



April 26, 2017

Mr. Darrell Nitschke
Executive Director
North Dakota Public Service Commission
600 East Boulevard; Dept. 408
Bismarck, ND 58505-0480

Re: Basin Electric Power Cooperative
Lonesome Creek Station Phase III Project - PU-14-852

Dear Mr. Nitschke:

Enclosed please find the facility design specifications and site map for Basin Electric Power Cooperative's Lonesome Creek Station Phase III Project. Electronic as-build files that can be imported into ESRI GIS Mapping software for the Lonesome Creek Station Phase III Project are provided in the attached compact disk (CD).

The design specifications, site map and GIS files were submitted to the North Dakota Public Service Commission's electronic project docket on April 26, 2017.

Should you have any further questions or require any additional information, please contact me at your convenience. I can be reached by telephone at (701) 557-5635 or by e-mail at cmiller@bepc.com.

Sincerely,

A handwritten signature in black ink that reads "Cris Miller".

Cris Miller
Senior Environmental Project Specialist

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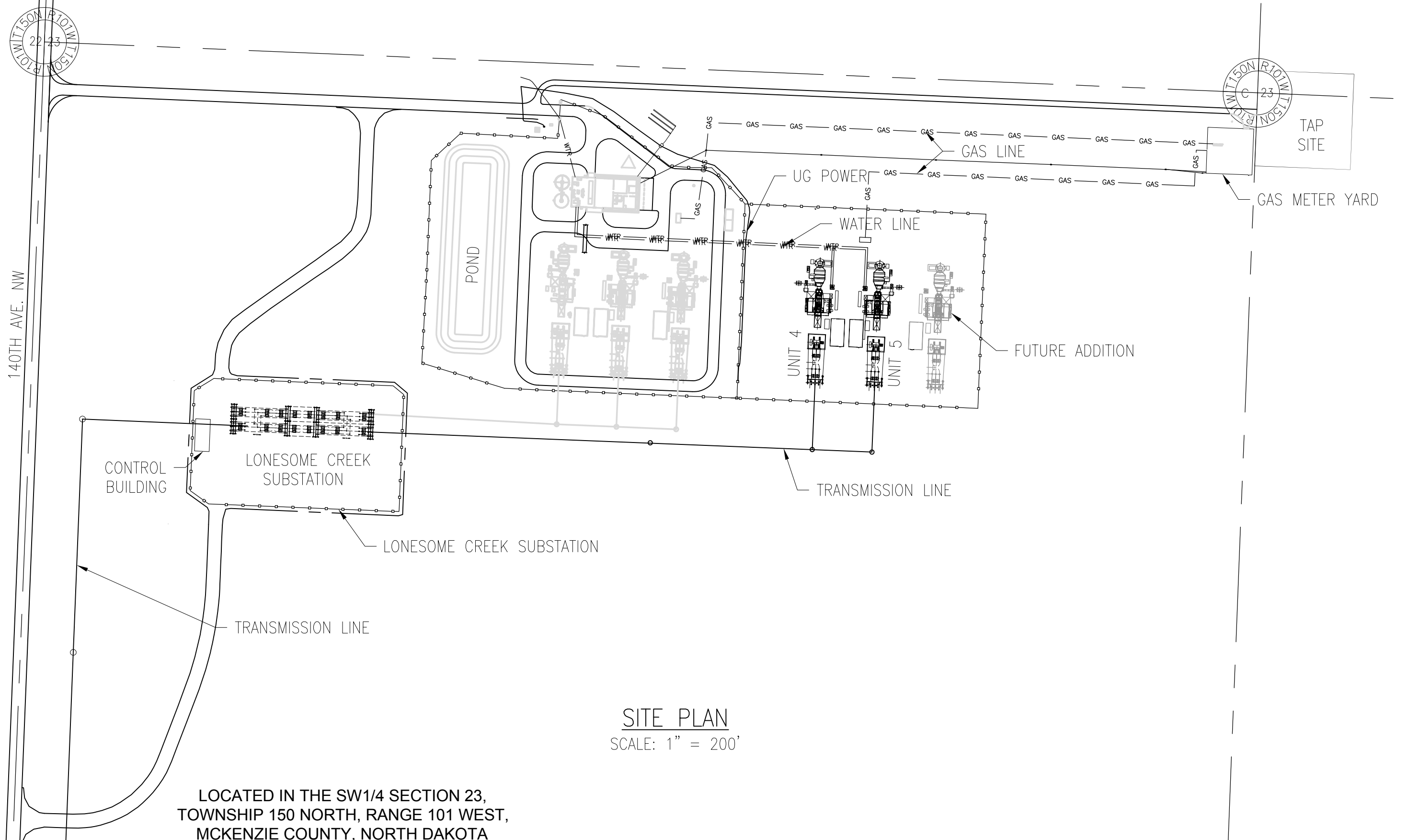
Enclosure

cc: Casey Jacobson
Josh Rossow

T150N R101W T23
22 23

T150N R101W T23
C 23

140TH AVE. NW



SITE PLAN
SCALE: 1" = 200'

LOCATED IN THE SW1/4 SECTION 23,
TOWNSHIP 150 NORTH, RANGE 101 WEST,
MCKENZIE COUNTY, NORTH DAKOTA
ALL COORDINATES ARE NAD 83
NORTH DAKOTA STATE PLANE
NORTH ZONE, INTERNATIONAL FEET

PSC SUBMITTAL FOR THE
LONESOME CREEK STATION
PHASE 3 AS BUILT

General Terms and Conditions Sale of Equipment and Services

- Third Parties Site Testing
- Any indoor or outdoor storage areas on site
- Extended storage
- Ladders, stairs, and platforms for equipment beyond the package air filter.
- Spare parts other than spare parts required for commissioning and start-up
- Any special or additional instrumentation
- Site Labor

B. AMBIENT SITE CONDITIONS

Location	Near Alexander, North Dakota
Elevation	2,300 feet ASL
Minimum Site Temperature	-39 deg F
Maximum Site Temperature	100 deg F
Design Point Dry Bulb / Wet Bulb Temperature	78 deg F @ 15% RH
Primary Fuel Source	Natural Gas
Seismic Design Criteria (CTG Package)	IBC 2009, Site Class D, Design Category E, Category III Facility with 1.25 Importance Factor
Maximum Wind Speed (Wind Load)	100 mph Wind Speed per ASCE 7-05/IBC 09
Roof Live / Snow Load	60 PSF
Average Near Field Noise at 3 ft horizontal and 5 ft vertical, NOTE 1	85 dB(A)

C. CODES AND STANDARDS

Seller considers the applicable sections of the following US and ISO Codes and Standards to be the most relevant Standards for gas turbine equipment. Our designs and procedures are generally compliant with applicable sections of the following:

ANSI A58.1	Minimum Design Loads for Buildings and Other Structures
ANSI B1.1	Unified Inch Screw Threads
ANSI B1.20.1	Pipe Threads
ANSI B16.5	Steel Pipe Flanges and Flanged Fittings
ANSI B16.9	Factory-Made Wrought Steel Butt Welding Fittings
ANSI B16.21	Non-Metallic Flat Gaskets for Pipe Flanges. (Spiral-wound gaskets per API 601 may be used, particularly in turbine compartment piping)
ANSI B31.1	Pressure Piping and Gas Turbine Piping Systems Comply
ANSI B133.2	Basic Gas Turbine
ANSI B133.3	Gas Turbine Auxiliary Equipment.
ANSI B133.4	Gas Turbine Controls and Protection Systems

General Terms and Conditions Sale of Equipment and Services

ANSI B133.5	Gas Turbine Electrical Equipment
ANSI B133.8	Gas Turbine Installation Sound Emissions
ANSI/NAFPA 12	Carbon Dioxide Extinguishing Systems
ANSI/NFPA 70	National Electrical Code
ANSI C31.1	Relays Associated with Electric Power Apparatus
ANSI IEEE C37.2	Electrical Power System Device Function Numbers
ANSI C37.90a/ IEEE-472	Guide for Surge Withstand Capability (SWC) Tests
ANSI C50.10	General Requirements for Synchronous Machines
ANSI C50.14	Requirements for Combustion Gas Turbine Driven Cylindrical Rotor Synchronous Generators
ANSI C57.94	American Standard, Guide for Installation and Maintenance of Dry Type Transformers
ANSI C83.16	Relays
ANSI/IEEE 100	IEEE Standard Dictionary of Electrical and Electronic Terms
ANSI/NEMA MG1	Motors and Generators
ANSI/NEMA MG2	Safety Standard for Construction and Guide for Selection, Installation and Use of Electric Motor and Generators
ANSI S1.2	Method for the Physical Measurement of Sound
ANSI S1.4	Specification for Sound Level Meters
ANSI S1.13	Method for the Measurement of Sound Pressure Levels
ANSI S6.1/ SAE/J184A	Qualifying a Sound Data Acquisition System
AGMA 421	Standard Practice for High Speed Helical and Herringbone Gear Units
IBC 2000	International Building Code
IEEE Std 421	IEEE Standard Criteria and Definitions for Excitation Systems for Synchronous Machines
EIA RS-232	Interface between Data Terminal Equipment and Data Communication Equipment Employing Serial Binary Interchange

Note: ATEX and CE Codes and Standards are applied when required.

EN 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements

CAN/CSA 22.2 No. 1010.1-92 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements

General Terms and Conditions Sale of Equipment and Services

ANSI/ISA S82.02.01 1999 Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment -General Requirements

UL 796 Printed Circuit Boards

ANSI IPC Guidelines

ANSI IPC/EIA Guidelines

EN 55081-2 General Emission Standard

EN 50082-2 Generic Immunity Industrial Environment

EN 55011 Radiated and Conducted Emissions

IEC 61000-4-2 Electrostatic Discharge Susceptibility

IEC 61000-4-3 Radiated RF Immunity

IEC 61000-4-4 Electrical Fast Transit Susceptibility

IEC 61000-4-5 Surge Immunity

IEC 61000-4-6 Conducted RF Immunity

IEC61000-4-11Voltage Variation, Dips & Interruptions

ANSI/IEEE C37.90.1 Surge

EN 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements

EN 50021 Electrical Apparatus for Potentially Explosive Atmospheres

The Seller's Gas Turbine Drafting Standards are based on the following Standards as appropriate to the gas turbine. Please note that in several instances, symbols, etc. have been devised for Seller's special needs (such as flow dividers and manifolds):

ANSI B46.1	Surface Texture
ANSI Y14.15	Electrical and Electronics Diagrams (On base gas turbine and accessory base equipment)
ANSI Y14.17	Fluid Power Diagrams
ANSI Y14.36	Surface Texture Symbols
ANSI Y32.2/CSA	Graphic Symbols for Electrical and Electronics
299/IEEE 315	Diagrams
ANSI Y32.10	Graphical Symbols for Fluid Power Diagram
ANSI Y32.11	Graphical Symbols for Process Flow Diagram
ANSI Z32.2.3	Graphical Symbols for Pipe Fittings, Valves & Piping
AWS A2.0-68	Welding Symbols

General Electric Standard Specifications (LM Product Line):

- MID-TD-0000-1: Fuel Gases for Combustion in Aeroderivative Gas Turbines

Basin Electric Power Cooperative – Contract No: 672945

General Terms and Conditions Sale of Equipment and Services

- MID-TD-0000-4: Compressor Cleaning for GE Aircraft Derivative Gas Turbines
- MID-TD-0000-5: Liquid Detergent for Compressor Cleaning for GE Aircraft Aeroderivative Gas Turbines
- MID-TD-0000-6: Lubricating Oil Specification for GE Aircraft Aeroderivative Gas Turbines
- GEK 107158: Water Supply Requirements for Gas Turbine Inlet Air Evaporative Coolers
- 95953: Application of Paint and Protective Coatings

Exceptions to Codes and Standards:

Seller takes specific exception to Codes and Standards not listed above and to any requirements to conform to unidentified state, county, municipal or other local codes and standards. Seller will prepare comments and exceptions to the technical provisions of any Purchaser-identified additional codes and standards within thirty (30) days of receipt of the code documents, when accompanied by Purchaser's description of the applicable sections.