



Black Hills Energy has been requested by [REDACTED] to complete a pre-application screening of a 1.50 MWac solar project that is located at 7535 County Lane 16 in Ordway CO, the distribution line is around 1700 feet from the point of interconnection. Per the Commission's decision C21-0298, rule 3853(a)(IV)(E) it states the following:

“The utility shall, in good faith, include data in the pre- application report that represents the best available information at the time of reporting. The pre-application report will include the following information:”

Following this section is the information that is required by rule for Black Hills Energy to provide.

- (i) total capacity (in MVA) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed point of interconnection.

The total capacity at the substation is a 25 MVA based on the transformer nameplate rating.

- (ii) existing aggregate generation DER capacity (in MW AC) interconnected to a substation/area bus, bank or circuit (i.e., amount of DER online) likely to serve the proposed point of interconnection.

The current DER capacity that is connected to the St. Charles feeder 62533 for the requested point of interconnection is 257.9 kW.

- (iii) aggregate queued DER capacity (in MW AC) for a substation/area bus, bank or circuit (i.e., amount of DER in the queue) likely to serve the proposed point of interconnection.

At this time, there is no additional queued DER capacity for St. Charles feeder 62533.

- (iv) available capacity (in MW AC) of substation/area bus or bank and circuit likely to serve the proposed point of interconnection (i.e., total capacity less the sum of existing aggregate DER capacity and aggregate queued DER capacity).

Available substation capacity and feeder capacity was based on the following calculations:

- Substation Load Capacity = Substation Transformer Nameplate Rating – Combined Feeder Peak Load – Existing DER on Feeders
 - o $14.186 \text{ MW} = 25 \text{ MW} - 3.6 \text{ MW} - 5.7 \text{ MW} - 0.7 - 0.814 \text{ MW}$
- Feeder Load Capacity = Available Feeder Capacity – Feeder Peak Load – Existing DER
 - o $9.802 \text{ MW} = 9.32 \text{ MW} - 3.6 \text{ MW} - 0.2579 \text{ MW}$

- (v) substation nominal distribution voltage and/or transmission nominal voltage, if applicable.

The St. Charles substation is feed from a 69 kV source and the distribution voltage coming out of the substation is 13.2/7.62 kV.

(vi) nominal distribution or transmission circuit voltage at the proposed point of interconnection whether the proposed DER is eligible for the Level 1, Level 2 or non-export process.

The circuit voltage at the proposed point of interconnection is 13.2/7.62 kV.

(vii) approximate circuit distance between the proposed point of interconnection and the substation.

From the substation to the point of proposed interconnection, the approximate distance is 55,006 feet.

(viii) relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load as described in the supplemental review minimum load screen in subparagraph 3855(d)(VI)(A) and absolute minimum load at the time of DER production, when available.

As noted in rule section 3855(d)(VI)(A), the past 12 months of data was used to determine the peak load, minimum load and daytime minimum load points. Based on the data set from June 2023 through May 2024, the peak load on the St. Charles feeder 62533 was 6.2 MW, the minimum load was 0.010 MW, and the minimum daytime load was -1.420 MW.

(ix) number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed point of interconnection and the substation/area. Identify whether the substation has a load tap changer.

From the requested location back to the substation feeder breaker, the protective devices are a 10k fuse, recloser R159, recloser R157 and the feeder recloser at the substation. The recloser at the substation has a SEL-351R type relay and the following protective settings are currently deployed within the relay.

R159 SEL-651R2

- Phase Settings
 - o Pick-up of 200 Amps
 - o Curve type is a U4
 - o Time Dial of 6.5
- Ground Settings
 - o Pick-up of 120 Amps
 - o Curve type is a U4
 - o Time Dial of 10.0

R157 SEL-651R2

- Phase Settings
 - o Pick-up of 370 Amps
 - o Curve type is a U4
 - o Time Dial of 4.0
- Ground Settings
 - o Pick-up of 230 Amps
 - o Curve type is a U4/ Time Dial of 7.0

Breaker 62533 SEL-351R

- Phase Settings
 - o Pick-up of 680 Amps
 - o Curve type is a Z
 - o Time Dial of 1.0
- Ground Settings
 - o Pick-up of 340 Amps
 - o Curve type is a V
 - o Time Dial of 1.0

From the requested interconnection location, there are a set of voltage regulators at the St. Charles. The voltage regulators are set to the following settings.

- Voltage Bandcenter of 124 Volts
- Bandwidth of 2.7
- Time Delay of 30 Seconds

(x) number of phases available at the proposed point of interconnection. If a single phase, distance from the three-phase circuit.

A distribution three phase line currently runs west of the point of interconnection. The line section is 1/4 Guy Wire.

(xi) whether the point of interconnection is located on a spot network, grid network, or radial supply; and

The point of interconnection would be located off a distribution grid network, off a radial tap.

(xii) existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks, based on the proposed point of interconnection.

Black Hills Energy has no additional known constraints for this point of interconnection.

The information provided above is a snapshot in time and should only be used for preliminary analysis for siting a renewable asset. Formal study analysis will need to be completed if the interconnection customer elects to continue to push this project to the next phase for implementation.