

August 3, 2026

Via E-Mail

Carol A. Overland
c/o North Route Group and NO765MN
1110 West Avenue
Red Wing, MN 55066

Re: *Public Responses to Information Requests Nos.6 (Second) & 7
In the Matter of the Application for a Certificate of Need for the PowerOn Midwest
765 kV and 345 kV High Voltage Transmission Line Project
Docket No. E002, ET2, ET6675/CN-25-117*

Dear Ms. Overland:

Please find enclosed the public responses of Great River Energy, Northern States Power Company, doing business as Xcel Energy, and ITC Midwest LLC to North Route Group and NO765MN Information Requests Nos.6 (Second) & 7.

Sincerely,

/s/ Haley Waller Pitts

Haley Waller Pitts
Fredrikson & Byron, P.A.
Attorney for Great River Energy
and Xcel Energy

/s/ Valerie Herring

Valerie Herring
Taft Stettinius & Hollister LLP
Attorney for ITC Midwest



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Information Request No. 6
(SECOND)

Docket No.: E002/CN-25-117
Response To: North Route Group and NO765MN
Requestor: Carol Overland
Date Received: July 20, 2026

Question:

Impact of project on agricultural use of GPS

Application, Section 8.4, p.192-193 – Radio, Television, and GPS interference discusses “gap discharge” and “corona” as causes of interference, but only names “GPS” without details.

- Provide reports, studies, operation manuals, etc. regarding interference and/or lack thereof of both 765kV and 345kV transmission lines with agricultural GPS, particularly in flat-land environments such as is found in southwestern Minnesota.
 - Objection: The Applicants object to this request because it is ambiguous, seeks information not within the Applicants’ custody or control, and to the extent it requires the Applicants to create new work product. Subject to and without waiving the foregoing objection, the Applicants provide the following response.
 - Response: The Applicants provide references below. Copies of complete materials are not provided due to copyright restrictions.
 - Electric Power Research Institute (EPRI) Red Book §§ 12.12.3 and 12.12.4.
 - J. M. Silva and R. G. Olsen, "Use of Global Positioning System (GPS) receivers under power-line conductors," in *IEEE Transactions on Power Delivery*, vol. 17, no. 4, pp. 938-944, Oct. 2002.
 - J. M. Silva, "Evaluation of the potential for power line noise to degrade real time differential GPS messages broadcast at 283.5-325 kHz," in *IEEE Transactions on Power Delivery*, vol. 17, no. 2, pp. 326-333, April 2002.
 - Alsalman, A. S. A. (2001). EFFECTS OF ELECTRIC POWER LINES ON THE ACCURACY OF GPS POSITIONING. *Survey Review*, 36(279), 54–61.
 - Rabah, Mostafa, and Ahmed El-Hattab, “Investigating the Impact of High Voltage Power Lines on GPS Signal,” *zfv – Zeitschrift für Geodäsie* (2011).

- If there is potential for interference, how would that be avoided or mitigated?
 - Response: GPS operates in microwave frequency bands within the gigahertz range, which is significantly higher than the frequencies associated with electric and magnetic fields generated by overhead transmission lines, including the Project. Accordingly, interference is not anticipated. If the operation of a transmission line permitted by the Minnesota Public Utilities Commission (MPUC) causes interference with GPS navigation systems, the MPUC's route permit requires the permit holder to take all necessary actions to restore GPS-related agricultural navigation systems to reception levels equivalent to those that existed before construction of the transmission line.

Interference with air GPS systems

Hypothetical example: A transmission line, 345 kV, proposed for 2 miles west of Middleton's Municipal Airport was expected to have increased minimums of RNAV (area navigation) CPS 20 approach by nearly 70 feet. A 765 kV line may have greater potential impacts than a 345kV.

- Identify airports and GPS signal sources used along potential routes, including RNAV, RNP, and/or any other air GPS navigation systems. Include map showing locations.
 - Objection: The Applicants object to this request because it seeks information not relevant to the Certificate of Need proceeding, would require the Applicants to undertake and create new work product, seeks information not in the Applicants' custody or control, is ambiguous, and is overly broad and unduly burdensome. The Applicants further object to the factual assertions included in the request.
- Provide studies and reports regarding transmission line interference with RNAV, RNP, and/or any other airport GPS navigation systems, including:
 - Distance of transmission line, setback, from airports GPS system necessary to prevent interference
 - Objection: The Applicants object to this request because it is ambiguous, seeks information not within the Applicants' custody or control, and to the extent it requires the Applicants to create new work product. Subject to and without waiving the foregoing objection, the Applicants provide the following response.
 - Response: The Applicants do not independently determine the design criteria for assets near approach paths. Rather, it is done in coordination with Federal Aviation Administration (FAA) and consistent with applicable federal regulations. Initial plans are designed near approach zones per the FAA guidelines (primarily 14 CFR Part 77 and AC 70/7460) for structure/conductor heights and marking requirements. Each location identified within the application area is put through the FAA Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) process.

- What increase in approach minimums is regarded as an impact v. inconsequential.
 - Objection: The Applicants object to this request because it is ambiguous. Subject to and without waiving the foregoing objection, the Applicants provide the following response.
 - Response: While modification of the approach path is a mitigation option available to the FAA, the Applicants have no experience with this approach and thus no basis for estimating these distances.

Preparers:	Kyle Oraskovich	Ben Gallay
Title:	Transmission Line Design Engineer	Senior Engineer (Transmission Lines)
Department:	Great River Energy	Xcel Energy
Date:	August 3, 2026	August 3, 2026



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Information Request No. 7

Docket No.: E002/CN-25-117
Response To: North Route Group and NO765MN
Requestor: Carol Overland
Date Received: July 20, 2026

Question:

Impact of project on radio, TV, and cell signal

Application, Section 8.4, p.192-193 – Radio, Television, and GPS interference discusses potential of interference in the form of gap discharges, corona discharges, shadowing effects, and reflection effects.

- Will testing be done along the route to determine potential for impacts?
 - Objection: The Applicants object to this request because it is ambiguous and overly broad. Subject to and without waiving the foregoing objection, the Applicants provide the following response.
 - Response: The Applicants do not “test” for radio, television, or individualized GPS interference prior to developing a route or constructing a transmission line. Instead, the Applicants intend to perform communications and microwave studies to assist with the transmission line routing process.
- Should there be impacts, is mitigation dependent on receptor complaints?
 - Objection: The Applicants object to this request because it is ambiguous. Subject to and without waiving the foregoing objection, the Applicants provide the following response.
 - Response: The Applicants will comply with the MPUC’s standard route permit condition, which typically requires: If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the Transmission Facility, the Permittees shall take whatever action is necessary to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the Transmission Facility. The Permittees shall keep records of compliance with this section and provide them upon the request of Commission staff.

- What mitigation options are there?
 - Objection: The Applicants object to this request because it is ambiguous and overly broad. Subject to and without waiving the foregoing objection, the Applicants provide the following response.
 - Response: While interference is unlikely, as discussed in Section 8.4 of the Certificate of Need Application, the most commonly noticed form of interference is gap discharge interference with radio and television signals. Gap discharges are usually caused by hardware defects or abnormalities on a transmission or distribution line causing small gaps to develop between mechanically connected metal parts. Gap discharges are usually a maintenance issue, since they tend to occur in areas where gaps have formed due to broken or ill-fitting hardware (e.g., clamps, insulators, brackets). Because gap discharges are a hardware issue, they can be repaired relatively quickly once the issue has been identified.
- Is applicant responsible for cost of mitigation?
 - Objection: The Applicants object to this request to the extent it calls for a legal conclusion.
 - Response: If interference is determined to be caused by the presence or operation of the transmission facility, Applicants would be responsible for the costs to restore or provide reception equivalent to that prior to the construction of the facility.

Preparers:	Kyle Oraskovich	Ben Gallay	Dan Leshner
Title:	Transmission Line Design Engineer	Senior Engineer (Transmission Lines)	Manager, Transmission Permitting and Land Rights
Department	Great River Energy	Xcel Energy	Great River Energy
Date:	August 3, 2026	August 3, 2026	August 3, 2026

**In the Matter of the Application for a Certificate
of Need for the PowerOn Midwest 765 kV and
345 kV High Voltage Transmission Line Project**

DOCKET NO. E002, ET2, ET6675/CN-25-117

CERTIFICATE OF SERVICE

Haley Waller Pitts certifies that on the 3rd of August, 2026, she e-mailed a true and correct copy of the **Responses to North Route Group and NO765MN Information Requests Nos. 6 (Second) &7**, on behalf of Great River Energy, Northern States Power Company, doing business as Xcel Energy, and ITC Midwest LLC to the following parties:

Carol A. Overland
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Executed on August 3, 2026

Signed: /s/ Haley Waller Pitts

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