

Xcel Energy – Blue Lake Conversion Project

Project Description: Install (3) new RICE generating units to replace (1) of the existing (4) oil fired combustion turbines installed in 1973. All (4) of the existing oil fired turbines will be retired prior to commissioning of the new units.

Project Address (legal):

1200 70th St. S.

Shakopee, MN 55379

Scott County Parcel ID 279110130

Adjacent parcel (common ownership, temporary use)

Scott County Parcel ID 279110070

The project includes:

One approx. 20,000 ft² building to enclose the new generating units and auxiliary equipment.

Pre-Engineered Metal Building structure

Pre-cast concrete panel walls

Gable end sloped standing seam steel roof structure

Special purpose process ventilation for heat management and noise control

(2) - 100,000 gallon fuel oil tanks

Replacement for existing 2.5 million gallon tanks that will be retired

(5) – Emergency diesel generators

Associated electrical and mechanical equipment

Zoning / Planning applications:

Conditional Use Permit Application –

Structures > 45' (Note that the stacks listed below are the only new structures taller than existing plant equipment, and still below the existing transmission structure heights)

Building – roof vent / silencer will extend above roof peak to approx. 53' from ground – This is a necessary arrangement for heat management and noise control

Generating unit stacks – qty (3) 4' dia (6' w/ vanes) stacks 95' tall – height required to meet current emissions requirements.

Switchyard structures / HV poles – Up to approx. 8 poles and 4 H structures. Poles may reach 80', H structures 62' when including lightning/static protection. This is shorter than existing transmission structures (145') adjacent to the plant and H structures (77') inside the plant. – Standard heights for vertically arranged 115 kV poles and dead end structures for safety and reliability purposes.

Utility Service Structure

Included in application, although Xcel understanding is that this is a Permitted Use according to the Shakopee zoning ordinance for Light Industrial zoning.

Variance Application –

Variance requested to Construction Material / Building Design and Materials requirements of Shakopee ordinance

4% of façade facing right of way as windows. (Building design is 0% on south façade)

Building is a special purpose structure to enclose mechanical and electrical equipment. The majority of the structure encloses mechanical equipment (approx. 14,000 ft²). As such, significant wall space is utilized for equipment penetrations and additional penetrations in the precast wall panels are minimized to improve the building sound control performance.

South façade includes multiple door and ventilation features.

Electrical equipment areas utilize wall space on interior of walls for equipment mounting and cable routing, and with the lower wall height and existing forest screening there is very limited visibility of this portion of the building from the adjacent right of way (Hwy 169 @ approx. 500' south).

Wall height variations of at least 7.5% of height every 100' horizontally. (Building has a 200' length at a common eave height)

As noted, the building is a special purpose structure and the peaked roof construction utilized for ventilation purposes does not allow for aesthetic wall height variations such as utilized in flat/low slope metal truss roof designs with parapet walls.

Wall height variation incorporated into the electrical portion of the building.

Roof ventilator provides roof height variation on mechanical portion of the building.

Architectural sketch of precast design included – We believe this meets the intent of the material / design feature requirements. Final integral color selections pending vendor options, but preliminary proposal is light gray (smooth/accent areas) and complementary darker gray (exposed aggregate main panel finish).

Documentation included:

General:

BLL site plan for zoning.pdf : General overlay of parcel and project

Parcel279110130_proj site.pdf : Scott County property card for project site parcel

Parcel279110070_adjacent.pdf : Scott County property card for adjacent parcel

BLL rendering SE.pdf, BLL rendering SW.pdf, BLL rendering GA.pdf : 3D model views of project scope. NOTE that original (1973) structures and equipment are outline in plan view only.

Tree preservation

Tree Preservation Plan-Blue Lake-20231227.pdf: Prepared by ERM – Note that this is the proposed plan, but it is a recent update, and not all updates are incorporated in the Burns & McDonnell grading drawings yet.

NF-296923-120.pdf: Grading drawing with tree preservation details. See note above on the required updates to match the updated plan.

Site plan

NF-296921-101 : Site general arrangement. Redacted index for security

NF-296923-1, 3, 4: Civil plans general

NF-296923-6 : Temp facilities / silt fence plan

NF-296923-100, 101, 102, 103: Excavating/grading details

NF-296923-200 : Final surfacing plan – NOTE this drawing is not yet updated for site perimeter grading plan in SE corner.

NF-296923-215: Final fence plan

Prelim on site electrical interconnections.pdf : Pole locations and line routing. NOTE minor updates/pole additions expected to maintain required clearances.

Architectural

N-W building elevation_arch.pdf

S_E building elevation_arch.pdf

NF-296925-100.pdf : Building plan drawing

NF296925-200.pdf : Building elevations

