

South Dakota Infrastructure Rider 2020 Project List and Descriptions

Existing Rider Projects

The following projects were approved for recovery by the Commission in the Company's Infrastructure Rider in Docket No. EL14-058, and re-affirmed for cost recovery most recently in Docket No. EL18-040:

MNGP Extended Power Uprate (Monticello LCM/EPU) (w/o 10245258)

PI-9 TN-40 Casks (Prairie Island Casks #39-47) (w/o 11101522)

PI-Relicense ISFSI (Prairie Island ISFSI Relicensing) (w/o 10798851)

PI U2 Generator Replacement (w/o 11808202)

PI U2 GSU Transformer Replacement (w/o 11808219)

MNGP EDG Tornado Missile Protection (w/o 11946062)

MNGP Fukushima Modifications (w/o 11503439)

PI LR Ph II-U2 MRP-227A Implementation (w/o 11812440)

PI-NFPA 805 Fire Model (w/o 11044898)

PI U2 HDTP Speed Control Upgrade (w/o 11230621)

BRD0C Border Wind ND (w/o 11551351)

PLV0C Pleasant Valley Wind (w/o 11869600)

SHC1C U1 Couton Bottom Replacement (w/o 10935185)

BDS0C Install Package Boiler (w/o 11345791)

SHC3C Motor Control Sys PL (w/o 11487734)

Midtown 115kV line (w/os 11219377 and 11627836)

NSM0953 Galloping Mitigation (w/o 11892875)

GIST-III Computer Software (w/o 11465739)

Hiawatha Dam Interconnect Substation (w/o 11083245)

Scott County 345 kV Expansion, Substation (w/o 11806389)

BS-Fcst-BD-SW-CM-M (w/o 11218029)

PI-Repl Instrument Air Compressor (w/o 10799550)

The following projects were approved for recovery by the Commission in the Company's Infrastructure Rider in Docket No. EL15-038, and re-affirmed for cost recovery most recently in Docket No. EL17-039:

Prairie 3rd 230/115 kV tra (w/o 11491534)
PI Emerg Resp Equipment FLEX (w/o 11634222)
PI U1 HDTP Speed Control U (w/o 11101124)
SHC2 U2 DCS Controls Repl (w/o 11648818)
SHC2C U2 Turbine EHC Ctrls (w/o 11488127)
Dynamic EMS Environment Phase (w/o 10818773)
Work and Asset Ph 1 SW MN (w/o 11491932)
MNGP Security Physical Upgrade (w/o 12076265)
PI Sfgds CL Pump Redesign (w/o 12075477)
760-Red Wing to Wabasha (w/o 11776427)
NSM0953 Galloping Mitigation (w/o 12077207& 12051340)
HBC7C U7 HGP/Combustion Inspec (w/o 10785655)
SHC1C U1 DCS Controls Repl PH (w/o 11350867)
MNGP Rplc IMUX Front End Proce (w/o 11366818)
GIST-II Computer SoftwareNSPM (w/o 11434783)
MNGP Cyber Security 08-09 (w/o 11468481)
Purch EMS DEMS Ph2 HW MN (w/o 11584375)
PI Fan Coil Unit Face Repl (w/o 11812451)
PI NFPA 805 -08 Fire Detection (w/o 11825933)
MNGP EDG Fuel Oil Train Separa (w/o 11926489)
PI FLEX Storage Building (w/o 12035378)
CRT0C Courtenay Wind Farm Construct (w/o 12173639)
RIV9C-U9 HGP Inspection No 1 (w/o 11215945)

The following projects were approved for recovery by the Commission in the Company's Infrastructure Rider in Docket No. EL16-032, and re-affirmed for cost recovery most recently in Docket No. EL17-039:

SHC 3 Turbine EHC Controls (w/o 11487740)
PI-Screenhouse CI Header P (w/o 11100514)
SHC3 Boiler Intermediate and Finishing Superheater replacement (A.0001574.147)
PI Reactor Coolant Pump Rebuild (A.0000035.211)
MT TSTF-523 Vent Installation (A.0000029.015)
MT EDG Fuel Oil Pump Mtr Rplc 1R28 (A.0000017.116)
MT KM 480VAC Cubicle Rplc (A.0000029.018)

The following projects were approved for recovery by the Commission in the Company's Infrastructure Rider in Docket No. EL17-039:

MNGP Hardened Vents & Filt (11871747 / A.0000043.005)
PI 2M 2RS 2RX Transformer (11503758 / A.0000035.170)
PI U1 Generator Replacemnt (11808178 / A.0000037.003)
MNGP DAS & PPCS Rplc (A.0000017.003)
MNGP 2018 Dry Fuel Storage Loa (A.0000060.001)
PI 4.16 KV Bus Modifications (A.0000040.016)
NSPM Tline ELR 2016 69kV Line (A.0000504.025)

The following projects were approved for recovery by the Commission in the Company's Infrastructure Rider in Docket No. EL18-040:

PI 1R Transformer Replacement (11503753)
G100-Blazing Star I Wind Farm (A.0001701.001, A0001701.002, A0001701.003, A0001701.004, A0001701.005)
FOX G100-Foxtail Wind Farm (A.0001703.001, A.0001703.002, A.0001703.003, A.0001703.004)
G100-Crowned Ridge BOT Wind Farm (A0001705.001)

G100-Lake Benton BOT Wind Farm (A0001706.001)

Benson Biomass PPA Termination Costs

Laurentian Biomass PPA Termination Costs

Pine Bend Landfill Gas PPA Termination Costs

Additional Settlement Agreement Exhibit C Projects

The following project was among those identified in Exhibit C to the Settlement Agreement approved by the Commission in Docket No. EL14-058 and has forecasted revenue requirements beginning in 2020. Exhibit C provided the list of specific capital projects for which potential Rider cost recovery may be requested in future Infrastructure Rider filings.

SHC3C Unit Protection PLC (11488116)

The goal of this project is to upgrade the current Unit Protection System (UPS) for Sherco Unit 3. The U3 UP system is a Programmable Logic Controller (PLC) based system that has been in service since initial plant start-up in the mid-1980s. The PLCs currently in use employ an outdated method to produce a safe and orderly shutdown of the plant using system outputs. The PLC processors and Input/Output (I/O) are obsolete and past their end of life; therefore, replacement is necessary to continue fault free operations. This project will require the replacement of the PLC processors and I/O modules, Boiler/Turbine/Generator (BTG) board switches/indicating lights, updating of Distributed Control System (DCS) Human-Machine Interface (HMI) graphics, replicating the logic and updating the current training simulator.

Various options for replacement were considered; however, based on extensive research and input from Plant personnel, only two different control system solutions were deemed viable, one based on using the U3 Schneider (Foxboro) DCS and the other based on a PLC platform. The DCS option was selected.

New Proposed Rider Projects

Per the Settlement Stipulation in Docket No. GE17-003 approved by the Commission on July 18, 2018, during the two-year base rate moratorium period (through 2020) the Company is allowed to seek recovery through the Infrastructure Rider of new wind generation projects and the costs of terminating certain biomass power purchase agreements – subject to the Commission granting the Company's request for deferred accounting for those costs in Docket No. EL18-027. The Commission issued its Order approving the Company's request for deferred

accounting in Docket No. EL18-027 on June 28, 2018. As such, the Company seeks eligibility determination for the following projects:

Blazing Star II Wind Project

The 200 MW Blazing Star II Wind Project is being developed by Geronimo Energy. It extends the Blazing Star I Project footprint east and south and is located on approximately 30,000 acres of predominantly active crop land. Total capital costs for this project include the estimated transmission upgrades and interconnection costs as well as anticipated siting and permitting costs. Primary construction activities on the Blazing Star II Wind Project began in 2019 and will continue into early 2020. Under the current projected schedule, we anticipate that commercial operation will be achieved by September 2020.

Five separate work order numbers delineate the various project cost components as follows:

- **A.0001702.001**
This work order includes the costs related to the design, materials and labor needed to build the turbines, access roads, and the collector system, which are the underground cables that run from the turbines into the substation.
- **Land - A0001702.002**
This work order includes the land purchased for holding the substation and the project operations building. The land on which the turbines will be built is leased land and is not a cost under this work order.
- **TSG Line - A0001702.003**
This work order includes the costs related to design, materials and labor for building the transmission line.
- **TSG Sub - A0001702.004**
This work order includes the costs related to the design, materials and labor needed to build the collector substation.
- **Tline - A0001701.005**
This work order includes the costs of the network upgrades associated with the project.

Freeborn Wind Project

The 200 MW Freeborn Wind Project is being developed by an affiliate of Invenergy Wind Development LLC, and is located on an approximately 40,000 acre site near Glenville, Minnesota. Land acquisition was completed during summer 2017. We expect that approximately 56-84 MW of this project—including the collection

substation, point of interconnection, and O&M Building—will be located in Minnesota’s Freeborn County and that the remaining 116-144 MW will be located in Iowa’s Worth County. Total capital costs for the Freeborn Project include the estimated transmission upgrades and interconnection costs as well as anticipated siting and permitting costs. We expect our primary construction activities on the Freeborn Project will occur in 2020. Under the current projected schedule, we anticipate that commercial operation will be achieved by December 2020.

Five separate work order numbers delineate the various project cost components as follows:

- **A.0001704.001**

This work order includes the costs related to the design, materials and labor needed to build the turbines, access roads, and the collector system, which are the underground cables that run from the turbines into the substation.

- **Land - A0001704.002**

This work order includes the land purchased for holding the substation and the project operations building. The land on which the turbines will be built is leased land and is not a cost under this work order.

- **TSG Tline - A0001704.003**

This work order includes the costs related to design, materials and labor for building the transmission line.

- **TSG Sub - A0001704.004**

This work order includes the costs related to the design, materials and labor needed to build the collector substation.

- **Tline - A0001704.005**

This work order includes the costs of the network upgrades associated with the project.

Cost and Scope Changes

Crowned Ridge Wind Farm (A0001705.001)

The most recent Midcontinent Independent System Operator (MISO) Definitive Planning Phase (DPP) study identified high costs associated with required transmission upgrades, such that nearly all studied wind projects withdrew from the interconnection queue. One of the withdrawn projects is the final 200 MW phase of the Company’s Crowned Ridge wind project. The Crowned Ridge project was originally designed as a 600 MW facility. The Company planned to own and operate 300 MW of the project and purchase 300 MW through a Purchased Power Agreement

(PPA). In last year's RER, the Commission approved recovery of costs associated with the Company-owned portion of the Crowned Ridge project.

While the Company continues to work to identify paths forward, including alternate transmission queue positions and project configurations, at this time we have adjusted the project budget to reflect a smaller 200 MW owned wind project instead of the originally planned 300 MW. We will update the Commission as further details about alternative plans become available.

We have also updated the expected in-service date of Crowned Ridge to December 2020. The schedule for this project has changed as a result of the DPP study process and also to avoid the start of construction during winter months.

In addition, after Commission approval of our last Infrastructure Rider proceeding in Docket No. EL18-040, we broke out some costs from the original work order numbers to track various components of the project at a more granular level. These costs are not new costs; costs from the original work order number were shifted into the following additional accounting string. This account is described as follows:

- **A.0001705.006 Purch Bus Sys Network Equipment**

This work order includes the purchase of routers, firewalls, switches, and ancillary network communication equipment.

Blazing Star I

Similar to the Crowned Ridge project, after Commission approval of the Blazing Star I project in our last Infrastructure Rider proceeding in Docket No. EL18-040, we broke out some costs from the original work order numbers to track various components of the project at a more granular level. These costs are not new costs; costs from the original five work order numbers were shifted into these additional accounting strings. These accounts are described as follows:

- **A.0001701.006 J460 Blazing Star I Wind Steep Bank Lake from Blazing Star SUB Interconnect**

The scope of work for this work order is the constructing of a new 345 kV switching substation for interconnecting Blazing Star wind generation. Major components include breakers, switches, CCVT, CT, PT, meter, conductors, steel structures, foundation, grading of substation pad and fencing.

- **A.0001701.007 J460 Blazing Star I Steep Bank Lake from Blazing Star-Comm**

This work order includes components for adding communication equipment and CIP security equipment. These include optical fiber composite overhead ground wire (OPGW) communication termination, associated fiber and phone circuit.

- **A.0001701.009-BS1- GIA MN 345Kv HNL**

This work order is to tap the Brookings County – Hawks Nest Lake 345kV transmission line and construct the Blazing Star I interconnection substation - constructed and owned by Xcel Energy.

- **A.0001701.008 Purch Bus Sys Network Equipment**

This work order includes the purchase of routers, firewalls, switches, and ancillary network communication equipment.

Foxtail

Similar to the descriptions above of work order refinement, after Commission approval of the Foxtail project in our last Infrastructure Rider proceeding in Docket No. EL18-040, we broke out some costs from the original work order numbers to track various components of the project at a more granular level. These costs are not new costs; costs from the original five work order numbers were shifted into the following additional accounting string. This account is described as follows:

- **A.0001703.006 Purch Bus Sys Network Equipment**

This work order includes the purchase of routers, firewalls, switches, and ancillary network communication equipment.

Lake Benton

Similar to the descriptions above of work order refinement, after Commission approval of the Lake Benton project in our last Infrastructure Rider proceeding in Docket No. EL18-040, we broke out some costs from the original work order numbers to track various components of the project at a more granular level. These costs are not new costs; costs from the original work order number were shifted into the following additional accounting string. This account is described as follows:

- **A.0001706.005 Purch Bus Sys Network Equipment**

This work order includes the purchase of routers, firewalls, switches, and ancillary network communication equipment.