

400 North Fourth Street
Bismarck, ND 58501
701-222-7900

July 28, 2020

Executive Secretary
North Dakota Public Service Commission
State Capitol Building
Bismarck, ND 58505-0480

Re: Mandan to Ellendale Transmission System Upgrade Project
Revised Certification
Case No. PU-20-342

Montana-Dakota Utilities Co. (Montana-Dakota) herewith electronically submits this revised filing in accordance with North Dakota Century Code 49-22-03(3) governing the statutory certification procedure that provides for an exemption from the siting process for certain activities relating to an upgrade of an existing transmission facility to increase its capacity. Montana-Dakota herewith submits its intention to reconductor approximately 90 miles of the 230 kV Mandan to Ellendale Transmission System and make other upgrades as necessary. This submission replaces the filing submitted on July 16, 2020 in its entirety.

The following exhibits are provided in support of Montana-Dakota's intention to reconductor the 230 kV Mandan to Ellendale Transmission System in accordance with N.D.C.C. § 49-22-03(3):

- Exhibit 1 – Revised Certification signed by Mr. Jay Skabo, Vice President of Energy Supply
- Exhibit 2 – Map of the overall project area.
- Exhibit 3 – Map of the minimal reroute described in Exhibit 1.
- Exhibit 4 – H-Frame Structure Drawing

Please refer all inquiries regarding this filing to:

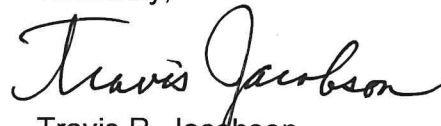
Travis R. Jacobson
Director of Regulatory Affairs
Montana-Dakota Utilities Co.
400 North Fourth Street
Bismarck, ND 58501
travis.jacobson@mdu.com

Robert Frank
Director of Transmission Engineering
Montana-Dakota Utilities Co.
400 North Fourth Street
Bismarck, ND 58501
robert.frank@mdu.com

Also, please send copies of all written inquiries, correspondence, and pleadings to:

Karl Liepitz
Assistant General Counsel
MDU Resources Group, Inc.
P.O. Box 5650
Bismarck, ND 58506-5650
Karl.Liepitz@MDUResources.com

Sincerely,

A handwritten signature in black ink that reads "Travis Jacobson". The signature is written in a cursive style with a large, prominent "T" and "J".

Travis R. Jacobson
Director of Regulatory Affairs

Attachments

cc: Karl Liepitz
Robert Frank
Jay Skabo

Exhibit 1

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Montana-Dakota Utilities Co.
Mandan to Ellendale Transmission System Upgrade Case No. PU-20-__
Revised Siting Exclusion Certification

CERTIFICATION RELATING TO N.D.C.C. § 49-22-03(3)(a)

Pursuant to N.D.C.C. § 49-22-03(3)(a), the undersigned, Jay Skabo, Vice President of Energy Supply, for Montana-Dakota Utilities Co. (Montana-Dakota), with the authority to bind Montana-Dakota to the following hereby certifies as follows:

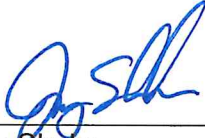
1. Montana-Dakota currently owns and operates a 230 kV transmission system beginning near Mandan, North Dakota and ending near Ellendale, North Dakota (Project). The existing 230 kV transmission lines generally run cross country, across a mixture of cultivated fields, pasture lands, and some urban areas around Bismarck and Mandan. The line, which was built in 1966, is located within private right-of-way.
2. Pursuant to N.D.C.C. § 49-22-03(3)(a), Montana-Dakota proposes to upgrade the 230 kV line within the existing centerline, except for a 0.5 mile re-route on the Mandan end of the line in four (4) phases. The 0.5 mile re-route on the Mandan end of the line is located on Company owned property and was necessary to avoid Heskett 3 and the planned Heskett 4 natural gas turbines and to move the line termination to the east of the Mandan Substation to accommodate a second power transformer as shown on Exhibit 3. Montana-Dakota will request a siting certificate for the 0.5 mile re-route in a separate filing.
3. The Project will be constructed in four phases beginning in May 2020 and is expected to be completed in January 2022. The phases are as follows:
 - Phase 1: May 2020 – July 2021 – This phase involves replacing structures and reconductoring the line from the Mandan Substation located near the Heskett Station to the Napoleon Substation. The entire reconductor from Mandan to Napoleon is approximately 60 miles. The new conductor requires replacing 300 H-Frame round wood pole structures in this section with 300 H-Frame round wood pole structures that are approximately 15 feet taller than the existing structures. A diagram of the H-Frame structures to be installed is provided in Exhibit 4.
 - Phase 2: July 2020- October 2020 – This phase involves reconducting the line between the Merricourt Substation and the Ellendale Substation. This reconductor is approximately 30 miles in length. Three H-Frame round wood pole structures will be

replaced with approximately 15-foot taller H-Frame round wood pole structures.

- Phase 3: August 2021 – October 2021 – This phase involves adding additional ground clearance that is required on the line section between the Napoleon Substation and the Wishek Substation. To achieve the required clearance, 26 H-Frame round wood pole structures will be replaced with approximately 15-foot taller H-Frame round wood pole structures.
 - Phase 4: November 2021 – January 2022 – This phase involves adding additional ground clearance that is required on the line section between the Wishek Substation and the Merricourt Substation. To achieve the required clearance, 36 H-Frame round wood pole structures will be replaced with approximately 15-foot taller H-Frame round wood pole structures.
 - As noted, the line remains in the original location (same centerline) within the existing easement. New wood poles will be placed within 10 feet of the existing wood pole locations. The Company is replacing the existing 795 kcmil Aluminum Conductor Steel Reinforced (ACSR) with 795 kcmil Aluminum Conductor Steel Supported (ACSS). ACSS is designed to operate continuously at higher temperatures up to 250°C without loss of strength. This allows for a significant increase in current carrying capacity over ACSR. ACSS is self-damping, sags less than ACSR under emergency electrical loadings, and its final sags are not affected by the long-term creep of aluminum. These advantages make ACSS useful in new line applications where structures can be optimized due to the reduced conductor sag, where high emergency loads may be required, or in lines where Aeolian vibration is a problem. Existing lines can be re-conducted using ACSS to allow for increased current using the existing clearances and tensions.
4. The proposed upgrades were identified by Midcontinent Independent System Operator (MISO) through an interconnection study performed when a generator requested to interconnect to Montana-Dakota's integrated transmission system at the Company's Napoleon Substation.
 5. Montana-Dakota and the generator subsequently signed a Generator Interconnection Agreement wherein the Company agrees to provide transmission service to the generator and identifies the facility upgrades that are necessary to provide that service.
 6. The generator as the interconnecting customer is responsible for the cost of the upgrades. As such, Montana-Dakota and the generator have entered into a Facilities Service Agreement (FSA), applicable under the MISO tariff to allow Montana-Dakota to recover the costs of the project

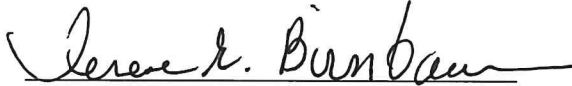
- over a 20-year period. The Project will not be included in Montana-Dakota's state regulated rate base or income statement.
7. Montana-Dakota will continue to operate and maintain its integrated transmission system consistent with current practice and continue to use these assets to serve its integrated system customers.
 8. Construction of the Project will not affect any known exclusion or avoidance areas and no new environmental concerns will be created as a result of the upgrade.
 9. Construction of the Project will improve the existing transmission facility and will increase the existing electric transmission capacity.
 10. The existing transmission facility was constructed prior to the enactment of the siting act. Therefore, the Commission has not previously issued Orders for any part of the facility. However, Montana-Dakota will comply with applicable conditions and protections to the extent they exist.

Dated this 28th day of July 2020.


 Jay Skabo
 Vice President of Energy Supply
 Montana-Dakota Utilities Co.

STATE OF NORTH DAKOTA)
)
 COUNTY OF BURLEIGH)

Subscribed and sworn to before me, a Notary Public for the state and county above named, this 28th day of July 2020.


 Terese M. Birnbaum, Notary Public
 Burleigh County, North Dakota
 My Commission Expires: 12/30/2023

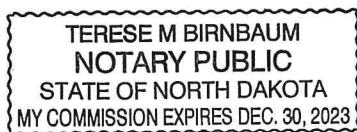


Exhibit 2

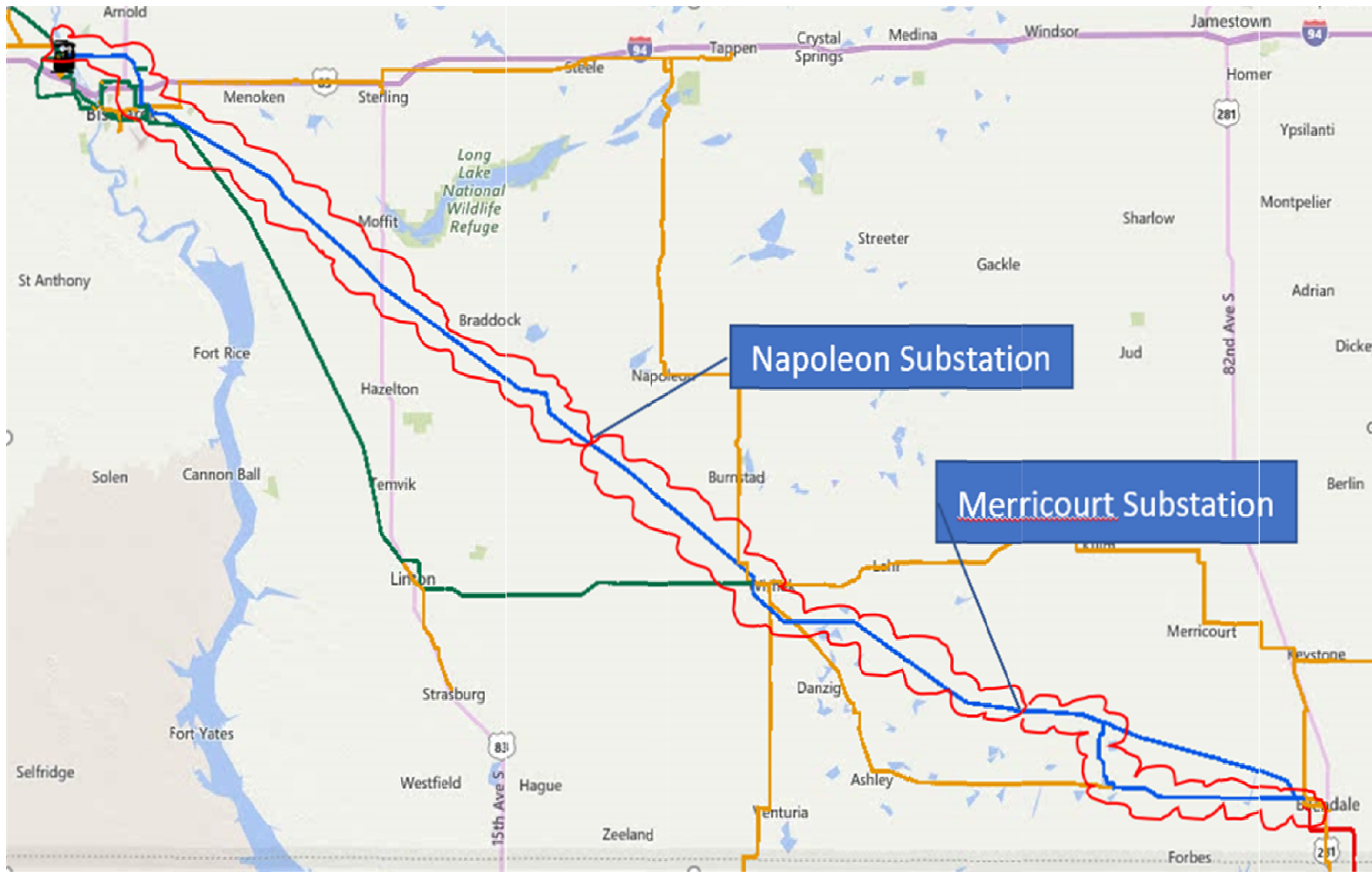


Exhibit 3

Mandan - Heskett

Legend

Red Line - existing to be removed

Yellow Line - Re-route

Red Line - existing to be removed

Yellow Line - Re-route

Google Earth

© 2020 Google



2000 ft

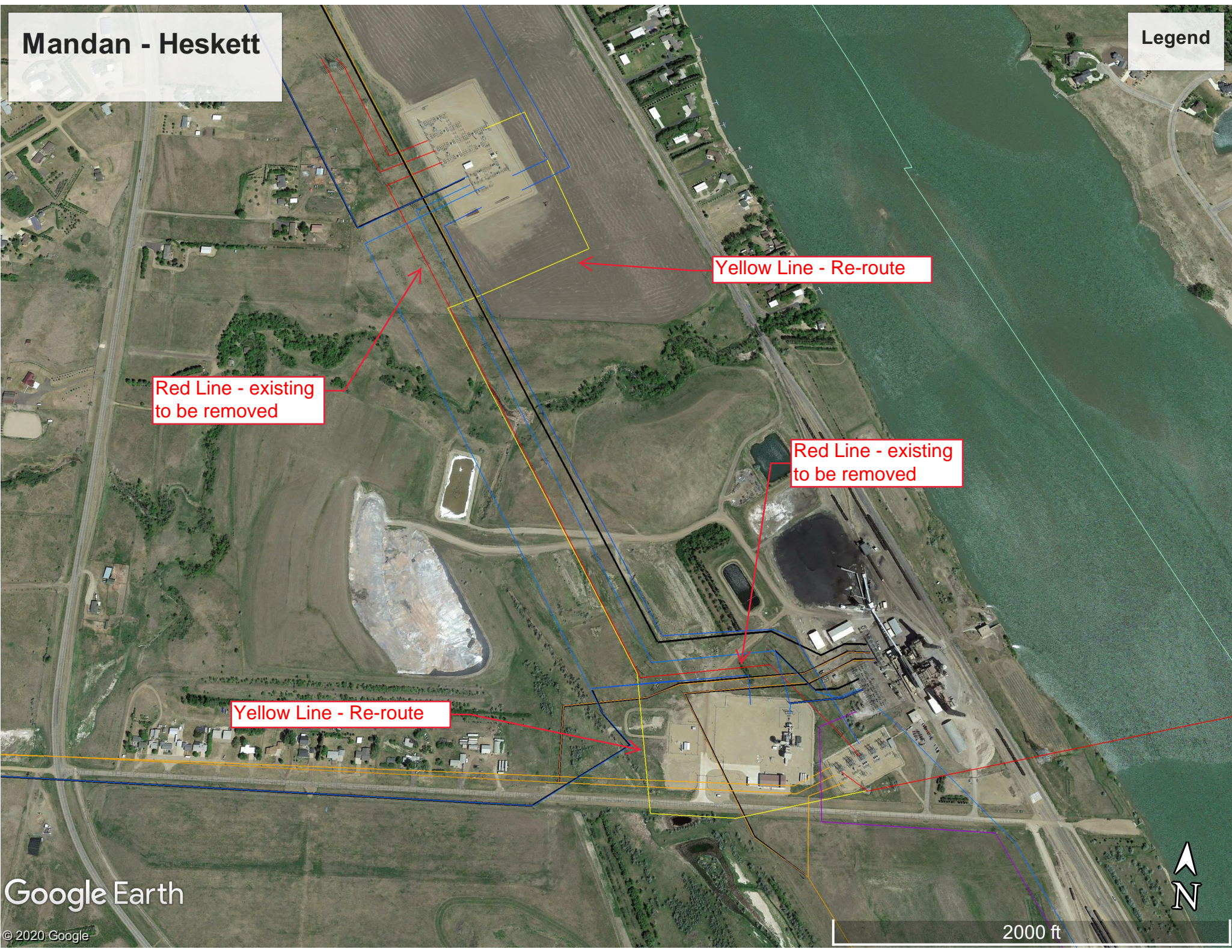
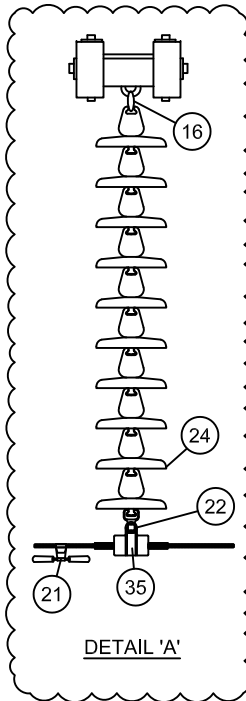
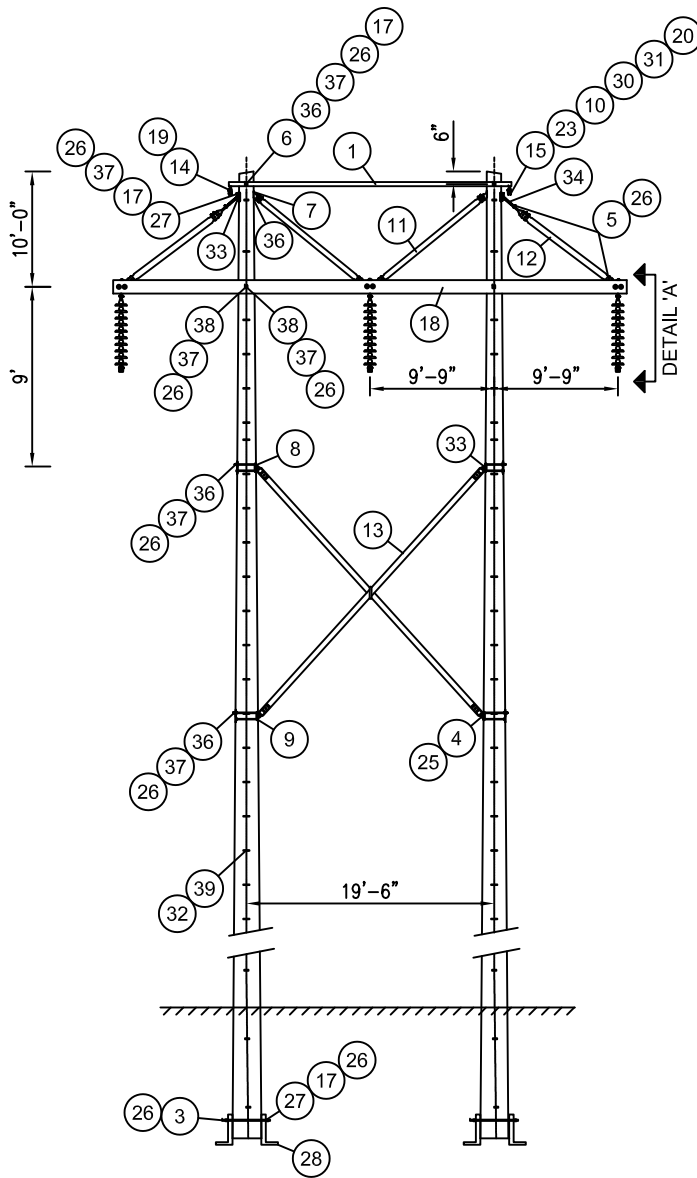


Exhibit 4



NOTES:

1. FIELD DRILLED HOLES SHALL BE THOROUGHLY TREATED.
2. GROUND WIRE MOULDING MUST BE FLUSH AGAINST THE POLE WITH NO GAPS BETWEEN THE MOULDING AND THE POLE.
3. SEE T-M-11 ASSEMBLIES FOR POLE GROUNDING DETAILS. USE COVERED GROUND WIRE WHEN UNDERBUILD IS INSTALLED.
4. INSTALL GROUND WIRE SUCH THAT ONE FOOT OF GROUND WIRE STICKS UP ABOVE THE TOP OF THE POLE.

TJM	6/8/2020	UPDATED CROSSARM HEIGHT FROM 9'-6" TO 10'-0"
TJM	4/27/2020	DRAWING CREATED

MATERIAL LIST			
T-230-A			
DWG REF	QTY	MDU CATALOG NUMBER	DESCRIPTION
1	1	ANGLE-SWST230A	ANGLE SHIELD WIRE SUPPORT T230D - 21' 6"
2	2	BOLT-DA7824	BOLT DA 7/8 X 24
3	2	BOLT-DA7830	BOLT DA 7/8 X 30
4	4	BOLT-MA0103	BOLT, MACHINE, 1" X 3" W/ NUT
5	4	BOLT-MA7803	BOLT MACHINE 7/8 x 3 W/ NUT
6	2	BOLT-MA7812	BOLT MACHINE 7/8 x 12 W/ NUT
7	4	BOLT-MA7814	BOLT MACHINE 7/8 x 14 W/ NUT
8	4	BOLT-MA7816	BOLT MACHINE 7/8 x 16 W/ NUT
9	4	BOLT-MA7818	BOLT MACHINE 7/8 x 18 W/ NUT
10	1	BONDING-WIREOPGW	GROUND WIRE, #4 CU ROPE
11	2	BRACE-KNEE35	BRACE KNEE 3 3/8 X 5 3/8 - 11'-7"
12	2	BRACE-STRN34	BRACE STRAIN 3 3/8 X 4 3/8 - 9'-1 1/2"
13	1	BRACE-X20	BRACE-X19FT6IN PS CENTER CLAMP
14	1	CLAMP-SUSMI38	CLAMP SUSP MI 5/16-3/8 W/ROD
15	1	CLAMP-SUSOPGW	(1) SUSPN. CLAMP W/ SGL ARMOR ROD, BNK (AFL - SUME450/475)
16	3	CLEVIS-YBALL	CLEVIS-YBALL 30,000LBS.
17	6	CLIP-GRDWR	CLIP GROUND WIRE BONDING
18	1	CROSSARM-T230A	CROSSARM (DBL. ARM ASSY)T230A
19	1	DAMPER-SPRL1/0	DAMPER VIB SPIRAL 1/0 2/0 3/8
20	1	DAMPER-SPRL4/0	DAMPER VIB SPIRAL 4/0 ACSR
21	3	DAMPER-STBG***	DAMPER VIB STCKBRG **** ACSR
22	3	EYE-SOCK***	SOCKET, EYE **** LONG **** DIA. HOLE, **K LBS
23	1	EYE-YCLEVIS-OPGW	YC90E-750-1750, *REQUIRES SHACKLE*
24	30	INSULATOR-SUS15X	INSULATOR SUSPN 15KV 20000#
25	4	LOCKNUT-01	LOCKNUT MF 1"
26	26	LOCKNUT-78	LOCKNUT MF 7/8"
27	4	PLATE-BONDING	BONDING PLATE, HOT DIP
28	4	PLATE-BRGPOL	PLATE BEARING POLE
29	1	ROD-ARMS3/8	ARMOR ROD SET, 3/8 SHIELD WIRE
30	1	SHACKLE-OPGW	SHACKLE ANCHOR 5/8 INCH, BNK (ANDERSON AS-35-BNK)
31	1	SQUEEZON-CF22	SQUEEZON CU 2TAB #4-#2M#4-#2T
32	2.2	STAPLE-CW	STAPLE, COPPERWELD WIRE (IN POUNDS)
33	6	TEE-DE	TEE DEADEND 1-1/4 ATTC HOLE
34	2	TURNBUCKLE-230	TURNBUCKLE CLEVIS EYE 7/8 12"
35	3	UNIT-AGSUS***	UNIT ARMOR-GRIP SUSPENSION ***
36	12	WASHER-CURV78	WASHER CURVED 4x4 15/16 HOLE
37	16	WASHER-SPR78	WASHER SPRING 7/8 INCH
38	4	WASHER-TL78	WASHER TAPPED LIP 7/8"
39	300	WIRE-CUSD4	WIRE CU BARE #4 SOLID SD (IN FEET)

NOTES:

- 1) MACHINE BOLT LENGTHS MAY NEED TO BE ADJUSTED FOR THE POLE SIZE
- 2) ARMOR GRIP UNIT BASED ON CONDUCTOR SIZE***
- 3) EYE SOCKET BASED ON CONDUCTOR SIZE *** [4/0 ACSR : EYE-SOCK58 , 336 ACSE : EYE-SOCK58 , 477 ACSR/ACSS : EYE-SOCK34 , 795 ACSR/ACSS : EYE-SOCK1 , 954 ACSR/ACSS : EYE-SOCK1]

230KV TRANSMISSION STRUCTURE

H-FRAME STRUCTURE

TANGENT STRUCTURE

DRAWN BY:

TJM

DATE:

4/27/20



**ELECTRIC
TRANSMISSION
STANDARDS**

SCALE:

N.T.S

DRAWING NO:

T-230-A