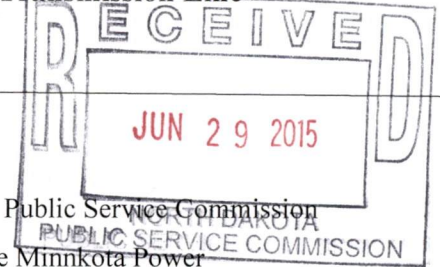


**FINAL EXECUTIVE SUMMARY SUPPLEMENT
RECLAMATION / RESTORATION DISCUSSION**

June 12, 2015

**Minnkota Power Cooperative, Inc. Center to Grand Forks 345 kV Transmission Line
North Dakota Public Service Commission Case No. PU-09-670
Route Permit Number 144**



INTRODUCTION

Houston Engineering, Inc. (HEI) was contracted by the North Dakota Public Service Commission (ND PSC) to provide permit compliance monitoring during construction of the Minnkota Power Cooperative (MPC) 345 kV Transmission Line from Center to Grand Forks (Case No. PU-09-670). General permit compliance review activities were performed and a final report was submitted last fall. The following is intended to supplement the final report, and further discusses the reclamation and restoration activities that were conducted within disturbed areas during construction. HEI submitted a FINAL EXECUTIVE SUMMARY REPORT, dated September 12, 2014 that summarized permit compliance activities in relation to the Exclusion, Avoidance, and Minimization measures of the permit and found the project compliant with the terms of the permit. This supplemental report summarizes the reclamation and restoration measures that were implemented as part of the Minnkota Center to Grand Forks Transmission Line.

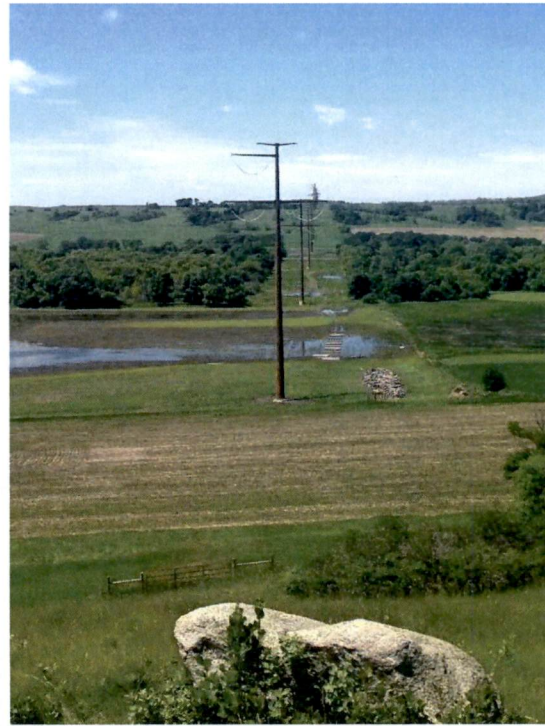
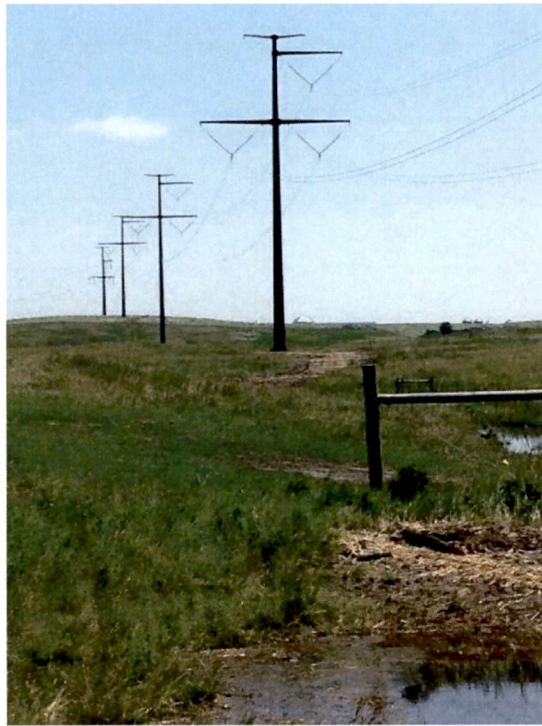
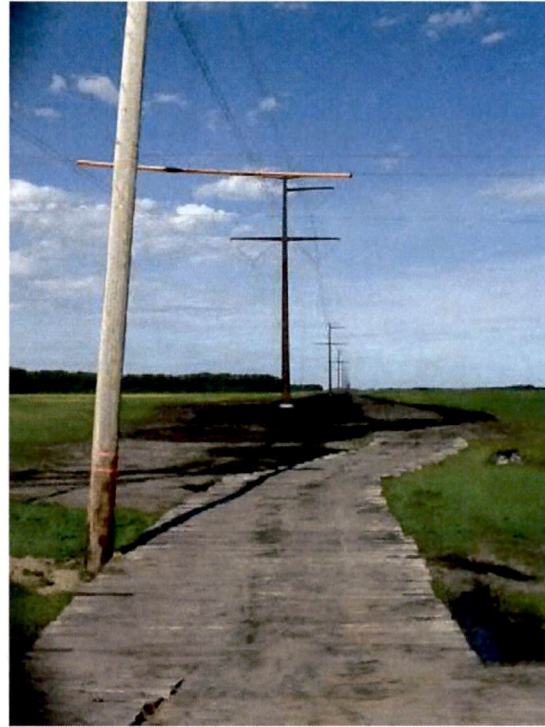
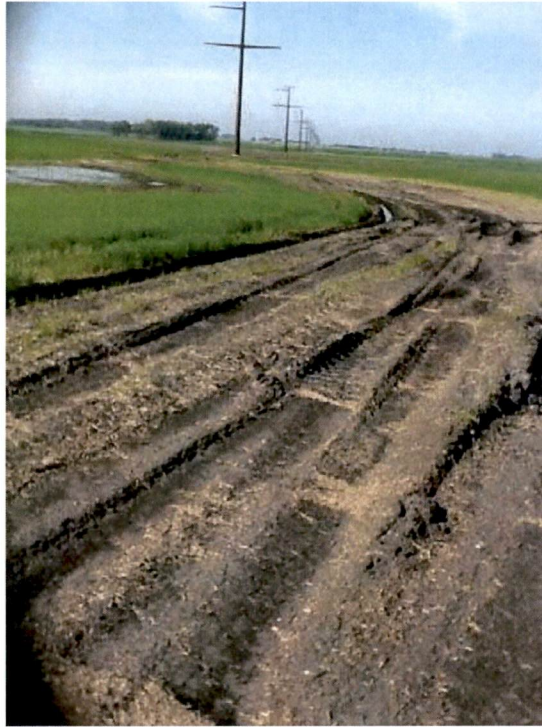
The permit document states: “reclamation, fertilization and reseeding is to be done according to the Natural Resources Conservation Service (NRCS) recommendations, unless otherwise specified by the landowner and approved by the Commission.” HEI contacted the Minnkota team to obtain a copy of the NRCS recommendations. The NRCS recommended seed mixes are provided in the attached **Appendix A**.

HEI observed all phases of the reclamation / restoration process during construction inspection activities, including pre-restoration areas, areas that had been recently seeded, areas with recent seed germination and areas that had been fully restored. The following series of representative **photos** show the various stages of reclamation and restoration that were observed during the inspection process.

CONCLUSIONS

HEI observed restoration activity along the entire 250 mile transmission line. During our site visits, we observed areas in all stages of reclamation, from pre-restoration disturbance to post-restoration completion. HEI has considered the prescribed seed mixes (**Attachment A**), and finds that the restoration activities were completed as prescribed by the NRCS. As such, the Minnkota Center to Grand Forks project is compliant with the reclamation and restoration terms of the NDPSA permit.

Photos 1-4: AFTER CONSTRUCTION AND BEFORE RECLAMATION ACTIVITIES



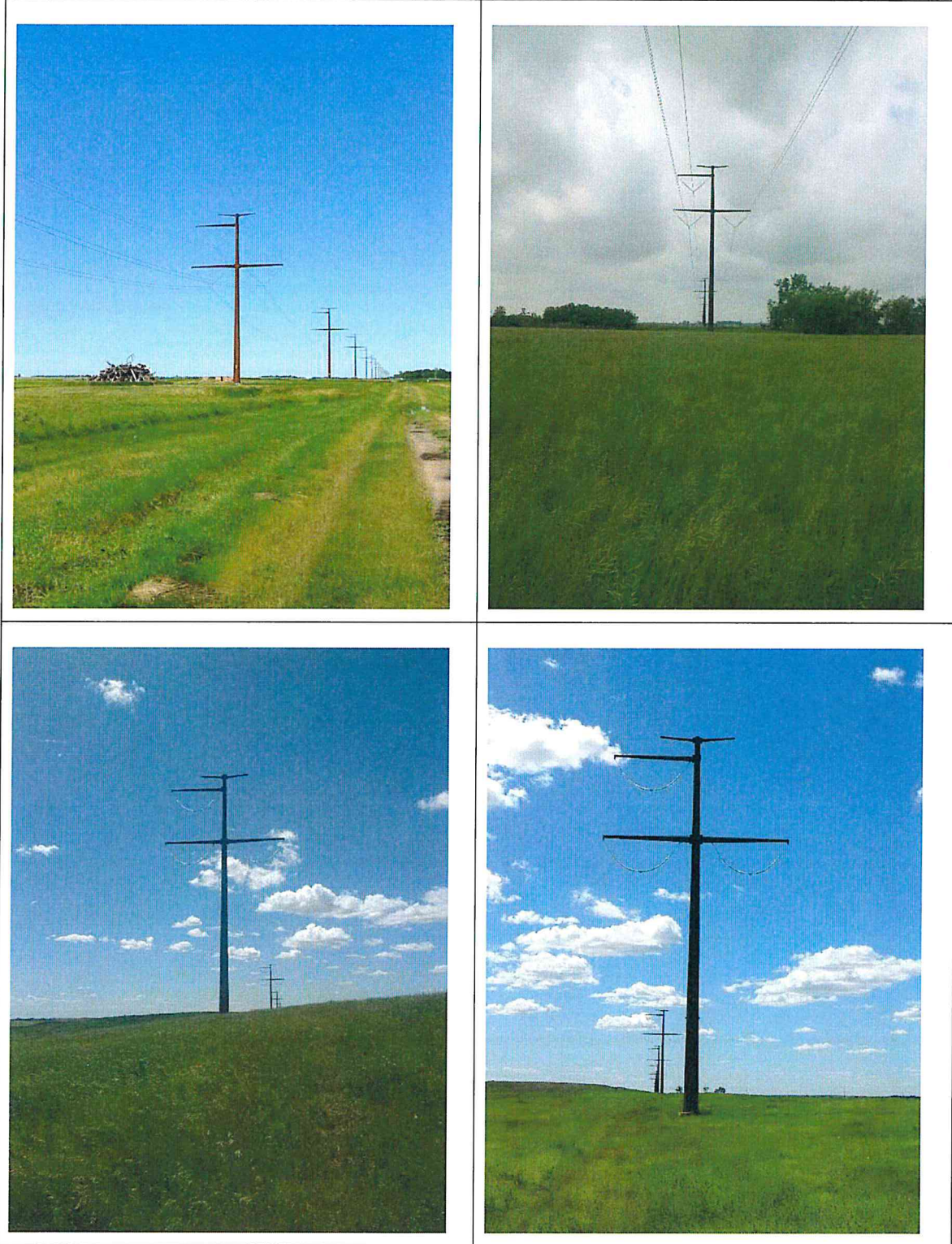
Photos 5 – 8. ACTIVE RESTORATION, REGRADING



Photos 9 – 12: AFTER SEEDING, EROSION CONTROL



Photos 13-16: COMPLETED RESTORATION ACTIVITIES



**ATTACHMENT A: Natural Resources Conservation Service (NRCS) Prescribed Seed Mixes and
Methodology**

SUMMARY OF CGF NON-CROPLAND SEEDING RESTORATION

The following restoration planting mixes and instructions are from the NRCS for the different types of areas needing restoration.

I. **CRP Restoration** - The NRCS seasonal stabilization mixture with less crested wheatgrass and using pubescent wheatgrass and the meadow brome grass.

II. **Upland Native Rangeland/Pastureland** - The first mix contains both warm- and cool-season species. Due to the warm-season component, this mixture should only be seeding in the spring or early summer (May 10 to June 25th) seeding window.

PLS #/ac (includes 50% increase)

30% Western wheatgrass	4.5
30% Green needlegrass	3.4
20% Sideoats grama	2.3
15% Blue grama	0.6
5% Purple prairie clover	0.3

Cool-season only mixture for late summer or late fall seeding periods.

PLS #/ac (includes 50% increase)

30% western wheatgrass	4.5
30% green needlegrass	3.4
15% Canada wildrye	1.7
15% slender wheatgrass	1.2
5% purple prairieclover	0.3
5% yellow (prairie) coneflower	0.1

Seeding mixture for temporary (seasonal) wetlands (wet meadow ecological site)

PLS #/ac (includes 50% increase)

30% prairie cordgrass	3.2
10% slough sedge	0.7
20% switchgrass	1.4
20% western wheatgrass	3.0
10% slender wheatgrass	0.4
10% Canada wildrye	0.6

III. **Grassland Easement Areas** – Here is an appropriate mix (lbs should be PLS/acre):

Western Wheatgrass	1 lbs.
Green needlegrass	1.5 lbs

Little bluestem	1.8 lbs
Sideoats gramma	2.3 lbs
Blue gramma	1.0 lbs
Big bluestem	1.9 lbs

Also, a minimum of 4 of the following forbs should be included (no particular lbs/acre):

- Yarrow
- Blueflax
- Purple prairie clover
- White prairie clover
- Yellow coneflower
- Black-eyed susan
- Maximillan sunflower
- Stiff sunflower

IV. Alkali flats in Grand Forks County – NRCS *grass seeding mixtures* for saline areas. The Natural Resources Conservation Service (NRCS) has different seeding date recommendations for warm and cool season grasses. The mixture labeled Cool Grasses has three different recommended seeding periods. NRCS recommends planting cool season grasses in the spring prior to May 20, or August 10 to September 1, or after soil temperatures drop below 40 degrees Fahrenheit for a minimum of five consecutive day.

The mixture labeled Warm and Cool Grasses has a recommended seeding period May 1 through June 15th. This grass mixture provides growth throughout the growing season. The species are listed in column 1, full seeding rates are provided in column 3 and percent of each species is changed in column 4. Column 5 is computed using the acres to be seeded (input cell is on top of spreadsheet) multiplied by the pure live seed pounds per acre in column 5.

