately 2,228.3 linear feet of permanent security fencing along the perimeter of the BESS Site, excluding minor portions of access roads. Perimeter fencing will comprise a 7-foot-tall chain-link fence topped with 1 foot of three-strand barbed wire.

Fencing will be installed in accordance with industry standards and will comply with the National Electrical Code (NEC) as published in NFPA 70. The fencing system is designed to prevent the public from gaining access to electrical equipment, which could lead to injury.

7.1.8 Signage

On November 5, 2025, CRES installed a sign reading "Notice of Proposed Energy Storage Facility" at the intersection of 464th Avenue and 161st Street (Images 7-5 and 7-6). The sign was posted approximately 5 feet off the ground at the northwest corner of the Project Area, approximately 50 feet from, and in complete view of, the road.

In addition, and during construction, CRES will install safety signage providing information regarding high voltage within the BESS and information for emergency services on the fence near the entrances and at swing gates.

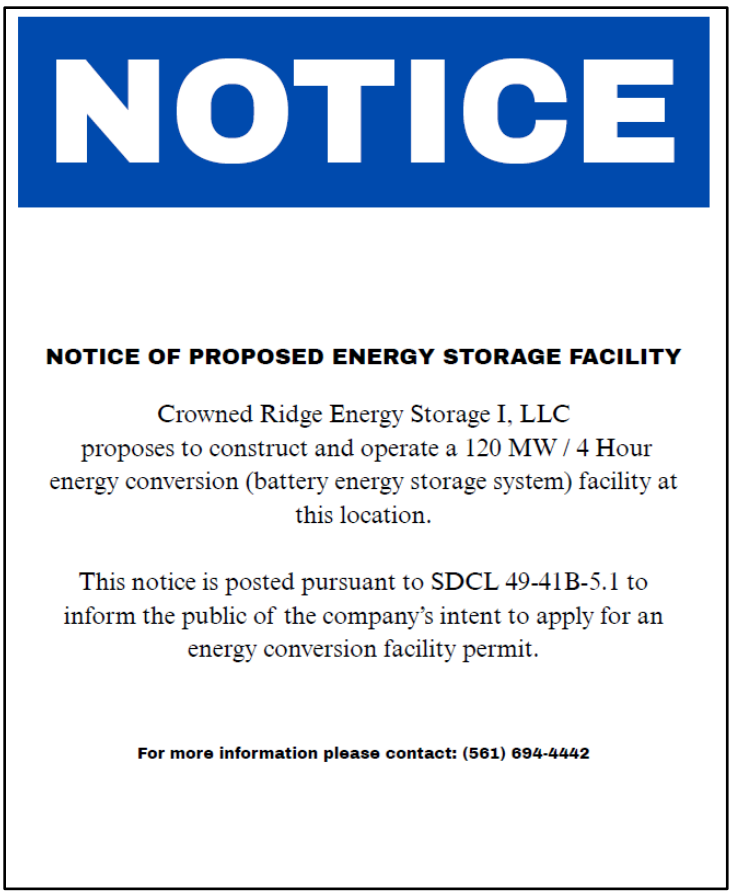

Image 7-5. Sign posted near the entrance to the Project Area.

Image courtesy of NextEra Energy Resources.

Image 7-6. Sign posted near the entrance to the Project Area.

Photograph courtesy of NextEra Energy Resources.

7.1.9 Stormwater Management Facilities

CRES will manage stormwater in the BESS Site through installation of culverts, a diversion berm, drainage swales, and a drainage basin required to satisfy National Pollutant Discharge Elimination System stormwater management requirements and through implementation of a site-specific stormwater pollution prevention plan (SWPPP). A SWPPP is required in South Dakota for all permitted construction and industrial stormwater sites. The SWPPP will describe stormwater runoff and management, including how CRES will ensure that runoff leaving the BESS Site will not become contaminated with pollutants, such as dirt or trash. CRES will develop the SWPPP prior to construction.

CRES designed the assumed locations, sizes, and approximate number of stormwater management facilities to capture water without requiring additional grading to direct flow, thereby reducing overall soil impacts (see Appendix A, Figure A-4).

7.1.10 Supervisory Control and Data Acquisition System

The Project will generally be operated remotely, with operational control and 24/7 monitoring performed off-site through the Project's SCADA system, which will be operated and monitored from NextEra Energy Resources' Renewable Operations Control Center in Juno Beach, Florida. The SCADA and associated systems will monitor key battery metrics, including state of charge, battery health, current, voltage, temperature, and alarm indicators for off-normal conditions. In the event of an anomaly or issue with a battery unit, the SCADA system will immediately alert qualified personnel who have specialized training and operational expertise in these systems and are located locally (i.e., within the county or within 50 miles of the Project Area). If necessary, the BESS can be remotely shut down within 1 minute. Section 7.5 provides additional detail on this process.

7.1.11 Electrical Collection System

Energy to and from the batteries will be routed through a series of underground 34.5-kilovolt collection cables, which will make up the electrical collection system that will connect to the CRW Collector Substation. The conductor type and exact length and position of the mV collection cables will be determined during detailed electrical design. Currently, the estimated length of the collection cables is approximately 2,215 feet. The electrical collection system will be designed to meet applicable requirements of the NEC as published in NFPA 70. The design work completed to date includes a load flow analysis for the BESS to ensure it will meet the power factor and voltage control specifications. The collection cables will be direct-buried and installed in a trench that will be 3.0 to 4.0 feet deep. Cables will be installed deeper (i.e., 6.0–8.0 feet deep) if the cables are stacked. The exception to this is that where the collection cables intersect the wetland (see Section 12.2), CRES will bore beneath the wetland to avoid impacts to this resource.

7.1.12 Utilities and Refuse

The CRW Collector Substation will be uninhabited with no restroom facilities or running water. During construction and decommissioning of the BESS, restroom facilities will be provided by portable units to be serviced by licensed providers. During operations, the BESS will be uninhabited with no restroom facilities or running water.

CRES will adhere to all state and local requirements for disposal of all refuse resulting from construction and/or operation of the BESS.

7.2 Screening

CRES will install a 20-foot-tall sound wall along the northwest portion of the Project Area and within the perimeter fence (see Section 7.1.5).

7.3 Setbacks

The BESS is set back a minimum of 100 feet from the property boundaries. Additionally, the distance from the fence to the nearest road right-of-way (ROW) (at 161st Street) is approximately 150.1 feet, from the closest BESS component to the nearest road ROW is approximately 258.0 feet, from the fence to the nearest residence (located west of the Project Area on 161st Street) is approximately 1,950.0 feet, from the closest BESS component to the nearest residence is approximately 2,030 feet, and from the fence to the nearest wind turbine (located south of the BESS) is approximately 635.0 feet.

7.4 Construction

7.4.1 Time Schedule (ARSD 20:10:22:22)

ARSD 20:10:22:22. Time schedule. *The applicant shall provide estimated time schedules for accomplishment of major events in the commencement and duration of construction of the proposed facility.*

Table 7-2 depicts the estimated schedule for the BESS development milestones, assuming all permits and authorizations are issued and obtained.

Table 7-2. Estimated Schedule of Project Milestones

Milestone	Date
Land control (voluntary lease with purchase option agreement in place)	March 2023
Environmental studies	Spring 2024–Summer 2025
County conditional use permit	May 2024
Preconstruction engineering	May 2026
Finalize layout	May 2026
Obtain Commission facility permit	May 2027
Construction	May 2027–April 2028
Energization	April 2028–May 2028
Commissioning and testing	March 2028–May 2028
Commercial operations date	May 2028

CRES will continue to update the schedule of Project milestones, including construction, as needed, and will submit a finalized schedule to the Commission prior to construction.

7.4.2 Personnel and Traffic

The Project is anticipated to require up to 60 temporary workers during construction (see Table 7-2), with the number of workers on-site at any given time varying depending on the phase of construction. The

estimated maximum average daily number of worker vehicle trips will be 120 (assuming that each worker drove their own vehicle and made a round trip), and the maximum average daily number of one-way vendor truck trips will be 20. CRES anticipates that construction crews will work 8 to 10 hours per day, with work occurring Monday through Friday. Overtime and weekend work will be used only as necessary to meet scheduled milestones or to accelerate the construction schedule and will comply with applicable South Dakota labor laws. CRES will require all workers to operate safely and in compliance with all applicable local, state, and federal safety regulations.

7.4.3 Deliveries

Material and equipment needed to construct the BESS will reach the Project Area through on-road truck delivery using both 464th Avenue and 161st Street. Most truck deliveries will be for BESS components (e.g., cabinets, PCSs) and aggregate material (e.g., gravel, rock). During construction (see Table 7-2), CRES anticipates that most material deliveries will occur over approximately 2 to 3 months. During that time, the estimated average number of daily vendor truck trips to the Project Area is 20.

Typically, components will be hauled to the Project Area using low-bed transfer trucks. Such loads typically are limited to approximately 40 tons (80,000 pounds), with a typical load being approximately 25 tons (50,000 pounds). Low-bed transport trucks also will transport construction equipment to the Project Area, unless the equipment can be driven (e.g., boom trucks). The size of low-bed transport trucks used will depend on the component or equipment being transported.

Aggregate material will be delivered via bottom dump trucks or transfer trucks with six axles.

7.4.4 Site Preparation

Construction will begin with site preparation. During this phase, CRES will prepare the site for construction. The Project Area is fairly level (1,962.2–2,010.3 feet above mean sea level [fmsl]); however, grading and minor earthwork may occur to support the installation of Project components. In areas where permanent, aboveground components will be installed, CRES will clear existing vegetation (e.g., agricultural and disturbed, herbaceous) during site preparation.

Road surfaces will be at-grade to allow water to sheet flow across the Project Area as it currently does. During site preparation, a temporary laydown yard and topsoil stockpile location will be designated within the Project Area to serve as the storage areas for materials, equipment, and topsoil during construction. The construction contractor will determine the specific location of the temporary areas (see Appendix A, Figure A-4).

Site preparation and grading will be accomplished using various equipment that could include scrapers, graders, dozers, compaction equipment, and water trucks (to control dust). Water consumption during construction (and decommissioning) will be needed for dust suppression and earthwork. During operation, water use will be minimal and only as needed. Water will likely be delivered by truck from an off-site source. During construction, water pumped directly into 2,000- to 4,000-gallon water trucks may be stored in overhead approximately 12,000-gallon water storage towers/tanks (up to 16 feet tall) to assist in the availability of water for trucks and to expedite filling. CRES will use such tanks only temporarily, if at all, and will remove them following completion of construction.

7.4.5 Component Installation

The BESS components will be off-loaded from low-bed transport trucks and installed using cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small to medium-sized

construction equipment, as needed. Foundation pads for the energy storage system cabinets will be poured, followed by installation, including wiring of battery modules, of all BESS components.

7.4.6 Erosion and Sediment Control and Pollution Prevention

Project construction will result in the disturbance of an area greater than 1 acre of land. Therefore, CRES will be required to obtain coverage under the South Dakota Department of Agriculture and Natural Resources (SDDANR) General Permit Authorizing Stormwater Discharges Associated with Construction Activities. To enroll under this permit, CRES will prepare a SWPPP, as described in Section 7.1.9. The SWPPP will be prepared by a qualified engineer or erosion control specialist and will be based on the final engineering design. The SWPPP will be implemented during construction and will include best management practices (BMPs), including erosion and sediment control measures such as stormwater runoff quality control measures and watering for dust control. The SWPPP will be submitted to the SDDANR, Codington County, and the Commission prior to issuance of any building or grading permits.

7.5 Operations and Maintenance

The Project will operate 365 days per year and be monitored remotely through a SCADA system (see Section 7.1.10). NextEra Energy Resources operates a control center in Juno Beach, Florida, that monitors the readiness of its subsidiaries' energy storage facilities nationwide 24 hours a day, 7 days a week. If an issue is detected at a BESS location, the system can be shut down remotely, and a local (i.e., within the county or within 50 miles of the Project Area) technician can be deployed to resolve the issue. The Project team will respond to all emergencies following the emergency response plan (ERP) (see Section 18.8). The ERP establishes procedures for emergency response management, evacuation procedures, response to fire incidents and natural disasters, and security and cybersecurity, among other safety topics. Public safety is further discussed in Section 18.9.

The full-time operations and maintenance (O&M) staff responsibilities will include routine inspections, system monitoring, and maintenance activities to support the safe and efficient operation of the BESS. The O&M staff for the BESS will be based out of the existing CRW O&M facility located approximately 0.3 mile directly south of the Project Area at 16138 464th Avenue, Waverly, South Dakota.

Typically, one major maintenance inspection of the BESS occurs annually. Only occasional, on-site maintenance is expected to be required following commissioning, including replacement of inverter power modules and filters and miscellaneous electrical repairs on an as-needed basis. During normal O&M, CRES anticipates that one to two workers will inspect the Project approximately once or twice per week. Inspection scheduling and monitoring will be supported by the control center's SCADA system, which tracks system performance and flags any irregularities for prompt on-site evaluation.

To maintain the Project's required energy capacity over its operational life, periodic battery augmentation will be planned to offset the gradual capacity reduction in the original battery systems. Battery systems are initially sized to meet the full nameplate energy requirement from the start of operations, accounting for auxiliary loads and other energy losses. However, as batteries naturally degrade over time, new units will be integrated within the existing footprint to uphold the contracted energy levels. The Project design supports augmentation, with additional batteries expected approximately every 3 to 4 years, depending on usage and findings from routine inspections. These inspections are part of a preventive maintenance program to ensure optimal performance.

The added capacity will be accomplished by installing either new battery cabinets only (DC augmentation), or new battery cabinets with new inverters (AC augmentation). New battery cabinets with or without new inverters will be added within the existing boundary on the existing prepared graveled

area. Augmentation may include building new foundations, trenching to connect the new equipment to the existing systems, and testing of the new equipment. Augmentation locations are shown on the preliminary site plan in Appendix A, Figure A-4. On-site augmentation activities typically take 2 to 4 months to complete by a temporary crew of six to eight workers.

7.6 Reliability and Safety (ARSD 20:10:22:33.02(8))

ARSD 20:10:22:33.02. Information concerning wind energy facilities and solar energy facilities. *If a wind energy facility or solar energy facility is proposed, the applicant shall provide the following information:*

> *...*
> *(8) Reliability and safety;*
> *...*

CRES will ensure that all aspects of the Project comply with established industry standards and safety codes to safeguard the surrounding community and the environment. The safety of the O&M staff, neighbors, and the public is the highest priority.

CRES will comply with the NEC, as published in NFPA 70, which defines comprehensive standards for the safe installation of electrical wiring and equipment. The NEC is designed to protect people and property from electrical hazards. CRES will meet NEC requirements by ensuring the proper installation of all electrical conductors and equipment associated with the Project. Procedures will be updated regularly to reflect the most current NEC revisions, which are updated every 3 years to incorporate new technologies and safety measures.

CRES will also comply with NFPA 855, the Standard for the Installation of Stationary Energy Storage Systems. This includes implementing necessary precautions to ensure the safety of BESS installations by minimizing risks associated with fire, electrical hazards, and system failures. CRES will design the system according to NFPA safety standards, ensuring that Codington County and industry setbacks between the energy storage units and surrounding properties are met, and installing fire protection systems. Security barriers and access controls will be installed in accordance with NFPA 855 guidelines to enhance operational safety and prevent unauthorized access.

The BESS will be certified under Underwriters Laboratories (UL) 9540, the standard for verifying the safety of energy storage systems and equipment. UL 9540 certification ensures that the Project meets the required safety standards for fire, electrical, mechanical, and environmental hazards. CRES will ensure that its systems undergo comprehensive testing and meet nationally recognized safety protocols as prescribed by UL 9540.

Through compliance with NFPA 70, NFPA 855, and UL 9540, CRES will construct and operate the Project in full adherence to industry standards for safety and reliability.

7.7 Electromagnetic Interference

Electric and magnetic fields (EMF) are created wherever electricity flows, which includes the wiring in homes and schools, power lines, and the electrical equipment and devices used at the workplace and in homes. Leading United States and international scientific organizations, such as the National Cancer Institute and the World Health Organization, have evaluated EMF research. These organizations generally conclude that the overall body of scientific research does not show that exposure to EMF causes or

contributes to any type of cancer or any other disease or illness (National Institute of Environmental Health Sciences 1999).

Low-level power frequency EMF will occur around the BESS in the battery cells and inverters and along the collection cable lines. All Project components will be located away from residences; the nearest residence is approximately 1,950.0 feet west of the Project Area on 161st Street. At this distance, EMF levels will be below background levels. Given this, no adverse impacts are expected because of EMF, and no mitigation is proposed.

8 ALTERNATIVE SITES AND SITING CRITERIA (ARSD 20:10:22:12)

ARSD 20:10:22:12. Alternative sites. *The applicant shall present information related to its selection of the proposed site for the facility, including the following:*

> *(1) The general criteria used to select alternative sites, how these criteria were measured and weighed, and reasons for selecting these criteria;*
>
> *(2) An evaluation of alternative sites considered by the applicant for the facility;*
>
> *(3) An evaluation of the proposed plant, wind energy, or transmission site and its advantages over the other alternative sites considered by the applicant, including a discussion of the extent to which reliance upon eminent domain powers could be reduced by use of an alternative site, alternative generation method, or alternative waste handling method.*

The following is a description of the general Project Area selection process, a discussion of the Project configuration alternatives considered, and a summary of CRES's siting criteria applied through the development process.

8.1 Project Area Selection

Development of the Project was an iterative process involving general Project Area identification, Project Area (i.e., boundary) refinement, and micro-siting of proposed Project infrastructure within the Project Area. Each of these steps is described in more detail below.

Identification of the Project Area was primarily driven by the following:

- Access to viable transmission interconnection
- Landowner support for BESS
- Land use and environmental resource compatibility with BESS development

The Project Area is within adequate proximity to the CRW Collector Substation where interconnection capacity is available. With proximity to the CRW Collector Substation, CRES was able to design the Project's 2,215-foot-long mV collection cables to effectively and efficiently deliver power to the MISO transmission grid while using rural land, minimizing impacts to human settlements and environmental resources, and providing benefits to the local economy, as described in Section 18.

Landowner support is demonstrated through CRES's land control via a voluntary lease with purchase option agreement on the land that will host the Project. The option was signed in March 2023.

A discussion of land use is included in Section 14.

8.2 Project Configuration Alternatives

An earlier iteration of the Project site design, and that which was proposed to Codington County in CRES's conditional use permit application, sited the Project Area and BESS infrastructure farther west (nearer the southeast corner of the intersection of 464th Avenue and 161st Street) (Appendix A, Figure A-5). However, coordination with Codington County following application submittal determined that the area directly southeast of the 464th Avenue and 161st Street intersection was underlain by an area of glacial outwash deposits (i.e., an aquifer) (Appendix A, Figure A-6). To avoid impacts to this resource and in direct response to the Codington County Board of Adjustment's request, CRES shifted the Project Area and site design east to avoid the aquifer entirely (see Appendix B). This shift east, along with further site design work, resulted in the current Project site design described in Section 7 and reflected in Appendix A.

The current Project site design (see Appendix A, Figure A-4) is compatible with existing land use (Sections 14 and 15), proximate to the CRW Collector Substation, and avoids or minimizes impacts to natural (e.g., aquifers, wetlands) and cultural (e.g., cairns, stone circles) resources. As described in Section 18, impacts to cultural resources will be avoided or mitigated in consultation with the South Dakota State Historic Preservation Office. CRES also will avoid or minimize impacts to terrestrial and aquatic ecosystems, including wildlife, as described in Sections 12 and 13, respectively.

8.3 Lack of Reliance on Eminent Domain Powers

CRES will not exercise eminent domain powers. CRES signed a voluntary lease with purchase option agreement in March 2023 for the land that will host the Project.

9 ENVIRONMENTAL INFORMATION (ARSD 20:10:22:13)

ARSD 20:10:22:13. Environmental information. *The applicant shall provide a description of the existing environment at the time of the submission of the application, estimates of changes in the existing environment which are anticipated to result from construction and operation of the proposed facility, and identification of irreversible changes which are anticipated to remain beyond the operating lifetime of the facility. The environmental effects shall be calculated to reveal and assess demonstrated or suspected hazards to the health and welfare of human, plant and animal communities which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating energy conversion facilities, existing or under construction. The applicant shall provide a list of other major industrial facilities under regulation which may have an adverse effect on the environment as a result of their construction or operation in the transmission site, wind energy site, or siting area.*

Sections 10 through 18 describe the existing environment at the time of the submission of the application; describe anticipated impacts to the existing environment from construction and operation of the proposed Project; identify irreversible changes that are anticipated to remain beyond the operating lifetime of the Project; and describe avoidance, minimization, and mitigation measures that CRES will implement as part of the Project.

The CRW project area overlaps, and the Crowned Ridge II Wind Energy Facility (CRWII) and Dakota Range project areas are proximate to, the CRES BESS Project Area. The only resource for which these industrial facilities might have cumulative or synergistic consequences is sound, as discussed in Section 14.2.

The Project will result in both temporary (32.6 acres; 61.9% of the Project Area) and permanent (7.8 acres; 14.8% of the Project Area) ground disturbance impacts.

10 EFFECT ON PHYSICAL ENVIRONMENT (ARSD 20:10:22:14)

ARSD 20:10:22:14. Effect on physical environment. *The applicant shall provide information describing the effect of the proposed facility on the physical environment. The information shall include:*

(1) A written description of the regional land forms surrounding the proposed plant or wind energy site or through which the transmission facility will pass;

(2) A topographic map of the plant, wind energy, or transmission site;

(3) A written summary of the geological features of the plant, wind energy, or transmission site using the topographic map as a base showing the bedrock geology and surficial geology with sufficient cross-sections to depict the major subsurface variations in the siting area;

(4) A description and location of economic deposits such as lignite, sand and gravel, scoria, and industrial and ceramic quality clay existent within the plant, wind energy, or transmission site;

(5) A description of the soil type at the plant, wind energy, or transmission site;

(6) An analysis of potential erosion or sedimentation which may result from site clearing, construction, or operating activities and measures which will be taken for their control;

(7) Information on areas of seismic risks, subsidence potential and slope instability for the plant, wind energy, or transmission site; and

(8) An analysis of any constraints that may be imposed by geological characteristics on the design, construction, or operation of the proposed facility and a description of plans to offset such constraints.

The following sections describe the existing physical environment within the Project Area and the potential effects of the Project on that environment. Planned avoidance, minimization, and mitigation measures for those effects are also described, if applicable.

10.1 Geological Resources

The following sections describe the existing regional landforms, surficial geology, bedrock geology, economic deposits, seismic risks, and subsidence potential within the Project Area.

10.1.1 Existing Resources

10.1.1.1 REGIONAL LANDFORMS AND SURFICIAL GEOLOGY

The Project is within the Level IV Prairie Coteau ecoregion, which is a subdivision of the Level III Northern Glaciated Plains ecoregion (Bryce et al. 1998). The Prairie Coteau ecoregion resulted from stagnant glacial ice melting beneath a layer of sediment and is dominated by a tightly undulating, hummocky landscape with no drainage pattern. This ecoregion has large chains of lakes and scattered semipermanent or seasonal wetlands (Bryce et al. 1998).

Project Area elevations range from approximately 1,962.2 to 2,101.3 fmsl. A topographic map of the Project Area is provided in Appendix A, Figure A-2a.

The Project Area encompasses approximately 52.7 acres. Approximately 26.8 acres (50.1%) of the Project Area is underlain by Upper Wisconsin till (end moraine) consisting of a compact, silty, clay-rich matrix with sand- to boulder-sized clasts of glacial origin that are characterized by elevated linear ridges with hummocky terrain locally at former ice margins. The remaining approximately 25.9 acres (49.1%) of the Project Area is underlain by Upper Wisconsin till (end moraine) consisting of a compact, silty, clay-rich matrix with sand- to boulder-sized clasts that is characterized by smooth, rolling terrain (Martin et al. 2004). Upper Wisconsin till deposits have an estimated composite thickness of up to 300 feet (Martin et al. 2004), and pre-Late Wisconsin drift deposits underlie those deposits, which can result in a total thickness for all glacial deposits of 400 to 700 feet (Gilbertson 1989). The Upper Cretaceous Pierre Shale underlies the till deposits at an elevation of approximately 1,379 fmsl (Martin et al. 2004), which indicates that the till deposits range from approximately 583 to 782 feet in thickness at the Project Area.

Shallow glacial outwash deposits of sand and gravel can occur at the land surface to depths of generally 50 feet or less in the Prairie Coteau ecoregion. An isolated, adjacent occurrence of such outwash deposits is present directly west-northwest of the Project Area (see Appendix A, Figure A-6). CRES moved an earlier iteration of the Project Area (see Appendix A, Figure A-5) east to its current location to avoid this glacial outwash deposit after learning of its presence. No such deposits are present in the Project Area. The first occurrence of water-bearing sand and gravel deposits in the Project Area is generally greater than 100 feet below surface (Jensen 2003; Martin et al. 2004).

10.1.1.2 BEDROCK GEOLOGY

The Upper Cretaceous Pierre Shale underlies the Project Area and is described as a blue-gray to dark-gray, fissile to blocky shale with persistent beds of bentonite, black organic shale, and light-brown chalky shale, with minor sandstone, conglomerate, and abundant carbonate and ferruginous concretions (Appendix A, Figure A-7). This bedrock formation is overlain by up to 700 feet of glacial deposits and is not exposed at the surface (Gilbertson 1989).

10.1.1.3 ECONOMIC DEPOSITS

Economic deposits are not present in the Project Area (Schultz 1991).

10.1.1.4 SEISMIC RISKS

Risk of seismic activity at the Project Area is low. Between 1872 and 2025, nearly 100 earthquakes were recorded in South Dakota (U.S. Geological Survey [USGS] 2025), but none of these earthquakes occurred in Codington County. SDDANR indicates the closest recorded earthquake, with a Modified Mercalli Intensity of IV, occurred in eastern Spink County, which is approximately 60.0 miles from the Project Area. The USGS indicates the closest recorded earthquake, with a Modified Mercalli Intensity of II–III and Richter Scale Magnitude of 3.7, occurred in northeastern Roberts County, which is approximately 55.0 miles from the Project Area, on October 20, 1995 (USGS 2025).

10.1.1.5 SUBSIDENCE POTENTIAL

Limestone units and karst terrain are not present in the Project Area and, therefore, the potential for subsidence is negligible. CRES is not aware of any subsidence potential or slope instability problems within the Project Area.

10.1.2 Impacts/Mitigation

The risks posed by the Project are generally limited by the characteristics of the geologic materials in the area. The unconsolidated geologic materials at the Project Area are composed of generally low permeability (Jensen 2003). Available geologic data indicate that the Project will not significantly affect bedrock geology. Seismic activity is not anticipated to affect the performance of the BESS. CRES is not aware of any constraints that may be imposed by geological characteristics or soils on the design, construction, or operation of the BESS.

10.2 Soil Resources

The following sections describe the existing soil resources, including prime farmland soils, within the Project Area and the potential effects of the Project on these resources (Appendix A, Figure A-8).

10.2.1 Existing Resources

10.2.1.1 SOILS

The Soil Survey Geographic Database geographic information system data available from the Natural Resources Conservation Service (NRCS) indicate that there are five mapped soil associations present within the Project Area (NRCS 2026) (Table 10-1; see Appendix A, Figure A-8).

Table 10-1. Mapped Soil Associations within the Project Area

Soil Association	Hydric Rating	Drainage Class	Frequency of Flooding	Estimated Depth to Water Table (inches)	Area (acres)	Percentage of Project Area*
Barnes-Buse-Svea loams, 1 to 6 percent slopes	Predominantly non-hydric	Well drained	None	75	43.2	82.0%
McKranz-Hidewood, frequently flooded, silty clay loams, 0 to 2 percent slopes	Partially hydric	Somewhat poorly drained	None	15	6.8	13.0%
Buse-Barnes loams, Coteau, 2 to 15 percent slopes, very stony	Predominantly non-hydric	Well drained	None	125	1.7	3.3%
Barnes-Buse loams, 6 to 9 percent slopes	Predominantly non-hydric	Well drained	None	125	0.6	1.1%
Hamerly-Badger complex, 0 to 2 percent slopes	Predominantly non-hydric	Somewhat poorly drained	None	18–30	0.4	0.7%
Total					**52.7**	**100.1%**

Source: NRCS (2026).

* Totals may vary slightly due to rounding.

10.2.1.2 PRIME FARMLAND

The NRCS defines *prime farmland* as areas that have acceptable acidity or alkalinity, a dependable supply of moisture from irrigation or precipitation, favorable temperature, and an adequate growing season (NRCS 2024). Typically, soils in prime farmland are sufficiently well drained and not excessively erodible during the growing season. Table 10-2 presents the percentage of area by farmland classifications for the Project Area.

Table 10-2. Farmland Classification within the Project Area

Description	Area (acres)	Percentage of Project Area
All areas are prime farmland	43.2	82.0%
Farmland of statewide importance	7.2	13.7%
Not prime farmland	2.3	4.4%
Total	**52.7**	**100.0%**

Source: NRCS (2026).

10.2.2 Impacts/Mitigation

10.2.2.1 SOILS

Soil erosion is the greatest risk to the geologic environment in the Project Area. Soil erosion potential is low where land slope is relatively flat. The potential for soil erosion increases significantly where steeper slopes (i.e., greater than 6 percent) are present. The Project Area is relatively flat, with an elevation gain of only 139.1, and only 2.3 acres (4.4%) consists of soils associated with slopes potentially greater than 6 percent (see Table 10-1). Further, there are no locations within the Project Area that have steep (i.e., greater than 3:1 [horizontal: vertical] or 33 percent) slopes.

Although slope influences soil erosion potential, soil texture and water transmission are significant in assessing soil runoff potential and subsequent erosion. The NRCS categorizes soils into four main hydrologic groups based on their runoff potential and rate of infiltration when thoroughly wet (NRCS 2026). The hydrologic groups are A, B, C, and D, with A having the highest runoff potential and rate of infiltration. All Project Area soils have a low to medium runoff potential (hydrologic groups B and C).

Project construction activities described in Section 7.4 will result in an estimated 32.6 acres of temporary impacts to soils and in approximately 7.8 acres of permanent impacts to soils. Impacts to soils could include compaction, potential loss of soil due to erosion, and the potential contamination of soils from construction equipment spills.

To reduce adverse effects to and from soils, CRES will develop and implement a SWPPP and use BMPs during construction to protect topsoil and minimize soil erosion. Soil areas disturbed during construction will be decompacted and returned to preconstruction contours to the extent practicable and in accordance with landowner agreements and the SWPPP. The goal is to have all surfaces drain naturally; blend in with the undisturbed natural terrain; and be left in a condition to facilitate revegetation, provide proper drainage, and prevent erosion.

10.2.2.2 PRIME FARMLAND

Table 10-3 provides the estimated temporary and permanent impacts to farmland classifications associated with construction and operation of the Project.

Table 10-3. Estimated Temporary and Permanent Impacts to Farmland

Description	Temporary Impacts (acres)	Permanent Impacts (acres)
All areas are prime farmland	29.2	7.2
Farmland of statewide importance	1.2	0.0

Description	Temporary Impacts (acres)	Permanent Impacts (acres)
Not prime farmland	2.2	0.6
Total	**32.6**	**7.8**

11 EFFECT ON HYDROLOGY (ARSD 20:10:22:15)

ARSD 20:10:22:15. Hydrology. *The applicant shall provide information concerning the hydrology in the area of the proposed plant, wind energy, or transmission site and the effect of the proposed site on surface and groundwater. The information shall include:*

(1) A map drawn to scale of the plant, wind energy, or transmission site showing surface water drainage patterns before and anticipated patterns after construction of the facility;

(2) Using plans filed with any local, state, or federal agencies, indication on a map drawn to scale of the current planned water uses by communities, agriculture, recreation, fish, and wildlife which may be affected by the location of the proposed facility and a summary of those effects;

(3) A map drawn to scale locating any known surface or groundwater supplies within the siting area to be used as a water source or a direct water discharge site for the proposed facility and all offsite pipelines or channels required for water transmission;

(4) If aquifers are to be used as a source of potable water supply or process water, specifications of the aquifers to be used and definition of their characteristics, including the capacity of the aquifer to yield water, the estimated recharge rate, and the quality of ground water;

(5) A description of designs for storage, reprocessing, and cooling prior to discharge of heated water entering natural drainage systems; and

(6) If deep well injection is to be used for effluent disposal, a description of the reservoir storage capacity, rate of injection, and confinement characteristics and potential negative effects on any aquifers and groundwater users which may be affected.

The following sections describe the hydrological resources within the Project Area and the potential effects of the Project on those resources. Planned avoidance, minimization, and mitigation measures for those effects are also described, if applicable.

11.1 Surface Water

11.1.1 Existing Resources

The Project Area is in the Missouri hydrologic region within the Round Lake Watershed Hydrologic Unit Code 12 (Seaber et al. 1987). There are no surface water resources, such as streams, lakes, rivers, or ponds, present within the Project Area (USGS 2026). Additionally, no 100-year floodplains (Federal Emergency Management Administration [FEMA] Flood Zone A) are present in the Project Area (FEMA 2025) (Appendix A, Figure A-9). Appendix A, Figure A-9 also shows the current drainage patterns proximate to the Project Area.

Data from the National Hydrography Dataset (USGS 2026) indicate the presence of approximately 508.0 linear feet of one flowline characterized as stream/river-perennial. However, during field wetland delineations, SWCA Environmental Consultants (SWCA) did not observe the presence of a distinct

flowline. Rather, the aquatic resource in this area was delineated as a palustrine emergent (PEM) wetland (see Section 12.2).

11.1.2 Impacts/Mitigation

No surface water is present in the Project Area. Therefore, no impacts, including changes to surface water drainage patterns, will occur, and no mitigation is proposed.

11.2 Groundwater

11.2.1 Existing Resources

Most of the groundwater resources near the Project Area occur in sand and gravel deposits generally at depths greater than 100 feet below ground surface, although the first occurrence of groundwater in surficial alluvial, outwash, and sand and gravel deposits is generally less than 50 feet below ground surface (Jensen 2003). Such deposits are not present in the Project Area. An isolated aquifer is adjacent to the northwest corner of the Project Area, but it does not extend under it (Jensen 2003) because CRES moved the Project Area specifically to avoid overlaying this resource (see Section 8.2).

As mapped by the NRCS (2026), shallow groundwater occurs in the soils within the Project Area at depths ranging from 18 to 30 inches in the area just south of the proposed BESS facility location and 49 to 61 inches in the remainder of the Project Area. Such shallow groundwater resources may not provide adequate yields to wells for use as a domestic or livestock water supply; however, they may be sources of recharge for deeper, underlying aquifers and to support agricultural plant growth.

11.2.2 Impacts/Mitigation

Permanent impacts to the deeper groundwater (i.e., at depths greater than 100 feet) are not expected, although permanent impacts to the shallow soil groundwater are likely to occur because the BESS equipment and access roads will serve as an impermeable layer that will prevent precipitation from percolating into the soil profile. Additionally, foundation depths may be sufficient to intersect the shallow soil groundwater, which may have to be removed from construction areas through installation of gravel blankets or French drains. If construction dewatering is anticipated, CRES may pump and discharge groundwater in accordance with the Project SWPPP. Potential drawdown effects of any such activities will be local and temporary. Permanent impacts to deeper groundwater from construction dewatering activities and/or structure placement in the shallow groundwater flow regime are not expected.

The risk for groundwater contamination caused by release of contaminants during construction is low. The overall low permeability of Project Area soils and unconsolidated geologic deposits will inhibit contaminant flow. Additionally, if construction or operation of the Project involves storing more than 1,320 gallons of oil or other hazardous substances, a spill prevention, control, and countermeasure plan (SPCC) will be required and will address potential releases to soils. The need for a SPCC will be assessed based on the final design of the Project.

The Project will not require water reprocessing, cooling, or deep well injection. Permanent effects to aquifers and potable water supplies are not expected.

11.3 Current and Planned Water Uses

11.3.1 Existing Resources

Existing water sources for residential and agricultural uses near the Project Area are provided by wells. There are 38 water well records within 5 miles of the Project Area and none within the Project Area itself. CRES is not aware of any wells located in the Project Area. Water well records provide details about the drilling and construction of wells, well depth, well diameter, static water level (if present), and a well log describing the encountered soil horizons. Review of these records indicates that the wells range from 16 to 416 feet deep, with yields ranging from 10 to 60 gallons per minute (SDDANR 2026a). The wells can serve a variety of purposes, including domestic, stock, irrigation, monitoring, and testing. Due to the age of some records, some well geolocations may be inaccurate, and others may not have been recorded.

11.3.2 Impacts/Mitigation

Construction will require water for foundations, backfill, and compaction; road construction; and dust control. CRES's contractors will manage dust control during construction. CRES estimates that approximately 4.5 million gallons of water will be hauled via water trucks and stored on-site in a temporary storage tank for dust control during construction. Any additional water needed for construction of the Project will be dependent on final site investigation and weather. CRES plans to use locally available private water sources (e.g., pond water from nearby landowners) or public waters, as needed. If applicable, CRES will obtain a temporary water use permit from SDDANR to obtain water from public sources. If local water sources are not available, CRES may install a groundwater well to meet Project needs.

Operation of the Project is not anticipated to require appropriation of surface water or permanent dewatering. Further, as described in Section 7.1.12, the BESS will be uninhabited during O&M with no restroom facilities or running water. Therefore, no water supply is needed.

Because no effects on the water supply are anticipated, no mitigation is proposed.

12 EFFECT ON TERRESTRIAL ECOSYSTEMS (ARSD 20:10:22:16)

ARSD 20:10:22:16. Effect on terrestrial ecosystems. *The applicant shall provide information on the effect of the proposed facility on the terrestrial ecosystems, including existing information resulting from biological surveys conducted to identify and quantify the terrestrial fauna and flora potentially affected within the transmission site, wind energy site, or siting area; an analysis of the impact of construction and operation of the proposed facility on the terrestrial biotic environment, including breeding times and places and pathways of migration; important species; and planned measures to ameliorate negative biological impacts as a result of construction and operation of the proposed facility.*

The following sections describe the terrestrial ecosystems within the Project Area and the potential effects of the Project on those resources. Planned avoidance, minimization, and mitigation measures for those effects are also described, if applicable.

12.1 Vegetation (Flora)

The following sections describe vegetation within the Project Area and the potential effects of the proposed Project on those resources. Mitigation measures are also described.

12.1.1 Existing Resources

12.1.1.1 GENERAL VEGETATION

USGS land cover data indicate that the Project Area is primarily Cultivated Crops (37.7 acres; 71.6%), followed by Grassland/Herbaceous cover (9.4 acres; 17.9%) (see Table 2-1). During natural resources pedestrian surveys conducted in the Project Area in May 2024 and July 2025, biologists observed that agricultural areas were dominated in the north by soybean (*Glycine max*) production and in the south by possible haying. Cropland provides minimal habitat for most terrestrial species, though it may provide a food source and cover for some wildlife species. No forested areas, woodlots, or tree lines are present in the Project Area.

12.1.1.2 FEDERALLY AND STATE-LISTED SPECIES

The U.S. Fish and Wildlife Service (USFWS) South Dakota Ecological Services Field Office publishes a list of federally threatened and endangered species with potential to occur by counties in South Dakota (USFWS 2021). The South Dakota Game, Fish and Parks (SDGFP) also maintains a list of threatened, endangered, and candidate species (SDCL 34A-8 and 34A-8A) and provides information on recorded observations by county (SDGFP 2016). Neither the USFWS nor SDGFP indicate any listed plant species as occurring in Codington County.

12.1.1.3 NOXIOUS WEEDS

Noxious weeds are regulated by state and federal rules and regulations (SDCL 38-22 and 7 Code of Federal Regulations 360) that are designed to stop the spread of plants that may be detrimental to the environment, agricultural practices, and/or the public. The SDDANR (2026b) lists 11 state noxious weed species, and the Codington County Weed and Pest Department lists three additional local noxious weed species (Codington County Weed and Pest Department 2020) (Table 12-1). Formal noxious weed surveys have not been completed for the Project Area. No noxious weeds were observed during natural resources pedestrian surveys conducted in the Project Area in May 2024 and July 2025.

Table 12-1. Noxious Weeds with Potential to Occur in the Project Area

Common Name	Scientific Name	Status
Absinth wormwood	*Artemisia absinthium*	State noxious weed
Bull thistle	*Cirsium vulgare*	County noxious weed
Canada thistle	*Cirsium arvense*	State noxious weed
Hoary cress	*Cardaria draba*	State noxious weed (none reported in Codington County)
Leafy spurge	*Euphorbia esula*	State noxious weed
Musk thistle	*Carduus nutans*	County noxious weed
Perennial sow thistle	*Sonchus arvensis*	State noxious weed
Plumeless thistle	*Carduus acanthoides*	County noxious weed

Common Name	Scientific Name	Status
Purple loosestrife	*Lythrum salicaria*	State noxious weed (none reported in Codington County)
Salt cedar	*Tamarix aphylla, T. chinensis, T. gallica, T. parviflora, and T. ramosissima*	State noxious weed (none reported in Codington County)

12.1.2 Impacts/Mitigation

Construction of the Project will result in temporary impacts to up to approximately 32.6 acres and in permanent impacts to approximately 7.8 acres. Unmitigated loss of vegetation, or introduction of noxious weeds, could impact to vegetation resources.

Temporary impacts will be mitigated using BMPs, as described in the Project SWPPP. Such BMPs may include installation of erosion control devices and revegetation practices. For example, in temporarily impacted areas that were previously natural (i.e., non-cropland), CRES will use native vegetation (weed free) seed mixes to revegetate disturbed areas to preconstruction conditions where feasible.

Permanent impacts will occur where vegetation is removed for placement of specific Project components (see Section 7.4.4). These impacts will result in a loss of production of crops and natural vegetation in limited areas where natural vegetation may occur. Other impacts could include the spread of noxious weed species resulting from construction equipment introducing seeds into new areas.

Impacts to cultivated lands are not biologically significant as these lands are currently frequently disturbed by tilling, planting, and harvesting activities.

No federally or state-listed plant species are known to occur in the Project Area. Therefore, no impacts to federally or state-listed plants are expected to occur, and no mitigation measures are proposed.

12.2 Wetlands and Water Bodies

The following sections describe the wetlands and water bodies within the Project Area and the potential effects of the Project to these resources. Planned avoidance, minimization, and mitigation measures for those effects are also described.

12.2.1 Existing Resources

SWCA conducted a desktop review to identify locations of potential wetlands and water bodies within the Project Area (Appendix D). According to the USFWS's National Wetland Inventory, the Project Area contains portions of one riverine system totaling 0.3 acre (USFWS 2025a) (see Appendix A, Figure A-9). The USGS National Hydrography Dataset indicates that 508 feet of an intermittent stream is within the Project Area (USGS 2026); the intermittent stream overlaps the National Wetland Inventory feature (see Appendix A, Figure A-9). SWCA's review of historical and aerial imagery did not indicate any additional areas with possible wetland signatures that warranted investigation during field wetland delineations.

SWCA completed natural resources pedestrian surveys, including wetland delineations, within the Project Area in May 2024 and July 2025. SWCA delineated two wetlands (WET001, WET002) in the Project Area (Table 12-2; see Appendix A, Figure A-9) and recorded one wetland determination point and one corresponding upland determination point for each wetland. Within the Project Area, the wetlands comprised 0.03 and 5.6 acres. Both wetlands were classified as PEMs according to the Cowardin classification system (Cowardin et al. 1979) (see Appendix D). A PEM wetland is a freshwater wetland characterized by emergent marsh, fen, or wet meadow.

Table 12-2. Field-Delineated Wetlands in the Project Area

Feature ID	Survey Date	Location		Surficial Connectivity	Acres
		Latitude	Longitude		
WET001	07/30/2025	45.046985	-96.920784	Yes	5.64
WET002	07/30/2025	45.046139	-96.922286	No	0.03
Total					**5.67**

12.2.2 Impacts/Mitigation

Project infrastructure has been sited to avoid impacts to the wetlands. Only the mV collection cables must intersect the wetland located directly south of the BESS Site. Where the mV collection cables intersect the wetland, CRES will bore under the wetland to avoid impacts to the resource.

Further, CRES will obtain a South Dakota General Permit for Storm Water Discharges Associated with Construction Activity (SDR100000), develop and implement a SWPPP prior to construction, and use BMPs to reduce impacts during construction. The SWPPP will describe BMPs for erosion and sedimentation control. Such BMPs may include the use of silt fences and/or other measures to control stormwater run-on and runoff to mitigate erosion and sedimentation into wetlands located in the Project Area.

As a result of site planning and design, implementation of erosion and sediment control BMPs, and boring of mV collection lines, no impacts to the wetlands are anticipated, and no additional mitigation measures are proposed.

12.3 Wildlife (Fauna)

The following sections describe potentially present wildlife species within the Project Area and the potential effects of the proposed Project on these species. Planned avoidance, minimization, and mitigation measures for those effects are also described.

12.3.1 Existing Resources

12.3.1.1 GENERAL

No federally or state-listed wildlife species were observed during natural resources pedestrian surveys conducted in the Project Area in May 2024 or July 2025 or during more than 20 wildlife surveys conducted between 2007 and 2018 for the CRW and CRWII project areas. The monarch butterfly (*Danaus plexippus*) was incidentally observed during natural resources pedestrian surveys conducted in the Project Area in July 2025. Species observed during surveys conducted between 2007 and 2018 were common species that may occur in suitable habitats throughout the region. These species included Richardson's ground squirrel (*Urocitellus richardsonii*), mink (*Mustela vison*), least weasel (*M. nivalis*), common raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), American robin (*Turdus migratorius*), mourning dove (*Zenaida macroura*), and killdeer (*Charadrius vociferus*).

Six bat species have potential to occur near the Project Area and may fly through the Project Area occasionally or during migration: eastern red bat (*Lasiurus borealis*), silver-haired bat (*Lasionycteris*

noctivagans), hoary bat (*Lasiurus cinereus*), northern long-eared bat (*Myotis septentrionalis*), little brown bat (*Myotis lucifugus*), and big-brown bat (*Eptesicus fuscus*). No suitable winter habitat (e.g., caves or buildings) or roosting habitat (e.g., buildings, trees, bridges) for bats is present in the Project Area.

Overall, wildlife species likely to occur in the Project Area are those that are common and widespread species in the region, and that are adapted to developed areas and human disturbance.

12.3.1.2 FEDERALLY AND STATE-LISTED, PROPOSED LISTED, OR PROTECTED SPECIES

CRES queried the USFWS's Information for Planning and Consultation (IPaC) to obtain an unofficial resource list of critical habitat and of federally listed species, proposed species, and candidate species with the potential to occur in the Project Area (USFWS 2026a) and also reviewed the SDGFP website to identify federally listed species and state-listed species with potential to occur in Codington County (SDGFP 2016). The results of these reviews are provided in Table 12-3. The sections that follow describe the habitat requirements of each species and their potential to occur within the Project Area.

There is no designated or proposed critical habitat present in the Project Area (USFWS 2026a).

Table 12-3. Federally Listed and State-Listed Terrestrial Species with Potential to Occur in Codington County

Common Name	Scientific Name	USFWS IPaC Resource List for Project Area	SDGFP County List	Status*
Mammals				
Northern long-eared bat	*Myotis septentrionalis*	✓		FT
Northern river otter	*Lontra canadensis*		✓	ST
Insects				
Dakota skipper	*Hesperia dacotae*	✓	✓	FT
Monarch butterfly	*Danaus plexippus*	✓		PT
Poweshiek skipperling	*Oarisma poweshiek*		✓	FE
Suckley's cuckoo bumble bee	*Bombus suckleyi*	✓		PE
Western regal fritillary	*Argynnis idalia occidentalis*	✓		PT
Birds				
Bald eagle	*Haliaeetus leucocephalus*			BGEPA
Golden eagle	*Aquila chrysaetos*			BGEPA
Piping plover	*Charadrius melodus*		✓	FT, ST
Rufa red knot	*Calidris canutus rufa*	✓		FT
Whooping crane	*Grus americana*		✓	FE, SE
Fish				
Topeka shiner†	*Notropis topeka*	✓	✓	FE

Sources: SDGFP (2016); USFWS (2026a).

* BGEPA – protected by the Bald and Golden Eagle Protection Act; FE – federally endangered; FT – federally threatened; PE – federally proposed endangered; PT – federally proposed threatened; ST – state listed.

† Because the Topeka shiner is an aquatic species, it is discussed in Section 13.

12.3.1.2.1 Northern Long-eared Bat

Summer habitat for the northern long-eared bat (federally endangered) consists of forested areas with trees greater than 3 inches in diameter at breast height (USFWS 2026b). Northern long-eared bats roost in live trees and/or snags that have exfoliating bark, cracks, crevices, and/or cavities (USFWS 2026b). The species typically forages in forest interiors. As a forest interior species, the northern long-eared bat requires contiguous forest blocks; these wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure (USFWS 2026b). Northern long-eared bats also may roost in human-made structures such as buildings, barns, bridges, and bat houses (USFWS 2026b). The species hibernates in caves, mines, or other cave-like structures during the winter.

According to the NLCD, the Project Area contains 2.7 total acres of forest (NLCD 2025); however, much of the Project Area has been previously disturbed, and no forested areas, woodlots, or tree lines are currently present. No human-made structures like buildings, barns, or bridges are present in the Project Area except for the CRW Collector Substation, and no karst features are known to occur in the Project Area.

Due to a lack of suitable habitat, the northern long-eared bat is unlikely to occur in the Project Area during winter or summer. The northern long-eared bat may fly through the Project Area as a temporary migrant during the spring and fall, though migration behavior of the species is poorly understood.

12.3.1.2.2 Northern River Otter

Northern river otters (*Lontra canadensis*) (state threatened) can occupy many types of aquatic habitats, including rivers, streams, lakes, and marshes with deep pools, which typically support abundant vegetation and prey resources (Kiesow and Dieter 2025; SDGFP 2025). Water quality, year-round access to open water, and limited disturbance are important habitat characteristics for the species. No rivers, streams, lakes, marshes with deep pools, or areas of year-round access to open water are present in the Project Area.

Due to a lack of suitable habitat, the northern river otter is unlikely to occur in the Project Area.

12.3.1.2.3 Dakota Skipper

The Dakota skipper (*Hesperia dacotae*) (federally threatened) is an obligate of undisturbed, native prairies, and generally inhabits wet lowlands dominated by bluestem grasses, or dry uplands that are a mix of bluestem and needle stem grasses (Vaughn 2005). Larvae have been observed feeding on several grasses, although little bluestem (*Schizachyrium scoparium*) is the preferred food source; the preferred nectar source for adults is purple coneflower (*Echinacea angustifolia*) (Vaughn 2005), in addition to other prairie flowering species. As of 2002 (the most recent year for which CRES could find publicly available occurrence data in Codington County), Dakota skippers had been recorded at 53 sites in 10 counties in South Dakota, including two sites in Codington County (USFWS 2002). The Codington County occurrences were at Goose Lake (approximately 22.7 miles southwest of the Project Area) and Horseshoe Lake (approximately 20.3 miles west-southwest of the Project Area).

During the 2024 and 2025 natural resources surveys, SWCA did not observe potentially suitable Dakota skipper habitat. Due to a lack of suitable habitat and the overall paucity of occurrence records in Codington County, the Dakota skipper is unlikely to occur in the Project Area.

12.3.1.2.4 Monarch Butterfly

Monarch butterfly (proposed to be federally listed as threatened) habitat occurs throughout most of the United States, including South Dakota, particularly in open habitats and including shortgrass and tallgrass prairies, meadows, livestock pastures, agricultural margins, roadsides, wetland areas, and gardens (Monarch Joint Venture 2026). The monarch has four life stages: egg, larvae, pupae, and adult (Monarch Joint Venture 2026). Milkweed plants (*Asclepias* spp.) are the sole host plant for monarch eggs and larvae, and the presence of milkweed plants is vital to the species throughout its breeding and migratory range (Monarch Joint Venture 2026). Adult monarch butterflies also use nectar-producing plants to feed on during migrations. Suitable habitat with milkweed and other nectar-producing plants may occur in fields, meadows, weedy areas, marshes, and roadsides.

During the 2024 and 2025 natural resources surveys, SWCA observed small areas of potentially suitable habitat with milkweed and potential nectar sources in the Project Area. SWCA also observed adult monarch butterflies in flight and a single monarch caterpillar (i.e., larva).

12.3.1.2.5 Poweshiek Skipperling

The Poweshiek skipperling (*Oarisma poweshiek*) (federally endangered) lives in high-quality tallgrass prairie in both dry upland areas and low moist areas (USFWS 2026c). Nectar species for the Poweshiek skipperling include purple coneflower, black-eyed Susan (*Rudbeckia hirta*), palespike lobelia (*Lobelia spicata*), and other flowering prairie species. There is no definitive research available regarding which plant species are necessary for larvae to develop, but the species appears to select fine-stemmed grasses and sedges, such as slender spike rush (*Eleocharis elliptica*), prairie dropseed (*Sporobolis heterlepis*), and little bluestem (Shepherd 2005; USFWS 2026c). USFWS (2026c) indicates the Poweshiek skipperling may be extirpated from South Dakota.

Due to a lack of suitable habitat (areas of high-quality tallgrass prairie), the Poweshiek skipperling is unlikely to occur in the Project Area.

12.3.1.2.6 Suckley's Cuckoo Bumble Bee

Suckley's cuckoo bumble bee (*Bombus suckleyi*) (proposed to be federally listed as endangered) has historically occurred in a variety of habitats, including prairies, grasslands, meadows, agricultural areas, urban environments, and woodlands up to approximately 10,500 fmsl (USFWS 2024a). The species is an obligate social parasite that relies on host bumble bees, primarily the western bumble bee (*Bombus occidentalis*) and Nevada bumble bee (*Bombus nevadensis*), to collect pollen and provision nests for its young (USFWS 2024a). Historically, the species occurred from Alaska through much of Canada and into several western and northern U.S. states, including South Dakota (USFWS 2024a). Historical records indicate approximately 53 occurrences in South Dakota prior to 2001; however, no records have been documented in the state since 2002 despite increased survey effort (USFWS 2024a). Suckley's cuckoo bumble bee has not been observed anywhere in the United States since 2016 (USFWS 2024a).

Although potentially suitable habitat (i.e., agricultural and herbaceous areas) is present within the Project Area, based on the lack of recent observations in South Dakota and the United States and the absence of recent records near the Project Area, Suckley's cuckoo bumble bee is unlikely to occur in the Project Area.

12.3.1.2.7 Western Regal Fritillary

The western regal fritillary (*Argynnis idalia occidentalis*) (a species proposed to be federally listed as threatened) is associated with native prairie habitats that support its larval host plants, primarily violets

(*Viola* spp.), and that provide abundant nectar sources for adults (USFWS 2023). Suitable habitat generally includes areas of large, intact and often contiguous grasslands (USFWS 2024b). Historically and currently, regal fritillaries have been documented across portions of the Great Plains, including South Dakota, although populations have declined substantially due to habitat loss and fragmentation of native prairie (USFWS 2023). The species is thought to occur in Codington County (USFWS 2023).

Due to a lack of suitable habitat (areas of intact, large grasslands) in the Project Area, the western regal fritillary is unlikely to occur in the Project Area.

12.3.1.2.8 Bald Eagle and Golden Eagle

The bald eagle (*Haliaeetus leucocephalus*) (protected under the Bald and Golden Eagle Protection Act [BGEPA]) typically occupies habitats near large rivers, lakes, and marshes with available food sources (USFWS 2026d). The species builds nests in trees and occasionally on human-made structures (USFWS 2026d). SDGFP indicates that in South Dakota, bald eagles are most strongly associated with large reservoirs and rivers (SDGFP 2026a).

The golden eagle (*Aquila chrysaetos*) (also protected under BGEPA) breeds primarily west of the Missouri River in South Dakota, usually on cliffs, rocky outcrops, and in large trees (Kochert et al. 2002; Pulkrabek and O'Brien 1974). SDGFP indicates no species detections in Codington County, and the Project Area occurs in an area of probability of occurrence (SDGFP 2026b).

Neither eagle species was observed during 232 point count surveys conducted at 29 locations throughout the CRW and CRWII project areas, which include the Project Area. During 2017 and 2018, no eagle nests were observed within the CRW and CRWII project areas, which include the Project Area. Suitable bald and golden eagle habitat is not present in the Project Area, and the species are unlikely to occur except as occasional flyovers.

12.3.1.2.9 Piping Plover

Within South Dakota, piping plovers (*Charadrius melodus*) (federally and state threatened) breed and nest on open beaches, alkaline wetlands, and sandflats (Aron 2005). The Platte River Recovery Implementation Program (2026) indicates that the species breeds in alkaline wetlands and along lake shorelines and on the Missouri River and its tributaries in South Dakota.

The species was not observed during 232 point count surveys conducted at 29 locations throughout the CRW and CRWII project areas, which include the Project Area. Due to a lack of suitable habitat, the piping plover is unlikely to occur in the Project Area.

12.3.1.2.10 Rufa Red Knot

The rufa red knot (*Calidris canutus rufa*) (federally threatened) is a shoreline species that breeds in drier Arctic tundra areas that generally are sparsely vegetated. Outside of the breeding season, the species primarily is found in marine habitats, especially near coastal inlets, estuaries, and bays (Harrington 2001). The species may be present in South Dakota as a migrant or accidental occurrence, but breeding or wintering populations have not been observed (Harrington 2001).

The species was not observed during 232 point count surveys conducted at 29 locations throughout the CRW and CRWII project areas, which include the Project Area. Due to a lack of suitable habitat, the rufa red knot is unlikely to occur in the Project Area.

12.3.1.2.11 Whooping Crane

The Project Area is approximately 35.8 miles east of the 95% core migration corridor (the area containing 95% of documented whooping crane observations during migration) (as delineated by Pearse et al. 2018a, 2018b) at its closest, indicating that it is relatively less likely for whooping cranes (*Grus americana*) (federally and state endangered) to be present within the Project Area than in areas closer to the migration corridor. According to the USFWS Whooping Crane Tracking Project Database (USFWS 2025b), the closest whooping crane observation is from spring 2015, approximately 23 miles northwest of the Project Area. The species was not observed during 232 point count surveys conducted at 29 locations throughout the CRW and CRWII project areas, which include the Project Area.

Suitable whooping crane habitat is not present in the Project Area. The wetlands located within the Project Area (see Section 12.2) are not considered suitable stopover habitat for whooping cranes due to size and/or proximity to paved and gravel roads (The Watershed Institute 2013). Therefore, the species is unlikely to occur in the Project Area.

12.3.1.2.12 Prairie Grouse

The ranges of the greater prairie-chicken (*Tympanuchus cupido*) and sharp-tailed grouse (*T. phasianellus*) include the Project Area, and the Project Area is within core habitat for sharp-tailed grouse. Neither species is federally or state-listed as threatened or endangered.

No leks or greater prairie-chicken or sharp-tailed grouse individuals were incidentally observed in the Project Area during May 2024 or July 2025 natural resources surveys. Additionally, the SDGFP conducted a search of the South Dakota Natural Heritage Database for the Project Area in February 2026, which indicated no records of species at risk in the Project Area (Appendix E).

CRES will instruct its on-site employees and contractors to remain aware of the potential presence of prairie grouse species. If a lek is observed within the Project Area, CRES will coordinate with the SDGFP as soon as possible following the observation.

12.3.2 Impacts/Mitigation

12.3.2.1 GENERAL

Construction of the Project may result in temporary (e.g., in areas that are restored following construction, or due to noise and human activity during construction) and permanent (e.g., in areas where natural vegetation is replaced by impervious or semi-impervious cover) displacement of wildlife individuals. Displaced wildlife are expected to use adjacent habitats elsewhere in and near the Project Area during active disturbance. Where temporary displacement occurs, individuals are also expected to reinhabit disturbed areas following restoration.

Construction may also result in the direct injury or mortality of some wildlife individuals (e.g., reptiles and amphibians). Injury or mortality associated with construction (e.g., crushing by vehicles) is expected to be very limited and not result in population-level effects. Wildlife, when mobile (e.g., adult birds), can escape disturbance.

During O&M activities, wildlife may be disturbed by activity, including vehicle and foot traffic. Such disturbances will be short term and limited to the duration of activities. Wildlife species occurring in the Project Area are expected to be adapted to human disturbance and are expected to habituate to long-term,

intermittent, routine activity (e.g., O&M activities) associated with the Project, which will be similar to, or less frequent than, current land uses in the Project Area.

Construction crews will be instructed to avoid disturbing or harassing wildlife when observed. Further, crews will remove trash from the Project Area to avoid inadvertently attracting scavenger species, which could in turn increase potential impacts to prey species (e.g., nesting birds).

12.3.2.2 FEDERALLY AND STATE-LISTED, PROPOSED LISTED, OR PROTECTED SPECIES

Of the federally and state-listed, proposed listed, or protected species discussed in Section 12.3.1.2, only the monarch butterfly has potential to occur in the Project Area. The species is currently proposed for listing under the Endangered Species Act. If the species becomes listed prior to construction, CRES will survey the Project Area for species presence. If presence is documented, CRES will implement BMPs to avoid impacts to the species (e.g., avoid clearing host plant species during specific seasons).

13 EFFECT ON AQUATIC ECOSYSTEMS (ARSD 20:10:22:17)

ARSD 20:10:22:17. Effect on aquatic ecosystems*. The applicant shall provide information of the effect of the proposed facility on aquatic ecosystems, and including existing information resulting from biological surveys conducted to identify and quantify the aquatic fauna and flora, potentially affected within the transmission site, wind energy site, or siting area, an analysis of the impact of the construction and operation of the proposed facility on the total aquatic biotic environment and planned measures to ameliorate negative biological impacts as a result of construction and operation of the proposed facility.*

13.1 Existing Resources

13.1.1 General

No aquatic resources are present in the Project Area beyond the two delineated wetlands discussed in detail in Section 12.2.

13.1.2 Federally and State-Listed or Protected Species

CRES completed an unofficial IPaC review for the Project Area and reviewed the SDGFP's website to identify federally and state-listed species with potential to occur in Codington County (see Table 12-3) (USFWS 2026a and SDGFP 2016, respectively). The only federally listed aquatic species with potential to occur in Codington County is the Topeka shiner (*Notropis topeka*). No state-listed aquatic species have potential to occur in the Project Area.

13.1.2.1 TOPEKA SHINER

The Topeka shiner is native to eastern South Dakota and is found within tributaries to the James, Vermillion, and Big Sioux Rivers. The species prefers a variety of habitats, including runs, pools, and backwater areas in cool, perennial streams. Occupied streams typically are groundwater-fed and have high water quality, clean gravel substrates, and vegetated banks (Shearer 2003).

No suitable habitat for the Topeka shiner occurs in the Project Area, and the species is unlikely to occur there.

13.2 Impacts/Mitigation

No impacts to aquatic ecosystems or species will occur as these resources and species are not present in the Project Area. Therefore, no mitigation is proposed.

14 LAND USE (ARSD 20:10:22:18)

ARSD 20:10:22:18. Land use. *The applicant shall provide the following information concerning present and anticipated use or condition of the land:*

(1) A map or maps drawn to scale of the plant, wind energy, or transmission site identifying existing land use according to the following classification system:

(a) Land used primarily for row and nonrow crops in rotation;

(b) Irrigated lands;

(c) Pasturelands and rangelands;

(d) Haylands;

(e) Undisturbed native grasslands;

(f) Existing and potential extractive nonrenewable resources;

(g) Other major industries;

(h) Rural residences and farmsteads, family farms, and ranches;

(i) Residential;

(j) Public, commercial, and institutional use;

(k) Municipal water supply and water sources for organized rural water systems; and

(l) Noise sensitive land uses;

(2) Identification of the number of persons and homes which will be displaced by the location of the proposed facility;

(3) An analysis of the compatibility of the proposed facility with present land use of the surrounding area, with special attention paid to the effects on rural life and the business of farming; and

(4) A general analysis of the effects of the proposed facility and associated facilities on land uses and the planned measures to ameliorate adverse impacts.

14.1 Land Use

14.1.1 Existing Resources

The Project Area is within the CRW project area, and land use includes one operational CRW turbine, the CRW Collector Substation, and agriculture. No irrigated lands; pasturelands or rangelands; undisturbed native grasslands; known existing or potential extractive nonrenewable resources; residences, farmsteads, family farms, or ranches; or municipal water supplies or water sources for organized rural water systems are present in the Project Area. Other than the single operational CRW turbine and CRW Collector Substation, no other major industries or public, commercial, or institutional uses are present in the Project

Area. Existing land uses within the Project Area are shown in Appendix A, Figure A-2b. The Project is compatible with these land uses as it is similar to the existing developed infrastructure, and agricultural use will not be restricted in undeveloped areas following construction.

No public, state, or federal lands are present within or adjacent to the Project Area (Appendix A, Figure A-10).

Local land use controls, including zoning ordinances, are discussed in Section 15.

14.1.2 Impacts/Mitigation

During construction, agricultural practices may be interrupted on up to approximately 32.6 acres within the Project Area. Following construction, all aboveground Project infrastructure will be located entirely within land that is currently used for agriculture. On these approximately 7.8 acres of land, land use will permanently shift from agricultural production to an energy storage facility.

Following construction, land use throughout the remainder (44.9 acres; 85.2%) of the Project Area will be restored (where temporary impacts occurred) or unchanged.

No specific resources contemplated by ARSD 20:10:22:18 beyond agricultural land and the limited commercial use of the operational turbine that is part of CRW are present within the Project Area. Therefore, no impacts to such resources will occur, and no mitigation is proposed.

14.2 Sound

The primary land use surrounding the Project Area is agricultural interspersed with operating wind turbines associated with CRW. Farming activities and vehicle traffic on county and local roads likely account for the largest amount of sound within the Project Area.

14.2.1 Existing Sound Levels and Regulatory Framework

14.2.1.1 SOUND TERMINOLOGY

Sound is measured on a logarithmic scale in units of decibels. Human hearing is not equally sensitive to all frequencies of sound, and the A-weighted decibel (dBA) scale most closely corresponds to the frequency sensitivity range for human hearing. Sound levels capable of being heard by humans are measured in dBA (Table 14-1). Cumulative sound increases along the scale of human perception in a logarithmic scale, with sound levels at less than 3 dBA being barely perceptible and changes in sound levels over 20 dBA being dramatically perceived.

Table 14-1. Typical Human Response to A-weighted Decibel Sound

Sound Pressure Level (dBA)	Human Perception
Less than 3	Barely perceptible
5	Clearly noticeable
10	Doubling or halving of loudness
20	Dramatic change in loudness

Existing sound in rural areas varies between 40 and 50 dBA, sound in suburban areas is generally between 50 and 60 dBA, and sound in urban areas ranges from 60 to 70 dBA (Smith et al. 1999). General background sounds such as a quiet rural area, a whisper, a library, and a quiet suburb are under 50 dBA. Sounds in urban areas include conversations in restaurants, offices, and running household items (e.g., dishwashers, vacuums, radios). Higher sound levels, generally those between 80 to 180 dBA, include jet takeoffs, motorcycles, concerts, stadium sound, shotguns, and a rocket launch (Table 14-2) (Center for Hearing and Communication 2026; IAC Acoustics 2026).

Table 14-2. Sound Source Examples of A-weighted Decibel Sound

Sound Pressure Level (dBA)	Sound Source Example(s)
10	A pin dropping
20	Rustling leaves
30	Whisper; quiet rural area
40	Computer; library
50	Refrigerator; quiet suburb
60	Air conditioner at 100 feet; conversation in restaurant, office, background music
70	Dishwasher; vacuum cleaner; radio; passenger car at 65 miles per hour; excavation equipment (loader, dump truck, concrete mixer truck, air compressor)
80	Garbage disposal, car wash, propeller plane flyover at 1,000 feet; diesel truck at 40 miles per hour; excavation equipment (grader, bulldozer, excavator, concrete truck)
90	Boeing 737 at one nautical mile; lawn mower
100	Motorcycle (riding); garbage truck; jet flyover at 1,000 feet
110	Concert with live rock music; jackhammer; steel mill, automobile horn at 1 meter
120	Thunderclap; chainsaw; oxygen torch
130	Peak stadium crowd sound
140	Jet engine at takeoff; aircraft carrier deck
150	Fighter jet launch
160	Shotgun
170	Safety airbag
180	Rocket launch

Source: Center for Hearing and Communication (2026); IAC Acoustics (2026).

14.2.1.2 SOUND REGULATIONS

Neither the State of South Dakota nor Codington County have regulatory sound limits for BESS. Therefore, the Project has been evaluated against sound level limits agreed upon by the Codington County Commission and CRES. The sound level limits evaluated at participating and non-participating residences are presented in Table 14-3 (Epsilon Associates, Inc. [Epsilon] 2026) (Appendix F).

Table 14-3. Sound Level Limits

Participation Status	Sound Level Limit (dBA)
Participating	50
Non-participating	45

14.2.2 Impacts/Mitigation

14.2.2.1 CONSTRUCTION SOUND LEVELS

Construction activities will produce short-term and intermittent sound that may affect nearby residences on a short-term basis. Short-term construction sound levels will differ depending on the equipment being used and the operation being performed. Typically, construction equipment sound pressure levels range from 70 to 100 dBA at a distance of 50 feet for construction equipment such as air compressors, backhoes, dozers, scrapers, shovels, and trucks (see Table 14-2) (Federal Transit Administration 2018). Sound levels are expected to be quieter in areas farther away from Project construction.

During construction, sound levels will be minimized by ensuring that construction equipment is equipped with working mufflers. Construction activities generally will be limited to the hours of 7 a.m. to 9 p.m., and major construction activities are planned to begin in May 2027 and be completed by April 2028. No additional mitigation measures are necessary as there will be minimal sound impacts from Project construction.

14.2.2.2 OPERATIONAL SOUND LEVELS

CRES conducted a preliminary sound assessment for the Project using specifications of the 150 LG DC Link 5.1 battery containers and 50 PE PCSM Gen3 inverters proposed for the Project (Epsilon 2026) (Table 14-4) (see Appendix F). The assessment included consideration of the 20-foot-tall sound wall (see Section 7.1.5) and of CRW turbines T-25 and T-26 in noise-reduced-operating mode (Epsilon 2026) (see Appendix F). The assessment also incorporated a 2-dBA adjustment to all assessed sources, making the predicted sound levels intentionally conservative. Further, the assessment assumed worst-case sound propagation conditions that occur less frequently than typical weather conditions, meaning sound generally does not travel as far under normal circumstances. In addition, the assessment was based on Project equipment operating at maximum sound output, whereas actual operations—particularly during cooler months—are expected to be well below these levels.

Table 14-4. Battery Container and Inverter Sound Power Levels (per unit)

Project Component	Model	Quantity	Broadband Sound Power Level (dBA)
Battery container	LG DC Link 5.1	150	Confidential
Inverter*	PE PCSM Gen3	50	93

Source: Epsilon (2026).

* With manufacturer sound attenuation kit and 100% fan speed.

The sound assessment used computer-aided noise abatement software developed by DataKustik GmbH and International Organization for Standardization 9613-2 “Attenuation of sound during propagation outdoors, Part 2” (Epsilon 2026). All sound levels assessed, as output from computer-aided noise abatement, are A-weighted equivalent sound levels (Leq, dBA). The sound assessment indicates that no participating residences are expected to be above 49 dBA, and no non-participating existing residences are expected to be above 45 dBA (Epsilon 2026). Therefore, the Project will be compliant with the Commission’s allowable sound pressure levels. Further, these values represent the worst-case future Leq sound levels produced cumulatively by the Project and three (i.e., CRW, CRWII, and Dakota Range) wind farms in the region. Again, these levels are only likely to occur when all Project equipment is operating at maximum load and under optimum sound propagation conditions. This, together with the

conservative modeling approach described above, indicates that the results represent a reasonable worst-case scenario rather than typical conditions.

14.3 Visual Resources

14.3.1 Existing Visual Resources

Dominant visual characteristics in the Project Area are agricultural (e.g., crop production) and development (e.g., substation, operational wind turbine). Open land and two wetlands are also present. No additional constructed infrastructure (e.g., homes, public roads, barns) exist within the Project Area.

Project Area topography is nearly flat, ranging from 1,962.2 to 2,101.3 fmsl (elevation gain of 139.1 feet), as described in Section 10.2.2.1 (see Appendix A, Figure A-2a). Therefore, no significant visual topographic characteristics are present in the Project Area.

14.3.2 Visual Impacts

The degree to which the Project will be visible to onlookers will vary by location. The Project will frequently be visible to landowners or renters who farm areas in or near the Project Area and to people who travel roads near the Project Area. However, constructed features (e.g., existing wind turbines), topography, and natural landscape features such as tree cover, in relation to a viewer's physical location, may impede view of the Project.

The primary visual impact from the Project will include the introduction of additional constructed features. These features will be visible during the day due to visual contrast and potential surface glare.

Many areas near and in the Project Area currently are visually impacted by developed structures (e.g., wind turbines, local transmission lines) and existing roadways. CRES has implemented measures to minimize the impact the Project will have upon existing scenic integrity by incorporating county setback requirements and a sound wall (see Sections 7.3 and 7.1.5. respectively).

15 LOCAL LAND USE CONTROLS (ARSD 20:10:22:19)

ARSD 20:10:22:19. Local land use controls. *The applicant shall provide a general description of local land use controls and the manner in which the proposed facility will comply with the local land use zoning or building rules, regulations or ordinances. If the proposed facility violates local land use controls, the applicant shall provide the commission with a detailed explanation of the reasons why the proposed facility should preempt the local controls. The explanation shall include a detailed description of the restrictiveness of the local controls in view of existing technology, factors of cost, economics, needs of parties, or any additional information to aid the commission in determining whether a permit may supersede or preempt a local control pursuant to SDCL 49-41B-28.*

The Project will be constructed in accordance with the Codington County Comprehensive Zoning Regulations and with land use control policies and local ordinances in the county's comprehensive land use plan (Codington County 2012).

Additionally, the following Project characteristics are consistent with Codington County requirements:

- The BESS is set back a minimum of 100.0 feet from property boundaries.

- The distance from the fence to the nearest road ROW (at 161st Street) is approximately 150.1 feet.
- The distance from the closest BESS component to the nearest road ROW is approximately 258.0 feet.
- The distance from the fence to the nearest residence (located west of the Project Area on 161st Street) is approximately 1,950.0 feet.
- The distance from the closest BESS component to the nearest residence is approximately 2,030 feet.
- The distance from the fence to the nearest wind turbine (located south of the BESS) is approximately 635.0 feet.

CRES applied for a conditional use permit to Codington County on February 22, 2024, for the CRW Collector Substation with a BESS. CRES obtained the conditional use permit from Codington County on May 20, 2024. CRES is currently coordinating with Codington County and will file an application for an extension to the conditional use permit before June 2026.

16 WATER QUALITY (ARSD 20:10:22:20)

ARSD 20:10:22:20. Water quality. *The applicant shall provide evidence that the proposed facility will comply with all water quality standards and regulations of any federal or state agency having jurisdiction and any variances permitted.*

16.1 Existing Water Quality

Section 303(d) of the federal Clean Water Act requires that states develop a list of water bodies that do not meet their designated uses due to excess pollutants (impaired waters) and to determine total maximum daily loads of all pollutants from all sources that a water body can receive and still meet applicable water quality standards. No water bodies occur in the Project Area or directly adjacent to the Project.

Two wetlands occur in the Project Area and are discussed in Section 12.2.

16.2 Potential Impacts/Mitigation

No water bodies occur in the Project Area; therefore, no impacts to water quality are anticipated, and no mitigation is proposed.

Avoidance of impacts to wetlands is discussed in Section 12.2.2.

17 AIR QUALITY (ARSD 20:10:22:21)

ARSD 20:10:22:21. Air quality*. The applicant shall provide evidence that the proposed facility will comply with all air quality standards and regulations of any federal or state agency having jurisdiction and any variances permitted.*

17.1 Existing Conditions

The State of South Dakota follows ambient air quality goals and standards, as defined under the federal government regulations (ARSD 74:36:02). The nearest ambient air quality monitoring station is in Watertown, Codington County, South Dakota, approximately 13.1 miles southwest of the Project Area. The primary sources of emission within and surrounding the Project Area are vehicles traveling along roadways and agricultural-related equipment.

The existing air quality of the Watertown region is good, based on the air quality index established by the U.S. Environmental Protection Agency under federal regulations. Watertown's air quality monitoring station was established in the western third of Watertown in 2003, located just east of an industrial park area, with service type businesses and light industry to the west and south and residential areas to the north and east of the station. The station monitors for particulate matter 10 microns in diameter or less (PM_{10}), particulate matter 2.5 microns in diameter or less ($PM_{2.5}$), and ozone. Applicable national maximum 24-hour average ambient air quality standards for PM_{10} is 150 micrograms per cubic meter ($\mu g/m^3$), and the $PM_{2.5}$ monitored at the station is 35 $\mu g/m^3$. Annual average maximum $PM_{2.5}$ concentration is 9 $\mu g/m^3$ as measured at the station, and the 8-hour maximum ozone concentration is 0.070 parts per million (ppm). The Watertown area has only exceeded the 24-hour PM_{10} standard twice since 2003; these events were due to high wind events causing fugitive dust levels to exceed the 24-hour standard (SDDANR 2014).

Fugitive dust emissions are produced from wind erosion of disturbed areas and may affect both rural and urban environments. Air quality pollutant emissions include particulate matter such as fine dust from vehicle travel on unpaved roads; agricultural activities; other wind-blown dust and air pollutants; ozone or ground-level smog such as carbon monoxide; and sulfur dioxide and nitrogen oxides from vehicles, stationary sources burning coal and oil, electric utilities, and industrial boilers. Sulfur dioxide and nitrogen oxide are monitored in Sioux Falls, which is the closest monitoring station to the Project Area that monitors these elements (SDDANR 2026c).

The entire state of South Dakota is in attainment for all National Ambient Air Quality Standards established by the U.S. Environmental Protection Agency (2026). Therefore, general conformity is not applicable.

17.2 Impacts/Mitigation

Project construction is likely to result in temporary impacts to air quality. Construction activities may result in increased short-term airborne dust/particulate matter and construction equipment and vehicle emissions. Construction activities may include clearing, hauling, and excavation that could produce dust. CRES will use standard BMPs to minimize potential impacts to air quality. Such BMPs may include dust suppression/control and reclamation during and after construction, as required by the SWPPP and/or Codington County haul road permits that may be required. Impacts will be temporary; no long-term impacts on air quality will result from construction activities. No impacts to air quality from Project operation are anticipated, nor will the Project produce air emissions that will impact surrounding areas.

18 COMMUNITY IMPACT (ARSD 20:10:22:23)

ARSD 20:10:22:23. Community impact. *The applicant shall include an identification and analysis of the effects the construction, operation, and maintenance of the proposed facility will have on the anticipated affected area including the following:*

(1) A forecast of the impact on commercial and industrial sectors, housing, land values, labor market, health facilities, energy, sewage and water, solid waste management facilities, fire protection, law enforcement, recreational facilities, schools, transportation facilities, and other community and government facilities or services;

(2) A forecast of the immediate and long-range impact of property and other taxes of the affected taxing jurisdictions;

(3) A forecast of the impact on agricultural production and uses;

(4) A forecast of the impact on population, income, occupational distribution, and integration and cohesion of communities;

(5) A forecast of the impact on transportation facilities;

(6) A forecast of the impact on landmarks and cultural resources of historic, religious, archaeological, scenic, natural, or other cultural significance. The information shall include the applicant's plans to coordinate with the local and state office of disaster services in the event of accidental release of contaminants from the proposed facility; and

(7) An indication of means of ameliorating negative social impact of the facility development.

The following sections describe those resources, and any associated impacts, addressed in ARSD 20:10:22:23, with exception of the following, for which no resources are present within or within 1 mile of the Project Area:

- Recreational facilities
- Schools
- Transportation facilities (i.e., railroads or airports)

Because no recreational facilities, schools, railroads, or airports are present in or within 1 mile of the Project Area, no impacts to such features will occur and no mitigation is required.

18.1 Commercial and Industrial Sectors

18.1.1 Existing Resources

The Project Area is within the existing CRW project area and includes one operational turbine and the CRW Collector Substation. Several operational wind turbines associated with CRW are within 1 mile of the Project Area. Other than these structures, no other commercial or industrial uses are present in or within 1 mile of the Project Area.

18.1.2 Impacts/Mitigation

The Project will provide dispatchable capacity next to an existing wind resource (CRW) (see Section 6) and is compatible with existing land use (see Section 14.1). Therefore, the Project will not have any adverse impacts to commercial or industrial sectors, and CRES has determined that no mitigation is required.

18.2 Socioeconomics

The following sections describe existing conditions and associated impacts, where applicable, to population, income, occupational distribution, labor market, housing, land/property values, and communities.

18.2.1 Existing Resources

According to the U.S. Census Bureau, the Codington County population estimate in 2025 was 29,562 (U.S. Census Bureau 2026). The unemployment rate for Codington County in July 2024 was 267 people of the 16,723 people in the labor force (approximately 1.6%). From 2018 to 2023, jobs in Codington County increased by 5.9%, with this increase being projected to continue. As of 2023, the top two industries in Codington County were manufacturing and retail trade, followed by government, health care, and social assistance (South Dakota Governor's Office of Economic Development 2024). In April 2026, Codington County had 223 homes for sale, many of which are in Watertown (approximately 13.0 miles southwest of the Project Area) (Realtor 2026).

18.2.2 Impacts/Mitigation

The Project will have positive economic impacts for the local population, including payment for the purchase of the land, employment, and property and sales tax revenue. CRES estimates that the total cost of the Project will be approximately $174 million (see Section 5). There are no BESS facilities currently in South Dakota; therefore, the tax structure is not clearly defined. However, if the Project were to be taxed at the assumed rate of a traditional commercial property or gas plant, it would result in approximately $2 million annually depending on the assessed value for property taxes and in approximately $6.5 million sales tax. CRES will work with First District Association of Local Governments (First District) to develop an in-depth social and economic impact study following the start of the local review committee's review of this application. CRES will have more accurate information following completion of the impact study and will share results with Codington County and the Commission at that time.

CRES has executed a voluntary lease with a purchase option agreement for the land where the Project is located, providing a benefit to the landowner.

As described in Section 7.4.2, the Project is anticipated to require up to 60 temporary workers for the duration of construction (approximately 9–12 months), with the number of workers on-site at any given time varying depending on the phase of construction. Labor will likely consist of both local (i.e., residing within the Codington County or within 50 miles of the Project Area) and non-local (i.e., residing outside of Codington County, and in other areas of the state, the region, or other states). It is likely that general skilled labor is available locally to serve the basic Project site preparation and construction needs. Additionally, specialized labor will be required for certain components of Project development and may require non-local workers. CRES expects that balancing the use of local construction contractors and non-local specialized construction contractors will alleviate any labor relations issues.

The total wages and salaries local workers are paid will contribute to the total personal income of the county and/or the state, resulting in a temporary benefit to the local economies. Non-local workers, when employed, are likely to use lodging facilities in and around Watertown or other areas in the county, which will also result in temporary benefits to local businesses and the economy. Additionally, any Project- or worker-related expenditures made for equipment, energy, fuel, operating supplies, food, and other products and services will temporarily benefit businesses in the county and state.

The Project will create approximately one to two full-time O&M jobs (see Section 7.5). These employees are expected to reside locally (i.e., within the county or within 50 miles of the Project Area). The total wages and salaries these local workers are paid will contribute to the total personal income of the county and/or the state. Project operation is not expected to result in measurable impacts to the local economies, to the number of permanent residents in communities near the Project Area, to demand for permanent housing, or to local businesses.

Long-term beneficial impacts to Codington County's tax base will contribute to the local economy as a result of Project construction and operation. Socioeconomic impacts associated with the Project are expected to be positive, with an influx of wages and expenditures made at local businesses during the construction period. Based on this assessment, CRES has concluded that no mitigation measures are required.

Currently, CRES is unaware of any publicly available, peer-reviewed empirical studies analyzing the potential relationships between BESS projects and land or property values. CRES does not anticipate that the Project will have an effect on land or property values.

18.3 Health Facilities

18.3.1 Existing Resources

No healthcare facilities are in or within 1 mile of the Project Area. Construction workers or O&M workers needing medical attention will likely seek assistance at Prairie Lakes Hospital in Watertown, which is approximately 13.5 miles southwest of the Project Area.

The following ambulance services could respond to medical emergencies at the Project Area:

- South Shore Area Volunteer Fire Department located in South Shore approximately 4.0 miles north of the Project Area
- Watertown Fire Rescue located in Watertown approximately 13.5 miles southwest of the Project Area

18.3.2 Impacts/Mitigation

CRES will employ rigorous safety protocols and adhere to all applicable safety standards to avoid and minimize the likelihood of accidents requiring medical treatment (see also Section 7.6). Therefore, CRES does not anticipate that accidents will occur in such a way (e.g., frequently) as to place an undue burden on health facilities during the life of the Project. CRES has determined that no mitigation is necessary.

18.4 Electrical and Cellular Services

18.4.1 Existing Resources

The Codington-Clark Electric Cooperative, Inc., provides rural electrical service in the Project Area and in Codington County.

In Codington County, cellular service is supported by several major carriers with coverage of urban and rural areas. Verizon and AT&T are the primary providers offering coverage throughout the region.

18.4.2 Impacts/Mitigation

The Project will self-supply electricity stored from the BESS during active operation or use station service from the Codington-Clark Electric Cooperative, Inc., while idle. Therefore, CRES has determined that no mitigation is required.

BESS facilities do not cause disruptions to cellular telephone signals. BESS facilities operate within a different frequency range than cellular telephone signals, ensuring there is no interference. No impact to existing cellular service is anticipated. Therefore, CRES has determined that no mitigation is required.

18.5 Sewage, Water, Solid Waste Management Facilities

18.5.1 Existing Resources

Many Codington County residents in rural or unincorporated areas rely on private septic systems rather than municipal sewer lines. No municipal sewer lines are present within the Project Area. It is likely that within 1 mile of the Project Area, residents rely mostly on private septic systems (County Office 2006).

The Watertown Municipal Utilities Department supplies potable water to communities in Codington County; however, no water utilities serve the Project Area (County Office 2026).

The Watertown Sanitation Department operates the Watertown City Landfill and provides waste management services such as garbage collection, recycling, yard waste disposal, and composting for the Watertown area (County Office 2026).

18.5.2 Impacts/Mitigation

The BESS will be uninhabited with no restroom facilities or running water during operations, and the only restroom facilities provided during construction and decommissioning will be portable units to be serviced by licensed providers (see Section 7.1.12). Therefore, no effects on local sanitation service providers or nearby private septic systems are anticipated, and CRES has determined that no mitigation is required.

The Project is not expected to impact local water utilities. Water required for construction (see Section 11.3.2) will be hauled via water trucks and stored on-site in a temporary storage tank for dust control during construction and will be sourced from locally available private water sources (e.g., pond water from nearby landowners) or public waters, as needed. Therefore, no effects on water utilities are anticipated and CRES has determined that no mitigation is required.

It is possible that CRES will dispose of refuse at nearby, licensed facilities (e.g., the Watertown City Landfill). In so doing, CRES will adhere to all state and local requirements for disposal of all refuse resulting from construction and/or operation of the BESS (see Section 7.1.12). Therefore, no effects on such facilities are anticipated, and CRES has determined that no mitigation is required.

18.6 Roads and Traffic

18.6.1 Existing Resources

The Project Area is bounded to the west by 464th Avenue and to the north by 161st Street. The network that will make up the transportation system used during Project construction and O&M includes public

county roads, public township roads, public section lines, and private access roads. The Project Area lies within the South Dakota Department of Transportation (SDDOT) Watertown Area of the Aberdeen Region (SDDOT 2025). Within 1 mile of the Project Area, portions of 161st Street and 162nd Street experience annual daily traffic (i.e., average number of vehicles per day) of 0 to 250, and portions of 464th Avenue experience annual daily traffic of more than 250 to 550 and more than 550 to 1,500 (SDDOT 2025).

18.6.2 Impacts/Mitigation

CRES or its contractors will coordinate with state, county, and local transportation, highway, and road authorities to obtain all required permits (e.g., oversize/overweight permit, haul road permit), as needed and described in Section 29. CRES or its contractors will complete Project-related activities in compliance with such permits, including restoration for damages to roadways if applicable.

There will be a temporary increase in vehicular traffic during construction activities. Impacts are expected to be temporary and minor during construction, limited to up to approximately 60 temporary workers and up to 20 vendor trips accessing the Project Area daily during the 9- to 12-month construction period (see Section 7.4.1). During Project O&M, approximately one to two full-time employees will use the local road network to access the Project Area intermittently, which is not expected to have a measurable impact to traffic volume.

Although there may be some increase in heavy vehicle traffic in discrete locations for limited amounts of time, any impacts to public use of roadways in the Project Area will be negligible and temporary and will be resolved with the completion of construction. Therefore, CRES has determined that no mitigation is required.

18.7 Agricultural Production and Use

18.7.1 Existing Resources

The Project Area is zoned as agricultural (see Section 2). The Project Area is within the existing CRW project area and includes one operational turbine and the CRW Collector Substation.

Codington County has a total land area of 687 square miles (439,680 acres), with approximately 442 square miles (rounded to the nearest whole number; 282,976 acres) of land (65.9% of the county land area) in farms (U.S. Census Bureau 2026; U.S. Department of Agriculture 2022). In 2022, there were a total of 500 farms, and the average-sized farm was 566 acres. Crop sales were primarily grains, oil seeds, dry beans, and dry peas, whereas poultry and eggs, cattle and calves, and milks from cows made up most livestock, poultry, and product sales (U.S. Department of Agriculture 2022).

18.7.2 Impacts/Mitigation

Project construction will result in temporary impacts to an estimated 32.6 acres, some of which appears to be currently used to produce soybeans. During construction, farming operations will cease in active construction areas to protect the safety of both farmers and construction workers on these 32.6 acres, which comprises <0.01% of the total agricultural area within Codington County. Areas disturbed during construction will be repaired and restored to preconstruction contours to the extent practicable so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion. Temporary construction areas will be restored in accordance with the SWPPP.

Following construction, impacts to agricultural areas will remain on approximately 7.8 acres for the operational life of the Project where BESS components are installed. These acres represent <0.002% of the total agricultural area within Codington County. Economic losses from farmland that is taken out of production for operation of the Project are anticipated to be minimal in comparison to the additional income provided by the Project (see Section 18.2).

These limited impacts to agriculture are minor and are not expected to affect the overall agricultural sector in the community or in the county, and no mitigation is proposed.

Drain tile lines may be present in the Project Area. CRES will identify and mark drain tile lines to avoid damage during construction. Where locations are known, temporary travel paths will avoid drain tiles where possible. Where avoidance is not possible, matting may be used. If drain tile lines are inadvertently damaged by construction of the Project, CRES will repair tile lines.

18.8 Emergency Response, Fire Protection, and Law Enforcement

CRES will prepare an ERP for the Project following its company template (Appendix G). The ERP will be shared with local emergency response personnel, as needed, and filed with Codington County and the Commission prior to the Project commercial operations date. CRES has engaged and/or will engage with first responders to coordinate response efforts in the unlikely event of an emergency. These first responders include the following:

- Codington County Emergency Management located in Watertown approximately 13.5 miles southwest of the Project Area
- Codington County Sheriff's Office located in Watertown approximately 13.5 miles southwest of the Project Area
- Prairie Lakes Hospital located in Watertown approximately 13.5 miles southwest of the Project Area
- South Dakota State Fire Marshal's Office located in in Pierre approximately 175.0 miles west-southwest of the Project Area
- South Shore Area Volunteer Fire Department, which also includes ambulance services, located in South Shore approximately 4.0 miles north of the Project Area
- Watertown Fire Rescue, which includes ambulance services and is located in Watertown approximately 13.5 miles southwest of the Project Area
- Watertown Police Department located in Watertown approximately 13.5 miles southwest of the Project Area

Specific contact information for these entities will be included in the ERP. Coordination with these first responders includes the following key actions:

- **Orientation**. CRES will provide a general orientation of the Project to first responders once key design details and access points have been established.
- **ERP training**. CRES, in collaboration with the Power Generation Division of NextEra Energy Resources, will coordinate with applicable local emergency responders for ERP training closer to the commissioning phase of the Project. This training will help prepare first responders for managing potential incidents at the Project.

- **Annual refresher ERP training**. To maintain readiness, CRES will offer annual refresher ERP training, as required by NFPA and the International Fire Code. This will ensure ongoing preparedness and reinforce best practices for safety and fire protection systems at the Project.

Following the occurrence of a significant event involving an emergency, CRES will notify Codington County Emergency Management and the Commission. CRES will, within 30 calendar days of an extraordinary event, submit a report to Codington County Emergency Management describing the cause of the occurrence and the steps taken to avoid future occurrences.

In addition to those procedures (e.g., ERP training) required by the Project ERP, CRES will employ rigorous safety protocols and adhere to all applicable safety standards to avoid and minimize the likelihood of a significant event occurring (see also Sections 7.6). Therefore, CRES does not anticipate that extraordinary events will occur in such a way (e.g., frequently) as to place undue burden on first responders during the life of the Project. CRES has determined that no mitigation is necessary.

18.9 Public Health and Safety

CRES will implement several measures to mitigate risks to public safety. Batteries used at the Project will undergo rigorous industry testing and certification to ensure that cell and module designs are robust. Each container will be equipped with fire protection and control systems that comply with NFPA standards. The Project will have a thermal management system to maintain operations within a prescribed temperature range. The Project will use sensors to detect and alarm in the event of abnormal conditions, and each BESS will be equipped with a BMS that can automatically shut down an affected unit (see Section 7.1.2).

In addition, and during construction, CRES will install safety signage providing information regarding high voltage within the BESS and information for emergency services on the fence near the entrances and at swing gates (see Section 7.1.8).

18.10 Cultural Resources

18.10.1 Existing Resources

This section presents the results of a record search, a review of previously recorded cultural resources, and the results of the current Level III cultural resources survey report conducted for the Project.

In accordance with the *South Dakota Guidelines for Complying with Federal and State Preservation Laws* (South Dakota State Historical Society 2023), cultural resources reviews were conducted for an area that includes a 1-mile buffer of the Project Area. The record search for the Project considered all cultural resources documented within and up to 1 mile of the Project Area.

The records search was conducted on May 14, 2024, and updated on February 23, 2026, through the Archaeological Research Center at the South Dakota State Historical Society for the Project Area. Pursuant to SDCL 1-20-21, information contained within the records search data is confidential and not for public distribution. Additional background research conducted for the Project Area included a review of the historical General Land Office (GLO) plat maps available online from the Bureau of Land Management. Information presented below is a summary of the data obtained from the Archaeological Research Center and from the GLO database; site-specific location information is confidential and is not included in this review.

The results of the records show that nine previous cultural resource inventories have been conducted within 1 mile of the Project Area for other projects. Three of these inventories overlap the Project Area, providing full coverage. Eight of the previous inventories were completed in the past 10 years.

18.10.2 Existing Cultural Resources

The records search was conducted within 1 mile of the Project Area, according to South Dakota State Historic Preservation Officer guidance. This search determined that nine previously documented archaeological sites have been recorded within 1 mile of the Project Area. Previously documented sites within 1 mile of the Project Area and their eligibility for the National Register of Historic Places (NRHP) and State Register of Historic Places (SRHP) are discussed below by resource type.

The nine previously documented archaeological sites include Native American stone feature sites, Native American isolated artifacts, Euro-American feature sites, and Euro-American isolated artifacts. Of the nine sites, one has been determined by State Historic Preservation Office as not eligible for the NRHP and SRHP. The remaining eight sites have not been evaluated for the NRHP and SRHP, though two have been recommended eligible and one has been recommended not eligible. None of the previously recorded sites are within the Project Area.

18.10.2.1 PREVIOUSLY DOCUMENTED CEMETERIES

No previously documented cemeteries have been identified within 1 mile of the Project Area.

18.10.2.2 GENERAL LAND OFFICE REVIEW

The GLO survey plat map for Township 118 North, Range 51 West from 1873 was reviewed for historic features that may be located within the Project Area. This review indicated that no historic features were documented within or near the Project Area at that time.

18.10.3 Level III Cultural Resources Survey

The Project Area is fully within areas inventoried within the last 10 years. However, SWCA conducted a supplemental Level III cultural resources survey of 21 acres within the Project Area on May 18, 2024. The principal investigators supervising this survey meet the U.S. Secretary of the Interior's Professional Qualifications Standards for archaeology. No archaeological sites or standing structures were identified within the Project Area (SWCA 2026a). A report detailing the results of the Level III survey and the greater Project Area within previously surveyed areas was submitted to the South Dakota State Historical Society on April 14, 2026 (see Appendix H [report has been redacted to protect sensitive information]).

A survey for Tribal sensitive sites of an area that includes the Project Area was previously conducted in 2019 during surveys for the CRWII generation tie-line. Four Tribal sensitive sites are fully within the Project Area, and five additional Tribal sensitive sites are partially in the Project Area. CRES has designed the Project to avoid all sensitive sites. In addition, previously identified Tribal sites will be fenced for avoidance and monitored during construction with the participation of the Sisseton Wahpeton Oyate of the Lake Traverse Reservation. CRES will also prepare an unanticipated discovery plan prior to construction to ensure safeguards are in place should resources be discovered during construction.

18.10.4 Impacts/Mitigation

No Project construction activities are planned near archaeological sites or historic standing structure sites. Additionally, no buildings or structures listed in the NRHP or on the SRHP occur within 1 mile of the

Project Area. Although sites important to Tribal cultural traditions are present within the Project Area, they will be avoided by Project construction activities.

19 EMPLOYMENT ESTIMATES (ARSD 20:10:22:24)

ARSD 20:10:22:24. Employment estimates. *The application shall contain the estimated number of jobs and a description of job classifications, together with the estimated annual employment expenditures of the applicants, the contractors, and the subcontractors during the construction phase of the proposed facility. In a separate tabulation, the application shall contain the same data with respect to the operating life of the proposed facility, to be made for the first ten years of commercial operation in one-year intervals. The application shall include plans of the applicant for utilization and training of the available labor force in South Dakota by categories of special skills required. There shall also be an assessment of the adequacy of local manpower to meet temporary and permanent labor requirements during construction and operation of the proposed facility and the estimated percentage that will remain within the county and the township in which the facility is located after construction is completed.*

The Project will create up to 60 temporary construction jobs over the approximately 9- to 12-month construction period, with the number of workers on-site at any given time varying depending on the phase of construction. Once construction is complete, the Project will create approximately one to two full-time O&M jobs. These employees are expected to reside locally (i.e., within the county or within 50 miles of the Project Area).

20 FUTURE ADDITIONS AND MODIFICATIONS (ARSD 20:10:22:25)

ARSD 20:10:22:25. Future additions and modifications*. The applicant shall describe any plans for future modification or expansion of the proposed facility or construction of additional facilities which the applicant may wish to be approved in the permit.*

To maintain the Project's contractually required energy capacity over its operational life, and as described in Sections 7.1.1 and 7.1.4, periodic augmentation is planned to offset the gradual capacity degradation in the original battery systems. The Project was initially sized to meet the full nameplate energy requirement from the start of operations, accounting for auxiliary loads and other energy losses. However, as batteries naturally degrade over time, new battery containers and PCSs will be integrated within the existing footprint to uphold the contracted energy levels. The nameplate capacity will not be increased by augmentation but will remain the same. The Project design accounts for planned augmentation, and augmentation is expected to occur, as needed, every 3 to 4 years depending on actual degradation as measured by periodic capacity tests and findings from routine inspections. These inspections and installation of additional capacity are part of the O&M activities described in Section 7.5.

Based on the current design, CRES will install approximately 126 initial BESS cabinets plus an additional 24 augmentation cabinets (see Section 7.1.1) for a total of approximately 150 BESS cabinets. CRES will also initially install approximately 46 PCSs, with an additional four augmentation PCSs (see Section 7.1.4), for a total of approximately 50 PCSs. The final numbers may change depending on final design and technology changes at the time of augmentation.

The site plan submitted with this application (see Appendix C) includes all areas needed for future augmentations, and the construction contractor will grade and prepare augmentation areas during initial construction, as described in Section 7.4.

21 NATURE OF PROPOSED ENERGY CONVERSION FACILITY (ARSD 20:10:22:26)

ARSD 20:10:22:26. Nature of proposed energy conversion facility. *The application shall contain a description of the operating nature of the proposed facility, the expected source and quantity of its raw materials, and energy requirements. The preceding shall be illustrated by means of an annotated map. The description shall include the following:*

(1) The proposed on-line life of the facility and its projected operating capacity during its on-line life;

(2) A general description of the major components of the proposed facility such as boilers, steam generators, turbine generators, cooling facilities, production equipment, pollution control equipment, and other associated facilities;

(3) An identification of materials flowing into the facility, including all materials such as air, water, coal, and chemical compounds that will be utilized by the proposed facility, recorded in accordance with accepted scientific practices regarding their estimated consumption rate;

(4) An inventory of all materials flowing out of the proposed facility, including the method of control, treatment, destination, and disposal monitoring programs of each of the materials; and

(5) The procedures proposed to avoid or ameliorate the possibility that the discharges, emissions, or solid wastes would do any of the following:

(a) Constitute a public nuisance;

(b) Endanger the public health and safety;

(c) Endanger human, animal, or plant life; or

(d) Endanger recreational facilities.

21.1 Proposed On-Line Life and Operating Capacity

The Project will have an operating capacity of 120 MW and is expected to be on-line for approximately 35 years (see Section 1).

21.2 General Description of Major Project Components

A description of Project components is provided in Section 7.1.

21.3 Identification of Materials Flowing Into the Facility

The potential use of water during Project construction is described in Section 11.3.

No materials such as air, water, coal, or chemical compounds will flow into or be used by the Project during O&M.

21.4 Identification of Materials Flowing Out of the Facility

Emissions, such as fugitive dust, and waste that may result during Project construction are described in Sections 17.2 and 18.5.2, respectively.

During O&M, the Project will not result in discharges, emissions, or solid waste beyond stormwater runoff. Stormwater management is described in Section 7.1.9.

21.5 Procedures to Mitigate

The Project will not result in a possibility for discharges, emissions, or solid wastes to do any of the following:

- Constitute a public nuisance
- Endanger the public health and safety
- Endanger human, animal, or plant life
- Endanger recreational facilities

Therefore, no procedures are needed to avoid or ameliorate such impacts.

22 PRODUCTS TO BE PRODUCED (ARSD 20:10:22:27)

ARSD 20:10:22:27: Products to be produced*. The applicant shall describe both in general terms and by technical description the products and by-products to be produced by the proposed facility and their destinations.*

The Project will store electricity that will be provided to the regional energy market. The Project is not anticipated to produce by-products.

23 FUEL TYPE USED (ARSD 20:10:22:28)

ARSD 20:10:22:28. Fuel type used*. The applicant shall provide a description of the type of fuel used, including:*

(1) Primary proposed fuel types;

(2) Anticipated yield and range (BTU or appropriate unit); and

(3) Approximate chemical analysis of the proposed design fuel.

No fuel types are proposed to be used by or yielded from the Project.

24 PROPOSED PRIMARY AND SECONDARY FUEL SOURCES AND TRANSPORTATION (ARSD 20:10:22:29)

ARSD 20:10:22:29. Proposed primary and secondary fuel sources and transportation*. On a map drawn to scale, the applicant shall provide the location of proposed primary and secondary sources of fuel and method of its transportation. When possible, the map shall show the location of the proposed facility; where distances are too great to show the facility and proposed primary and alternate supply sources, smaller scale inserts showing relative location shall be presented. The applicant shall also describe any additional transportation facilities needed to deliver raw materials and to remove wastes.*

No fuel types are proposed to be used by or yielded from the Project beyond that required for use of construction equipment, vehicles, and batteries. Additional fuels, or fuel storage, will not be required for the Project.

CRES will use the existing road system within and near the Project Area to deliver materials and remove waste to and from the Project Area. Roads within and near the Project Area include public county roads, public township roads, public section lines, and private access roads.

25 ALTERNATIVE ENERGY RESOURCES (ARSD 20:10:22:30)

ARSD 20:10:22:30. Alternative energy resources. *The applicant shall provide information concerning the alternate energy resources considered in the construction of the energy conversion facility. The applicant shall also discuss the reasons for selecting the proposed energy resource rather than an alternative resource.*

Due to the unique challenges and requirements of energy storage, it is unlikely that alternative technologies, such as hydrogen storage, compressed air energy storage, flywheel energy storage, pumped hydro storage, thermal energy storage, or natural gas/biogas backup, would fully replicate the capabilities and versatility provided by a BESS. Therefore, it is unlikely that an alternative to a BESS would meet the same need.

26 SOLID OR RADIOACTIVE WASTE (ARSD 20:10:22:31)

ARSD 20:10:22:31. Solid or radioactive waste. *The applicant shall provide information concerning the generation, treatment, storage, transport, and disposal of solid or radioactive waste generated by the proposed facility and evidence that all disposal of the waste will comply with the standards and regulations of any federal or state agency having jurisdiction. Any variations from these standards shall be indicated.*

CRES conducted a Phase I Environmental Site Assessment for the Project. The assessment indicated no recognized environmental conditions, controlled recognized environmental conditions, or significant data gaps in connection with the Project Area (SWCA 2026b).

As with any construction activity, there is the possibility of accidentally spilling fuel, hydraulic fluid, or other hazardous substances during construction. Any petroleum waste produced will be handled and disposed of in accordance with local, state, and federal regulations. If construction or operation of the Project involves storing more than 1,320 gallons of oil or other hazardous substances, an SPCC plan will be required. This plan will outline the procedures for safe storage, spill prevention practices, and emergency response protocols to ensure environmental safety. The need for an SPCC plan will be assessed based on the final design of the Project.

27 ESTIMATE OF EXPECTED EFFICIENCY (ARSD 20:10:22:32)

ARSD 20:10:22:32. Estimate of expected efficiency. *The applicant shall provide an estimate of the expected efficiency of the proposed energy conversion process and discuss the assumptions on which the estimate is based.*

The Project will not convert energy but rather will store energy. The Project optimizes energy conservation through its location by being strategically located within the existing CRW project area. Its proximity to existing infrastructure will allow surplus energy to be efficiently stored. Additionally, the Project's energy-efficient design and streamlined processes will enhance overall energy conservation by minimizing energy losses during storage and distribution, ensuring that stored energy is used with maximum efficiency.

28 DECOMMISSIONING (ARSD 20:10:22:33.01)

ARSD 20:10:22:33.01. Decommissioning of wind energy facilities and solar energy facilities -- Funding for removal of facilities. *The applicant shall provide a plan regarding the action to be taken upon the decommissioning and removal of the wind energy facilities and solar energy facilities. Estimates of monetary costs and the site condition after decommissioning shall be included in the plan. The commission may require a bond, guarantee, insurance, or other requirement to provide funding for the decommissioning and removal of a wind energy facility and solar energy facility. The commission shall consider the size of the facility, the location of the facility, and the financial condition of the applicant when determining whether to require some type of funding. The same criteria shall be used to determine the amount of any required funding.*

The Project's draft decommissioning plan is provided in Appendix I. CRES will prepare a final decommissioning plan for the Project and file the plan with Codington County and the Commission prior to the Project commercial operations date.

28.1 Timeline

CRES currently estimates that the BESS will have a useful life of at least 35 years based on its experience operating projects, models, and technology. At that time, CRES may either extend and continue operations or decommission the BESS. If operations continue, either existing equipment will be used or equipment will be upgraded with newer technologies. If operations are not extended, the BESS will be decommissioned. One year in advance of anticipated decommissioning, CRES will provide notice to Codington County that decommissioning will occur. After that time, the BESS will be decommissioned, and the existing equipment will be removed, as described in the following sections of this application. Decommissioning may require up to 12 months. This period may be extended up to an additional 12 months if there is a delay caused by forces beyond the control of CRES, including inclement weather conditions, permitting delays, planting requirements, equipment failure, or the availability of equipment or personnel to support decommissioning. Decommissioning equipment and the number of personnel will be similar to or less than that required for construction. The estimated cost to decommission the Project, excluding consideration of salvage value, is approximately $5,016,000.

28.2 Removal and Disposal of Facilities

The goal of decommissioning is to remove the installed facilities and to return the Project Area to a condition as close to preconstruction as feasible. Disposal of components will meet applicable provisions of state and local waste requirements, and all receiving facilities will be licensed or certified to accept the specific types of equipment and material discussed.

- **Batteries, system cabinets, BMSs, PCSs, and miscellaneous equipment.** All equipment will be inspected and tested, if applicable, prior to being disconnected and removed. Operable or usable equipment will be packed and shipped to an off-site facility for reuse or resale. Nonworking

equipment will be packed and shipped for recycling or other appropriate disposal methods at an appropriate facility. CRES will assess resale options upon decommissioning. Batteries include lithium-ion, which degrades but can be recycled or repurposed. Energy storage enclosures include steel or aluminum, with concrete foundations—all of which may be recycled.

- **Electrical collection system.** Assuming that the electrical collection system (including the collection line) no longer serves a purpose for the site, it will be disassembled and removed. CRES will remove all buried cables up to 4 feet deep. All cables and lines will be recycled or disposed of at an appropriate facility. NextEra Energy Resources will backfill trenches with the same soil displaced temporarily during cable removal.
- **Fences.** All fence parts, including foundations, will be disconnected and disassembled, and all parts will be removed. The fence parts will then be subject to one of the following actions: reconditioning and reuse, sold as scrap, recycled, or disposed of at an appropriate facility.
- **Access roads.** Gravel access roads will be stripped. Compacted soils may require ripping to loosen before revegetation. Foreign road materials will be removed and reused or disposed of in accordance with applicable local regulations. Roads will be restored so that they become a part of the natural surroundings and are no longer recognizable, to the greatest extent practicable, as needed or as agreed upon in consultation with the landowner. Road gravel will be used to backfill foundation locations to within 6 inches of final grade. The landowners will have the choice, when the Project is decommissioned, as to whether the Project access roads are to be removed. To facilitate the various uses for the property, the owner may choose to leave the roads in place. If the roads are left, maintenance of the roads will become the responsibility of the respective landowner. All remaining access roads will conform to applicable Codington County regulations in effect at the time of decommissioning.
- **Stormwater management facilities.** CRES will grade stormwater facilities (e.g., retention basins) to match surrounding contours and drainage patterns, decompact soils, and spread topsoil to accommodate agricultural activities or desired future land use.
- **Hazardous materials.** All hazardous materials will be stored, handled, removed, and transported in full compliance with all applicable federal, state, and local laws and regulations. Fuel, hydraulic fluids, and oils will be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks and vessels will be rinsed and transferred to tanker trucks. If an item cannot be removed at the point of production for a period of time, such as lubricants, paints, and solvents, it will be kept in a locked utility structure with integral secondary containment that meets applicable requirements for hazardous waste storage until removal for proper disposal and recycling. All hazardous materials will be removed from the facility in a timely manner. CRES anticipates that all oils will be recycled at an appropriate facility. Site personnel involved in handling these materials will be trained in proper handling procedures.

  Transportation of the removed hazardous materials will comply with applicable regulations for transporting hazardous materials, including those set by the U.S. Department of Transportation, U.S. Environmental Protection Agency, SDDANR – Waste Management, South Dakota Highway Patrol, and South Dakota State Fire Marshal.

28.3 Erosion and Sediment Control and Pollution Prevention

Decommissioning activities will involve exposure and disturbance of soil. Therefore, CRES or the owner will implement erosion and sediment control measures in accordance with applicable regulations in effect at that time, which are anticipated to include implementation of a SWPPP and standard BMPs. BMPs

implemented during decommissioning activities may include installation of erosion control measures in disturbance areas where potential for erosion exists, consistent with stormwater management objectives and requirements.

28.4 Restoration/Reclamation

CRES will submit a reclamation plan containing details regarding decommissioning and site reclamation to Codington County prior to initiating decommissioning activities. CRES will restore the site to approximate preconstruction conditions to the extent possible. The goal of restoration will be to restore natural hydrology, soil conditions, and vegetation to the greatest extent practicable while minimizing new disturbance. The decommissioning effort will include implementation of BMPs, including the following measures:

- Remediate any petroleum product leaks and chemical releases prior to completion of decommissioning.
- Minimize new disturbance to the greatest extent practicable.
- Remove equipment and access roads up to 4 feet below surrounding grade, backfill with subgrade material, and cover with suitable topsoil to allow adequate root penetration for vegetation.
- Decompact footprints if needed and grade to match surrounding characteristics and contours.
- During decommissioning activities, remove and stockpile topsoil and designate and separate it from other excavated material. Prior to restoration, topsoil will be decompacted to match characteristics of the surrounding area. CRES will replace topsoil to its original depth and original surface contours to the extent practical. CRES will mitigate topsoil deficiencies and settling using imported, locally sourced (from a location within 50 miles of the site) topsoil consistent with the characteristics and quality of soils in the site, if necessary.
- Restore disturbed areas using seed agreed upon with the landowner, if applicable. An appropriate seed mixture will be broadcast or drilled across the site and weed-free mulch will be applied to stabilize the soil and retain moisture for seedling germination and establishment.

29 PERMITS AND APPROVALS (ARSD 20:10:22:05)

ARSD 20:10:22:33.01. Application contents*. The application for a permit for a facility shall contain a list of each permit that is known to be required from any other governmental entity at the time of the filing. The list of permits shall be updated, if needed, to include any permit the applicant becomes aware of after filing the application. The list shall state when each permit application will be filed. The application shall also list each notification that is required to be made to any other governmental entity.*

Table 29-1 includes the potential required permits and approvals for the Project.

Table 29-1. Potential Required Permits and Approvals

Agency	Type of Permit, Approval, or Coordination	Status*	Need or Description
Federal			
U.S. Environmental Protection Agency	SPCC plan	3	Required if more than 1,320 gallons of oil storage is on-site.

Agency	Type of Permit, Approval, or Coordination	Status*	Need or Description
USFWS	Section 10 (no federal nexus, private project) of the Endangered Species Act; Special Use Permit	4	Not applicable as no USFWS easements are present, and no impacts to federally listed species are expected to occur.
U.S. Army Corps of Engineers	Section 404 of the Clean Water Act	4	Not required as no impacts to waters of the United States are expected to occur.
State of South Dakota			
Public Utilities Commission	Facility permit	2	Required for BESS facility over 100 MWs.
Department of Agriculture and Natural Resources	Section 401 Water Quality Certification	4	Not required as no impacts to water resources are expected to occur.
	National Pollutant Discharge Elimination System Permit: General Permit for Storm Water Discharges Associated with Construction Activities	3	Required for disturbance of over 1 acre of land. Must prepare a SWPPP.
	Temporary water use permit for construction activities	3	Required for compliance with South Dakota Code Titles 46 and 46A regarding water rights and water management, respectively. Temporary permits for the use of public water for construction, testing, or drilling purposes.
	General permit for temporary dewatering	4	Compliance with the South Dakota Water Pollution Control Act. A separate general temporary discharge permit for construction dewatering is not required because construction dewatering is authorized under the Construction General Stormwater Discharge Permit (SDR100000).
	Air quality permit	4	Required for a process or fuel burning unit that emits a pollutant into the ambient air.
SDGFP Commission	Environmental review for state-listed species	C	Coordination regarding state-listed species has been completed.
South Dakota State Historical Society	SDCL 1-19A-11.1	A	Compliance required for state permits. Coordination regarding historic properties has been initiated.
Department of Transportation	Highway access permit; road crossing agreements	3	Permit required for construction of access roads from state highways.
	Utility permit	4	Not required as no utility crossings on state highway ROW are associated with the Project.
	Oversize/overweight permit	3	Required for heavy hauling construction equipment and materials on state highways. Construction contractor/trucking company will obtain, as necessary.
Local			
Codington County	Conditional use permit	C	Required for the Project from Codington County Planning and Zoning under the Codington County Zoning Ordinance, Chapter 3.04.
	Utility permit	3	Required for crossing county roads.
	Overweight and/or oversize permit	3	Required for vehicle travel on county roads with loads exceeding 7 tons per axle. Typically obtained by the trucking company.
	Road approach/driveway permit	3	Required for site access from a county road.
	Haul road agreement	3	Required where Codington County Highway System is used for conveyance of construction equipment and materials.
	Building permit	3	Required for facility construction.

Agency	Type of Permit, Approval, or Coordination	Status*	Need or Description
Waverly Township	Road crossing agreement	3	May be required for use of township roads for the conveyance of construction equipment and materials.
	Oversize/overweight permit	3	May be required for vehicle travel on township roads with loads exceeding a specified weight per axle. Typically obtained by the trucking company.

* C = completed and approved; A = applied and/or decision pending; 3 = will apply for prior to construction, if applicable; 4 = not applicable.

30 AGENCY AND PUBLIC COORDINATION

This section describes CRES's outreach efforts as well as federal, state, and local agency and public involvement in the pre-application process. CRES also made efforts to solicit stakeholder and landowner opinions, concerns, and feedback regarding the Project.

On January 15, 2026, CRES sent a letter describing the Project to the SDGFP and USFWS. Those letters and the response received as of the date of this application are included in Appendix E. Table 30-1 provides a summary of significant communication with federal, state, and local agencies, as well as public involvement and/or noticing in chronological order.

CRES will continue to collaborate with agencies and other stakeholders throughout the development, construction, and operation phases of the Project as appropriate.

Table 30-1. Agency and Public Coordination Dates and Correspondence

Date	Entity	Event and Participants
April 14, 2026	South Dakota State Historic Preservation Office	Level III Cultural Resources Survey Report submitted by Abi Riggle (SWCA) to South Dakota State Historic Preservation Office.
February 25, 2026	Codington County Emergency Management/ Watertown Fire Rescue	Meeting with Andrew Delgado, Director of Emergency Management, and Scott Jongbloed, Assistant Fire Chief. Thomas James, Developer, led the meetings to discuss fire safety and emergency response operations and the scheduling of additional training/education.
February 25, 2026	Watertown Chamber of Commerce	Meeting with Tim Sheehan, President and Chief Executing Officer, and Thomas James to discuss Project details, economic opportunities for local residents, and timeline.
February 24, 2026	SDGFP	Letter from Mandy Pearson (SDGFP) to Kely Wabnitz (SWCA) providing comments on the Project.
January 15, 2026	USFWS	Email from Luke Toso (USFWS) to Kely Wabnitz (SWCA) in response to January 15, 2026 letter.
January 15, 2026	USFWS	Letter from Kely Wabnitz (SWCA) to Luke Toso (USFWS) describing Project and inviting questions and comments.
January 15, 2026	SDGFP	Letter from Kely Wabnitz (SWCA) to Mandy Pearson (SDGFP) describing Project and inviting questions and comments.
November 5, 2025	Public	In accordance with SDCL 49-41B-5.1, CRES posted signage at the intersection of 464th Avenue and 161st Street in South Shore, South Dakota. The signage was placed at the northwest corner of the Project Area, approximately 50 feet from the road, approximately 5 feet in height, and in complete view from the road.
October 27, 2025	First District	Meeting with Senior Planner, Luke Muller, to discuss Project progression, required building permits, and new timeline with state permit requirements if jurisdiction is taken.

Date	Entity	Event and Participants
May 20, 2024	Codington County Commission	Conditional use permit hearing and decision. Participants were the Codington County Commissioners, CRES team, and the public.

31 ADDITIONAL INFORMATION IN APPLICATION (ARSD 20:10:22:36)

ARSD 20:10:22:36. Additional information in application. *The applicant shall also submit as part of the application any additional information necessary for the local review committees to assess the effects of the proposed facility pursuant to SDCL 49-41B-7. The applicant shall also submit as part of its application any additional information necessary to meet the burden of proof specified in SDCL 49-41B-22. Applicant's burden of proof. The applicant has the burden of proof to establish that:*

(1) The proposed facility will comply with all applicable laws and rules;

(2) The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area;

(3) The facility will not substantially impair the health, safety or welfare of the inhabitants; and

(4) The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

The information presented in this application establishes the following:

- The Project complies with applicable laws and rules (see Section 29).
- The Project will not pose a threat of serious injury to the environment or to the social and economic condition of inhabitants in or near the Project Area (see Sections 9–18).
- The Project will not substantially impair the health, safety, or welfare of the inhabitants (see Section 18).
- The Project will not unduly interfere with the orderly development of the region, having given consideration to the views of the governing bodies of the local affected units of government (see Section 15).

32 TESTIMONY AND EXHIBITS (ARSD 20:10:22:39)

ARSD 20:10:22:39. Testimony and exhibits. *Upon the filing of an application pursuant to SDCL 49-41B-11, an applicant shall also file all data, exhibits, and related testimony which the applicant intends to submit in support of its application. The application shall specifically show the witnesses supporting the information contained in the application.*

CRES is submitting testimony and exhibits in support of the application as shown in Table 32-1.

Table 32-1. Testimony and Exhibits Submitted in Support of this Application

Name and Title	Entity	Subject Matter
Jill Seed, Environmental Project Manager	NextEra Energy Resources, LLC	Environmental
Joshua Dudash, Fire and Safety Engineer	NextEra Energy Resources, LLC	Site configuration and components, operations, maintenance, and safety
Daulton Pearson, Lead Project Manager, Development	NextEra Energy Resources, LLC	Project development, siting, construction, community impacts, and decommissioning
Laurie Morrill, Lead Scientist	Epsilon Associates, Inc	Acoustics

33 APPLICANT'S VERIFICATION (ARSD 20:10:22:04)

ARSD 20:10:22:04. *General format of the application for permit. (5) The truth and accuracy of the application shall be verified by the applicant. Each application shall be considered to be a continuing application, and the applicant must immediately notify the commission of any changes of facts or applicable law materially affecting the application. This duty continues up to and includes the date on which the permit is issued or denied;*

Daulton Pearson, being during sworn, deposes and states that he is the authorized representative of Crowned Ridge Energy Storage I, LLC, and is authorized to sign this application on behalf of Crowned Ridge Energy Storage I, LLC. He further states that he does not have personal knowledge of all facts recited in the application and exhibits and attachments attached hereto, but the information has been gathered from employees and agents of Crowned Ridge Energy Storage I, LLC, and the information is verified by him as being true and correct on behalf of Crowned Ridge Energy Storage I, LLC.

Dated this 14th day of May 2026.

Daulton Pearson by Kelly Osmitz

Daulton Pearson
Lead Project Manager, Development

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