

MONTANA-DAKOTA UTILITIES CO.

SITING EXCLUSION CERTIFICATION
Informal Hearing Case No. PU-20-342

NORTH DAKOTA PUBLIC SERVICE COMMISSION

October 20, 2021



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16 PU-20-342 Filed 10/20/2021 Pages: 17
Prefiled Informal Hearing presentation slides
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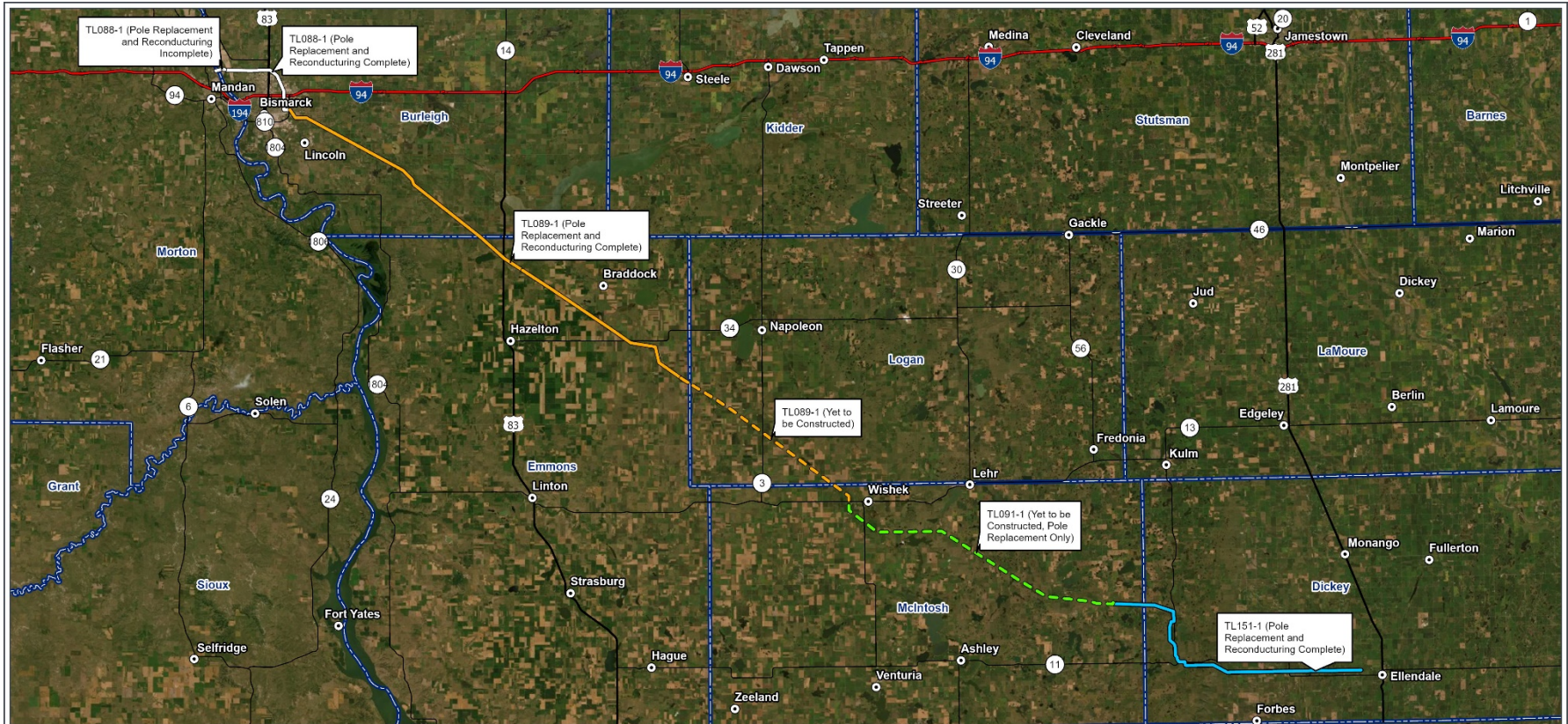
Transmission Upgrades

- Windfarm generator interconnection request through MISO queue
 - Windfarm Point of Interconnection on MDU's 230 kV line near Napoleon, ND
 - Study process identified transmission capacity upgrades to MDU's system to allow the windfarm to operate on the system
 - MDU entered into agreement with Interconnection Customer to build, own, and operate upgrades

Transmission Upgrades

- Re-conductor on the Mandan to Bismarck 230 kV transmission line
- Re-conductor and replace structures on the Bismarck to Wishek 230 kV transmission line
- Replace structures on the Wishek to Merricourt 230 kV transmission line
- Re-conductor on the Merricourt to Ellendale 230 kV transmission line

Project Map



MONTANA-DAKOTA UTILITIES
**Heskett to Ellendale
 230-kV Transmission
 Line Reconducting
 Project**



- City
- Transmission Line**
- TL088-1 (Pole Replacement and Reconducting Incomplete)
- TL088-1 (Pole Replacement and Reconducting Complete)
- TL089-1 (Pole Replacement and Reconducting Complete)
- TL089-1 (Yet to be Constructed, Pole Replacement Only)
- TL091-1 (Yet to be Constructed, Pole Replacement Only)
- TL151-1 (Pole Replacement and Reconducting Complete)

- Major Road**
- Interstate Highway
- U.S. Highway
- State Highway
- County Boundary

Morton County, ND

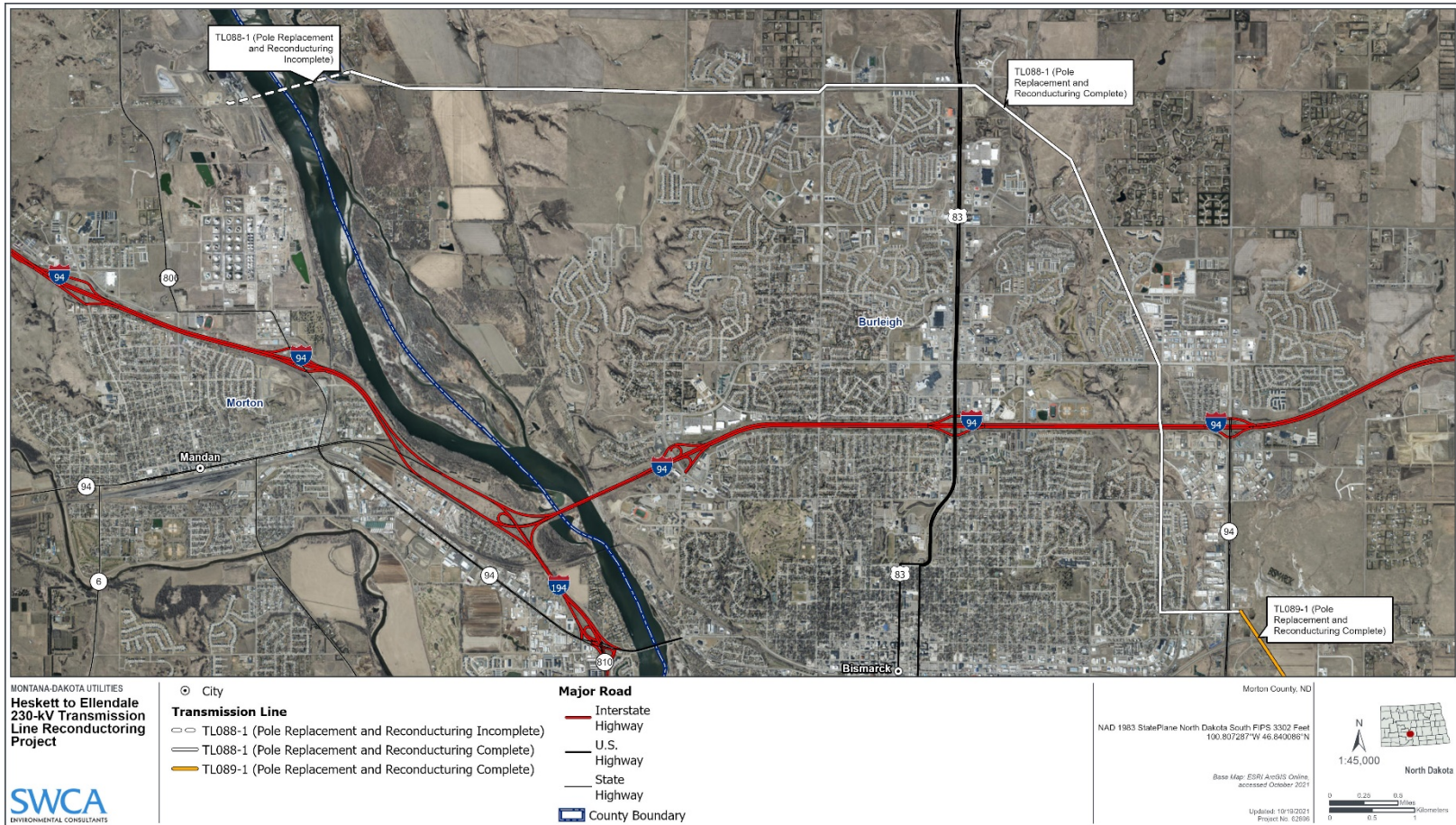
NAD 1983 StatePlane North Dakota South FIPS 3302 Feet
 99.721527°W 46.448945°N

Scale: 1:640,000

Scale bars: 0 to 10 Miles, 0 to 10 Kilometers

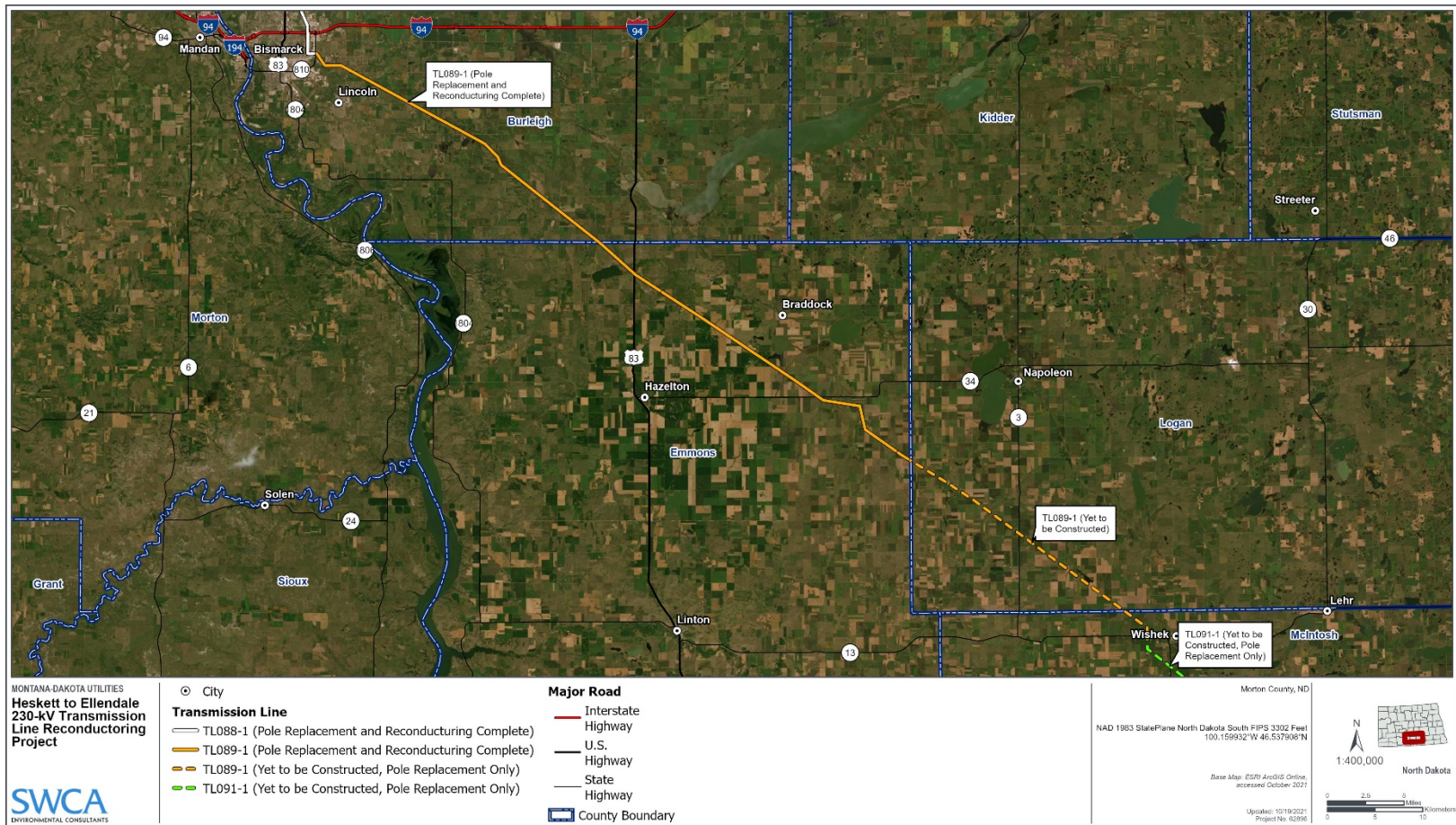
Updated: 10/19/2021
 Project No. 62898

Mandan to Bismarck



- 2 Structures replaced (4 wood poles)
- Approximately 11 miles of conductor replaced with TS conductor.
- Construction: January 2021 – March 2021
- 4 Structures replaced (Tubular Steel)
- Approximately 4,500 feet of conductor replaced with 1272 ACSS.
- Construction: February 2022 – August 2022 (Proposed)

Bismarck to Wishek



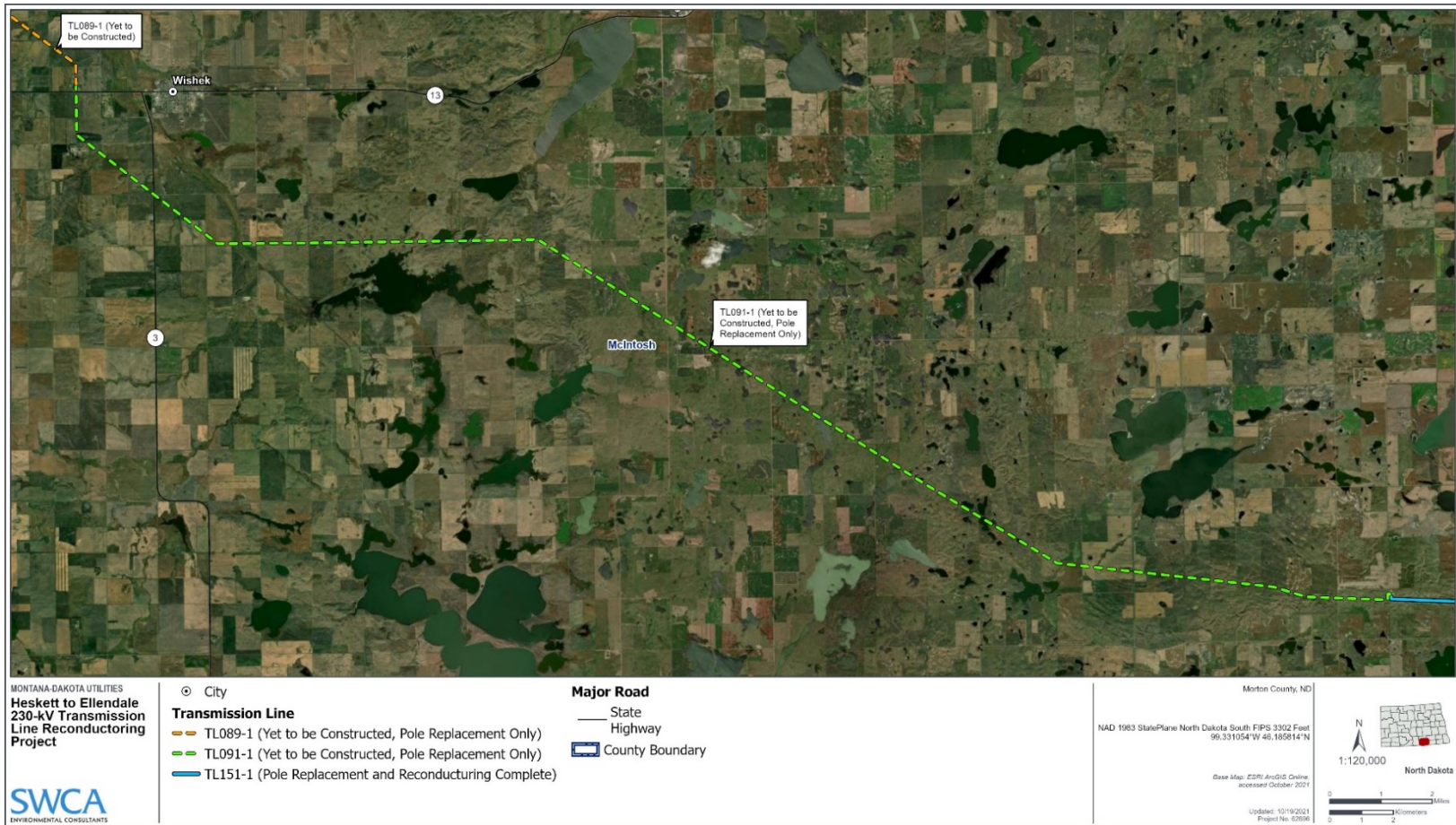
Bismarck-Napoleon:

- 306 Structures replaced (612 wood poles)
- Approximately 48 miles of conductor replaced with 795 ACSS
- Construction: June – July 2020 & January 2021 – July 2021

Napoleon-Wishek:

- 34 Structures replaced (68 wood poles)
- No conductor replaced
- Construction: November 2021 – January 2022 (Proposed)

Wishek to Merricourt



- 35 Structures replaced (70 wood poles)
- No conductor replaced
- Construction: January 2022 – March 2022 (Proposed)

Merricourt to Ellendale



- 20 Structures replaced (40 wood poles)
- Approximately 30 miles of conductor replaced with 795 ACSS.
- Construction: October 2020 – December 2020

Construction Methods

- **Landowner notification**
 - Information letters sent to all landowners
 - Land Agents and Contractors updated landowners of construction progress.
- **Access routes**
 - Routes identified with the input of landowners
 - Gates installed at landowner requests
- **Construct during winter and dry seasons**
 - Time of construction minimized ground disturbance
 - Matting was used in wet areas as needed to minimize damages
 - Land Agents coordinated with landowners to reclaim all disturbed properties



Construction Methods

- Winter and Dry Conditions Construction



Construction Methods

- **Structure replacement**
 - Structures set as close as possible to minimize disturbance area.
 - Conductors transferred to new structure.
 - Old structure completely removed.
- **Conductor stringing**
 - Pull site every 2-3 miles
 - Requires accessing each structure to un-clip & clip-in.
 - Used old conductor to pull new
 - Minimal truck traffic



Structure Replacement



Conductor Stringing



Upgrade Costs

- MISO Generator Interconnection Agreement allows the Transmission Owner to elect the self-fund option
- MDU elected to self-fund and enter into a Facilities Service Agreement with generator
- FSA defines the cost recovery mechanism for payments made by Customer to MDU.
- Payments are made over a 20-year period

Customer Benefits

- Customers do not pay for any upgrade costs
- Customers realize reliability benefits of new structures and new conductor



Siting Approach

- The requirement of siting was based on the following:
 - Line was built in 1966, prior to siting enactment
 - Not a complete line rebuild, replacing components to increase capacity
 - Transmission upgrades are constructed using existing centerline
- Established a process going forward of notifying and requesting clarification by the Commission on siting applicability



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