

BLACK HILLS POWER, INC.
d/b/a BLACK HILLS ENERGY
EL19-006

REQUEST DATE : 02/26/19
RESPONSE DATE : 03/12/19
REQUESTING PARTY: Staff

SDPUC Request No. 1.10:

Pursuant to ARSD 20:10:22:14, provide the following:

- a) A written description of the regional land forms surrounding the proposed plant or wind energy site or through which the transmission facility will pass;
- b) A topographic map of the plant, wind energy, or transmission site;
- c) 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;
- d) 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;
- e) A description of the soil type at the plant, wind energy, or transmission site;
- f) 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;
- g) Information on areas of seismic risks, subsidence potential and slope instability for the plant, wind energy, or transmission site; and
- h) 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.

Response to SDPUC Request No. 1.10:

- a. The project area is located in Rapid City, which is in Pennington County in western South Dakota. It is located primarily within undeveloped and industrial areas of Rapid City, South Dakota. The proposed transmission line would cross primarily private property and property owned by the City of Rapid City. There are no federal or state publicly owned lands that would be crossed by the proposed transmission line. The transmission line would cross state of South Dakota right-of-way over Deadwood Avenue (SD 445). The proposed transmission line crosses Forest and Woodland and Developed and Other Human Use land cover designations according to the GAP Land Cover dataset. Ground cover is a mixture of grasslands, forest, and impervious surfaces (e.g., roadways and sidewalks). City-owned public lands and recreation opportunities are

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available east and south of the project area, including Hanson-Larsen Memorial Park, Chuck Lien Family Park, Founder's Park, and Dakota Drive Park. No public or private conservation areas are within the project area.

While South Dakota does allow public hunting access on private lands, no such lands are present within the study area according to the South Dakota Public Hunting Atlas Updates (SDGFP, 2018a). This includes no wetland or conservation reserve program lands or other habitat enhanced/protected lands.

- b. Please see attached topographic map of the project area attached as SDPUC 1.10a.
- c. In general, the site slopes slightly downward to the southwest, is approximately 3,300-3,460 feet above mean sea level. The surficial geology of the proposed substation area is generally comprised of the Spearfish Formation. The Spearfish Formation consists of red sand shale, siltstone, sandstone, and minor limestone, interbedded with abundant gypsum. Thickness of the Spearfish Formation is 328-559 feet. Topographic map showing the bedrock geology and surficial geology with sufficient cross-sections is attached in SDPUC 1.10b.
- d. The location and description of economic deposits for the Project site are identified in the geotechnical reports, conducted by American Engineering Testing, located in SDPUC 1.10c.
- e. The Project site consists of an equipment and vehicle staging area which is covered with about 9 to 10 inches of crushed limestone aggregate. The subsurface soil is primarily comprised of the Spearfish Formation. The Spearfish formation consists of red sand shale, siltstone, sandstone, and minor limestone, interbedded with abundant gypsum. Additional information on the soil type can be found in SDPUC 1.10c.
- f. Overall, the Project will have limited impacts on soil resources. Potential impacts could involve soil compaction from traffic of construction equipment, the removal of a portion of the existing topsoil resource from excavation for structure installation and blading for access construction; and erosion from disturbed soils that have not been stabilized. The majority of the soils that will be disturbed have a high restoration potential. To mitigate any potential impacts Black Hills will employ a Stormwater pollution prevention plan with identified Best Management Practices and Standard Operating Procedures for soil protection. The proposed structural Best Management Practices will include sediment control wattles, reinforced concrete drop inlets, corrugated pipe and fabric inlet protection, silt fence, temporary vehicle tracking control, and a concrete washout area. A project manager onsite will be responsible for ensuring the Best Management Practices are in good working order and may make changes to the design to improve the effectiveness.
- g. Seismic risks for the Facility are considered low. The United States Geological Survey (USGS) has recorded no earthquakes in the Black Hills of 3.5 magnitude or greater since the year 1990. Based on the geotechnical reports and substation design slope instability is not anticipated.

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- h. No geological characteristics are anticipated to constrain the design construction or operation of the proposed facility.

Attachments: SDPUC 1.10a Topography Map
SDPUC 1.10b Cross Sections
SDPUC 1.10c Geotechnical Reports

Responder: Tim Rogers