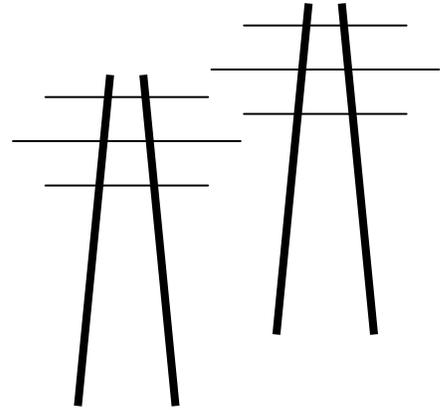


# Legalelectric, Inc.

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June 14, 2018

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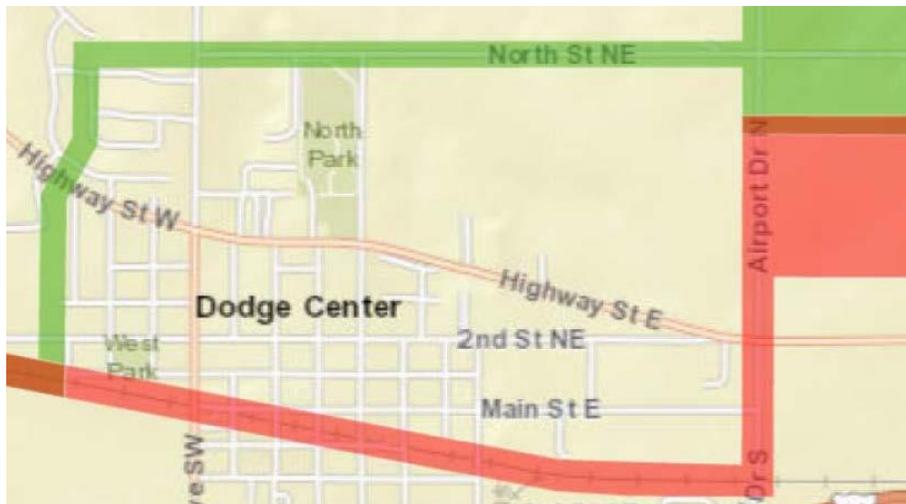
Dan Wolf  
Executive Secretary  
Public Utilities Commission  
121 – 7<sup>th</sup> Place East, Suite 350  
St. Paul, MN 55101

eFiled and eServed

RE: Dodge County Wind – Transmission Routing Docket IP-6981/TL-17-308

Dear Ms. Steinhauer and Mr. Wolf:

I am filing this Comment on behalf of Tom Applegate, a landowner directly affected by a proposed transmission route through the heart of his residential neighborhood. As one with extensive experience in representing clients in utility regulatory matters, and in particular, wind projects, I note that there are legitimate concerns with the proposed green and red routes through Dodge Center.



It's my hope that Commerce and Commission staff recognize these inherent issues and in the DEIS declare that the green and red routes are not constructable, not feasible, and expressly reject the green and red alternate routes from further consideration.

A transmission alternative is developed with consideration of five criteria:

- 1) Was the alternative submitted in a timely manner, *i.e.*, prior to the end of the public comment period for scoping;
- 2) Does the alternative contain an explanation of why the route should be included in the EIS;
- 3) Is the alternative outside of areas prohibited in Minnesota Rule 7850.4300, e.g., state and national parks;
- 4) Does the alternative meet the applicant's stated need for the project; and
- 5) Is the alternative feasible? Can the alternative be constructed and is it permissible by state and federal agencies with authority for construction or operation of the project?

Staff Briefing Papers, p. 9, fn. , February 28, 2019 ([20192-150745-01](#)).

Minnesota's longstanding policy of transmission non-proliferation established by *People for Environmental Enlightenment & Responsibility (PEER), Inc. v. Minnesota Environmental Quality Council*, 266 N.W. 2d 858 (Minn. 1978) makes excellent sense, however, care must be taken in review of existing corridors. It is possible that there are better corridor options, and it is possible that the transmission could interconnect at the Pleasant Valley substation, directly south of Byron between Byron and Adams. Also possible is interconnection near Austin, where there are 115kV or 161kV lines with substations. See transmission map (cannot include because it is "CEII"). However, it's revealing that in the application, the purpose of this project was declared to be part of a regional grid. The line as proposed is radial, and 345kV radial lines are just not built. This is a part of something larger.

The Commission directed Commerce to add routes using pre-existing corridor, in light of Minnesota's policy of non-proliferation, and the Green and Red routes were added to the Scoping Decision. However, the Green and Red proposed routes through Dodge Center did not receive that five point level of review stated in the Staff Briefing Papers, as it is not feasible, nor is it constructable, although unfortunately probably anything is "permissible."

This project, even if following existing 69kV or 115 kV transmission corridors, is not permissible or constructable because it would require additional transmission easements for the 150 foot wide 345kV line corridor. This is problematic, not only in the setting of Dodge Center, but because as an "Independent Power Producer," the easements must be voluntary and Dodge Center Wind does not have the power of eminent domain.

In its application, Dodge County Wind states that it has worked to secure the voluntary transmission easements for its proposed routes.

DCW proposes Route A and Route B to have a width of 1,500 feet for the majority of their length. DCW identified multiple routing options within each route width, such as those that run along field lines, roads, and property lines that could be used as part of a new transmission line corridor. In several areas within the Project Study Area, a wider route width is requested in order to increase flexibility in obtaining landowner permissions for the Project, as DCW's entire route will require voluntary land rights (*i.e.*, no use of eminent domain).

In addition to the standard route width of 1,500 feet, both Route A and Route B include two additional route width categories that were developed specifically for areas where additional flexibility was needed due to the inability to secure voluntary easements, or where voluntary easements were in negotiation at the time of this Application's submittal. Additional route widths proposed for both Route A and Route B include 3,000 feet and 4,500 feet widths, depending on land acquisition constraints in specific sections of the proposed routes.

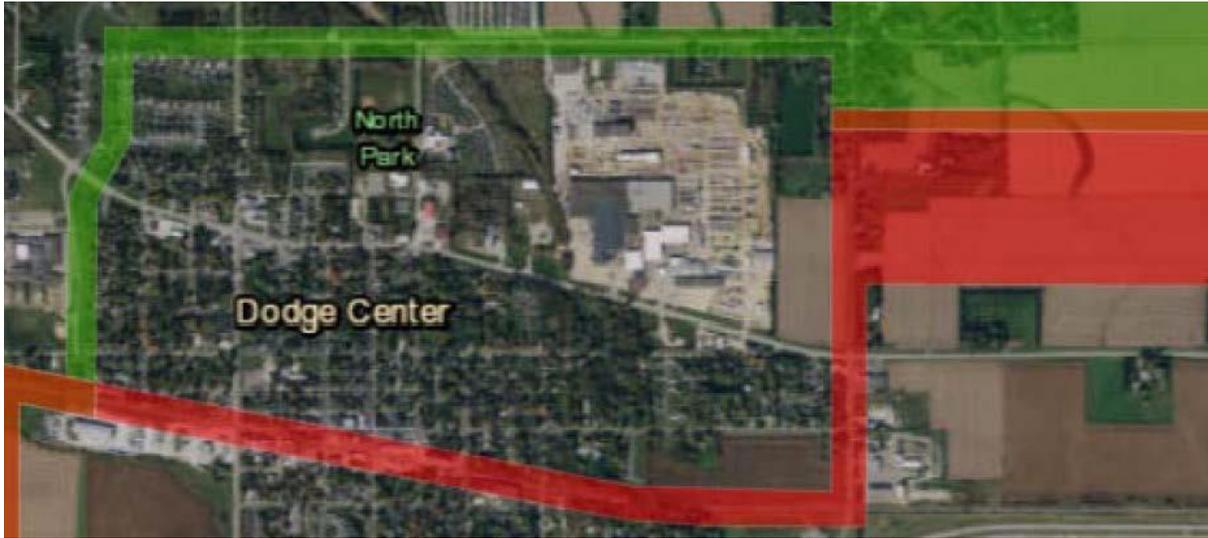
Application, p. 24 ([20186-144407-02](#)).

Dodge County Wind has no easements for the Commerce proposed red and green routes through Dodge Center, and has no ability to condemn land because "the entire route will require voluntary land rights (*i.e.*, no use of eminent domain)." Again, from the application:

Additionally, Dodge County staff indicated that once the PUC issues a Route Permit for the Project, Dodge County can only issue an easement for those areas of road ROW for which they hold fee-title. DCW will continue to work with Dodge County engineers to determine the appropriate location for the Project in Dodge County road ROW, as well as to secure the necessary agreements and approvals noted above. As part of these ongoing consultations, DCW has agreed to prepare preliminary Dodge County Utility ROW permit applications to work with the county in good faith to identify any preliminary issues with any proposed segments located in Dodge County road ROW. Additionally, DCW intends to discuss with MN/DOT and affected counties and townships the issue of financial responsibility for future pole relocations within the road ROW resulting from the presence of existing or planned infrastructure improvements. With respect to the townships in Dodge County, DCW has also consulted with Ripley, Ashland, and Canisteo townships on specific segments of road ROW in each respective township. As of the date of filing the Application, DCW has not received an objection from these townships to the use of road ROW for the Project.

Dodge County Wind transmission application, p. 33-34 ([20186-144407-02](#)). Because Dodge County Wind does not have any transmission easements through Dodge Center, it is neither feasible nor constructible. The lack of easements and inability of Applicant to utilize the power of eminent domain was known or should have been known by the Commission and Commerce.

What does this mean in Dodge Center? This is what the routes look like on google earth:



This photo below is of Mr. Applegate's home at 601 – 2<sup>nd</sup> St. N.W., Dodge Center, with the 69kV transmission easement along the side of the attached garage, going north/south through his side yard and the other backyards on that block:

Google Maps 601 2nd St NW



The 345kV transmission line would have a 150 foot right of way, with 75 feet on either side of the center line. That 69 kV easement centerline is just parallel to Mr. Applegate's garage, and 75 feet would take all of Mr. Applegate's home as well as the others on that block and elsewhere along the route. Here is what that 75 foot half of the easement looks like at 601 2<sup>nd</sup> St. NW:



Other neighbors have eFiled letters and photos as well showing the impossibility of using the existing transmission corridor through Dodge Center. It would take all of Mitchell Buchan's home at 103 6<sup>th</sup> Ave. N.W., Dodge Center – just look at where the easement edge would be:



The easement would take Ann and Vincent Arnold's home at 105 6<sup>th</sup> Ave. N.W., Dodge Center:



Looking further north, the 69kV transmission line moves into a newer neighborhood, crossing County Highway 34 towards the water tower:

Google Maps County Hwy 34



On 5<sup>th</sup> Avenue NW, Dodge Center, the city platted a subdivision for newer homes up against the easement for the 69kV line:

Google Maps 704 5th Ave NW



75 feet from that centerline looks like this for Mike Justice, at 502 9<sup>th</sup> St. NW, Dodge Center:



Carol Johnson lives next door at 504 9<sup>th</sup> St. N.W.:



And for the Wahlstrom's at 507 Meadow Lark Lane, Dodge Center it's through the middle of their house:



Matt Strand at 303 – 6<sup>th</sup> Avenue North would lose his back yard:

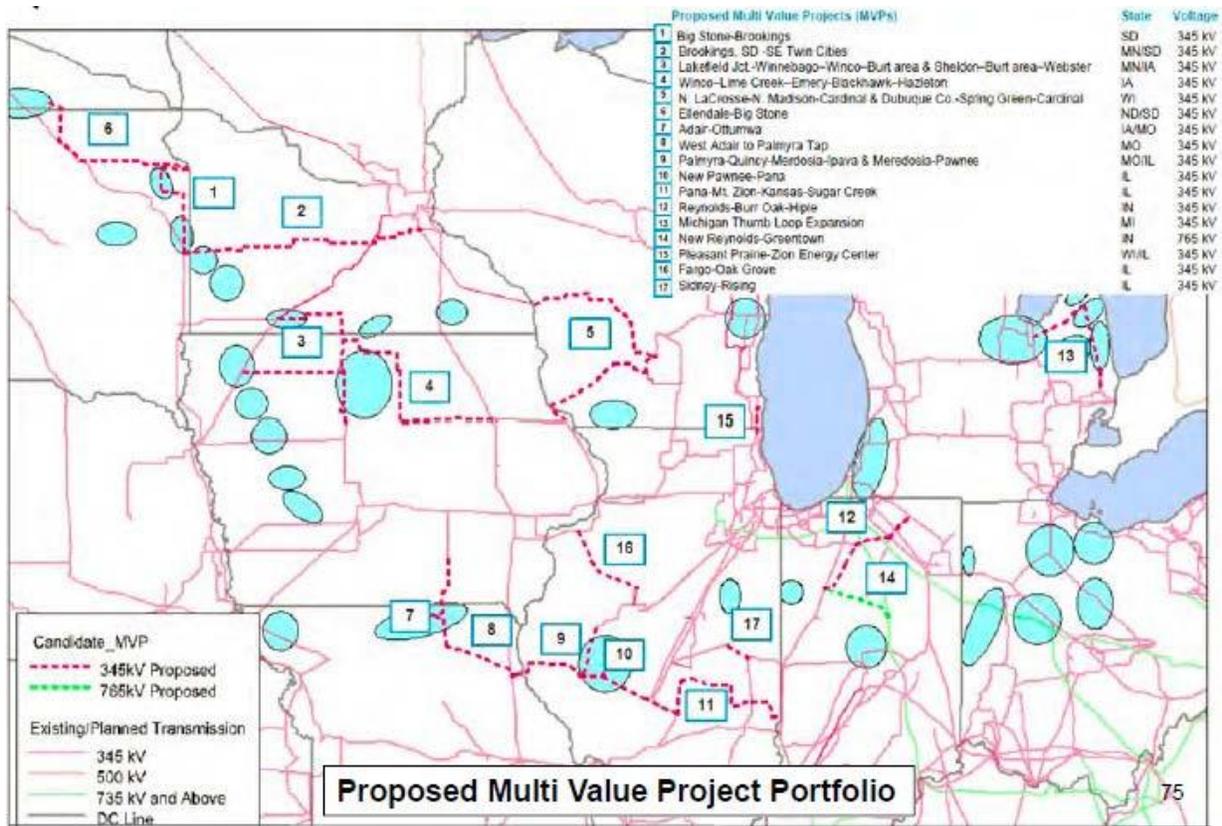


Lori Chilson, who lives at 512 – 2<sup>nd</sup> St. N.W. would lose her entire house and part of her back yard:





This massive transmission buildout has carried through with CapX2020 and Badger Coulee transmission built and most of the MISO MVP 17 project portfolio designed for economic “need” now permitted and built by too many states:



What is the purpose of this too big transmission line, ostensibly proposed for Dodge Center Wind interconnection? It is obviously designed to do more than provide transmission for this relatively small 170MW Dodge County Wind project. As pointed out in previous individual comments, this Certificate of Need application for transmission is troubling because the project is grossly oversized for its stated purpose. It’s my understanding that this oversizing of the transmission has been noted by Commerce and Commission staff, and I hope that oversizing, and the impact on financing and cost apportionment is explored and made part of the record.

The application does not set out any rationale or justification for a radial line, and readily states that it is to be incorporated as a part of the regional grid. Radial lines are by nature unstable, and that reliability issue alone should be reason to deny the 345kV. The application does not set out any rationale for need for such an oversized line, a bundled 345 kV line of 900 amps, 2,200MVA capacity, for a 170 MW wind project. Characterization of this 345kV line as a “generation tie-line” is misleading. It is so much more.

How exactly will this project preserve and enhance reliability, improve environmental performance, increase transmission resiliency, and minimize costs? Does Applicant rely on MISO planning as basis for need? Look for the project’s J441 MISO queue studies. How does MISO planning intersect with the Commission’s jurisdiction. Can the cost of such an oversized,

overspec'd line be justified? How does that compare with the cost of a reasonably spec'd line, i.e. 115kV, 161kV? Who pays for this excess capacity? Is it apportioned according to FERC approved MISO tariffs, or is subsumed into the PPA? Is the purchaser and its ratepayers paying for transmission that should be paid by others under the MISO scheme? Is the long term plan to utilize this segment of the regional system for revenue generation?

As an admitted part of the regional grid, is this project in any way connected to the SooGreen proposal, revealed recently when purchased by a new investor? The SooGreen project is a DC transmission proposal, and as morphed, would be a DC line through Iowa into Illinois, connecting into the Chicago area grid. However, when initially proposed, it had an alternate route along the train track running essentially parallel to U.S. Hwy. 14, and it did go through Dodge Center:



The SOO Green Renewable Rail project claims that the yellow dotted lines are “available route,” and that they have agreements to utilize those routes. There is an “available route” dotted line apparently paralleling U.S. Hwy 14, the red dotted line beginning far west of Owatonna, and the dotted yellow dotted line beginning west of Dodge Center and travelling to the Mississippi River, jutting slightly northeast at Stockton roughly following Hwy. 23 northward to Minnesota and then south on the Minnesota side of the Mississippi towards Marquette, Iowa. SOO Green indicates that some of this is an “available” route and in consideration of alternatives, and in light of the preparatory work apparently done by SOO Green, Commerce and the Commission should evaluate undergrounding along the rail route.

In addition to the yellow SOO Green “available” route, Commerce and the Commission should also consider the red square of Canadian Pacific routes which could also be utilized for underground transmission, and which may be more convenient for interconnection of the Dodge County Wind project:



This problematic transmission through Dodge Center could have been avoided with the most basic research, by looking at a map, or by consulting people on the ground in the community. An Advisory Task Force was requested, in writing, early in this proceeding by this writer, but there is no mention of it in Staff Briefing Papers, and no Task Force was appointed.<sup>1</sup> Had the people affected by this proposal, had the City of Dodge Center, been invited, included, and involved in the scoping process, this route would have gone no further than a suggestion, because a quick look at an aerial map or street view on google earth would expose this “alternative” as absurd.

The impact of these proposed route alternatives goes beyond the bulldozing of an established residential area of Dodge Center, displacement of many residents and landowners. There would be severe economic impact in loss of property values to adjacent and neighboring properties, for a line this large, likely from 10 percent to 44.9 percent!<sup>2</sup> That also does not address the marketability impact, a decrease in marketability present the moment a property is announced as potentially subject to a transmission project – such possibilities must be disclosed. Property tax would be lost through the bulldozed properties and the decreased value of the adjacent and neighboring properties. The impact of towering transmission structures looming over the city would have an aesthetic impact, there would be associated noise, and the prospect of electric and magnetic fields flowing beyond the easement. The city’s opportunity for growth and expansion would be severely hindered by the transmission line green route extending into the not yet developed area north of County Road 34, and both the red and green routes as they travel eastward through the more rural residential neighborhoods. The green route was proposed to run adjacent to the school and would encroach on school property.

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<sup>1</sup> The statute authorizing task forces applies to transmission projects and also does apply to wind projects. See Minn. Stat. §216E.08; see also Minn. Stat. §216F.02.

<sup>2</sup> See “The Pricing of Power Lines: A Geospatial Approach to Measuring Residential Property Values” by Wyman and Mothorp, JRER, Vol. 40, 2018 (copyright restrictions – Commerce NEEDS a copy of this!).

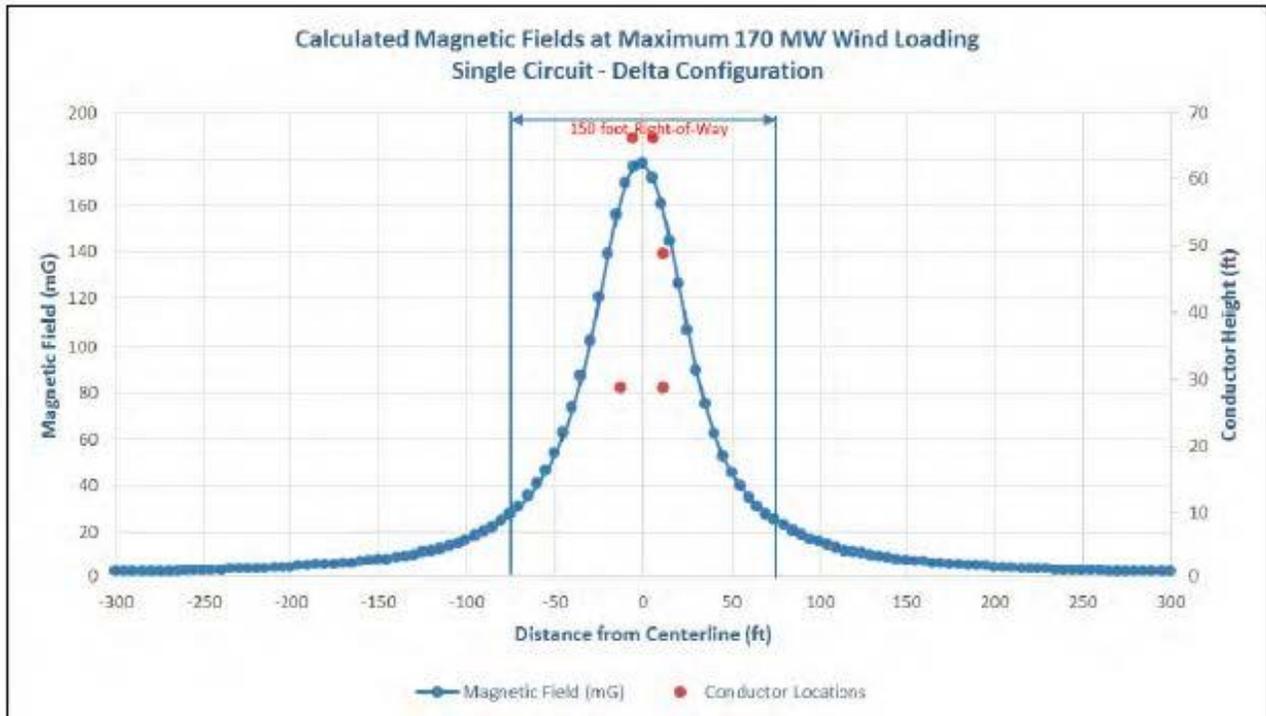
The range of potential impacts of magnetic fields should be carefully identified in the DEIS because the amps and MVA (capacity) of the line has been grossly understated.

**Table 8: Estimated Magnetic Fields (mG)**

Structure Type	System Condition	Current (Amps)	Distance to Proposed Centerline (in feet)												
			-300	-200	-100	-75	-50	-25	0	25	50	75	100	200	300
Single Pole Delta Tangent (0°-2°) 345 kV	Normal	284.5	1.96	4.37	16.47	27.7	53.8	120	177	107	45	25	15.5	4.3	1.94
Single Pole Vertical Tangent (0°-2°) 345 kV	Normal	248.5	2.26	4.76	15.1	22.7	37.4	67.5	124	123	66	36.8	22.5	6.0	2.6

Application, p. 94.

**Figure 17: Calculated Magnetic Flux density (mG) for the Proposed 345 Kilovolt Single Circuit Tangent Delta Configuration Generation tie line (3.28 feet above ground)**



The chart in Table 8 and the graph in Figure 17 assume “Current (Amps)” of 284.5 and 284.5. The amps, however, are much higher:

Each conductor phase will consist of a bundled 795 kcmil 26/7 Drake ACSR conductor. Each conductor is approximately 1.107 inches in diameter. Each ACSR cable consists of a core of seven steel strands surrounded by twenty-six aluminum strands. Each sub-conductor will have a capacity of approximately 991.3 Amps.

Application, p. 71.

Each “sub-conductor” will have a capacity of 991.3 Amps, and the conductors will be “bundled” meaning that there would be 2 conductors per phase, at least, and perhaps more. In Minnesota, there are typically 2 conductors per phase on a 345kV transmission line, but that could differ.

Presuming 991 amps with two conductors per phase, that’s  $991 \times 2 = 1982$  amps. 1982 amps is roughly 7-8 times the 248.5-284.5 amperage shown in the chart. The resulting potential magnetic field would be similarly higher. Using an adjustable chart prepared by Bruce McKay, P.E., for other transmission dockets, this is magnetic field calculations based on amperage of 1982 (which is lower than amps of CapX 2020 345kV transmission projects):

ADJUSTABLE TABLE															
TABLE 5.2-6. Calculated Magnetic Fields (milligauss) for proposed double circuit 345 kV Transmission Line Designs (3.28 feet above ground)															
STRUCTURE TYPE	SYSTEM CONDITION	CURRENT (AMPS)	DISTANCE TO PROPOSED CENTERLINES												
			-300'	-200'	-100'	-75'	-50'	-25'	0'	25'	50'	75'	100'	200'	300'
1 CIRCUIT	PEAK	1982.00	5.93	12.54	42.19	65.32	107.81	176.05	239.42	223.43	134.54	76.50	47.00	12.39	5.41
DELTA CFG	AVERAGE	1982.00	5.90	12.54	42.15	65.36	107.88	176.00	239.35	223.41	134.60	76.52	47.04	12.42	5.39
1 CIRCUIT	PEAK	1982.00	6.46	14.79	53.45	83.33	136.41	206.08	191.82	120.42	74.02	48.12	33.18	11.11	5.33
VERT CFG	AVERAGE	1982.00	6.52	14.80	53.44	83.42	136.36	206.10	191.80	120.43	74.01	48.17	33.12	11.04	5.27
2 CIRCUIT W/	PEAK	1982.00	5.33	11.11	33.26	48.27	74.25	120.80	192.34	206.46	136.49	83.33	53.38	14.79	6.46
1 CKT ACTIVE	AVERAGE	1982.00	5.39	11.16	33.24	48.30	74.26	120.80	192.30	206.48	136.48	83.29	53.31	14.80	6.52
2 CIRCUIT W/	PEAK	1982.00	1.43	4.35	24.93	45.65	89.79	171.92	225.45	173.12	90.84	46.32	25.45	4.43	1.43
2 CKTS ACTIVE	AVERAGE	1982.00	1.38	4.39	24.96	45.66	89.82	171.98	225.42	173.11	90.82	46.41	25.46	4.39	1.51

ENTER MVA BELOW TO ADJUST CURRENT IN THE TABLE:

2050.00 MVA PEAK  
345.00 kv  
1.73 3 Phase  
1982.00 Amps PEAK CALC'D

1500.00 MVA AVERAGE  
345.00 kv  
1.73 3 Phase  
1982.00 Amps AVERAGE CALC'D

The full range of potential magnetic fields must be considered, particularly where potential is so much higher than stated in the application, and when routes such as the green and red lines would go through residential neighborhoods. The magnetic field range found in the application is far too low when considering amperage possible for this project and its stated role as a segment in the regional grid. The potential magnetic fields at the easement edge, 75 feet from centerline is far, far above the 2-4 mG regarded as “acceptable,” mindful that no level has been established as safe. Transmission proposals consistently understate electric and magnetic fields and Commerce accepts these understatements without verification. That is not acceptable.

The impacts of a transmission line this size should not be inflicted on the City of Dodge Center, its property owners, and its residents.

Mr. Applegate learned of this potential project route through his side yard and back yard when he received a letter dated May 2, from the Dept. of Commerce. The proposal of this route was the result of a Commission suggestion, and then a directive, to include as alternatives the 69kV and

115 kV routes that would technically more closely follow the transmission policy of non-proliferation. However, not enough thought was given to routing a 345kV line through neighborhoods in Dodge Center and Kasson. The timing of that addition to the Scoping Decision meant that the people on this route had no notice and were not able to attend the scoping meeting. Residents of Dodge Center along those green and red routes had no idea they could be affected, and they had no notice and were not able to attend the Commission meeting either. This has been a public participation debacle. Some affected landowners have spoken out and sent comments in hopes of reaching Commerce and the Commission to spur the specific rejection of the green and red routes through Dodge Center.

Again, where an alternative is to be added to the Scoping for Environmental Review, there is criteria to be considered. Quoting from Commission staff:

*A transmission alternative is developed with consideration of five criteria:*

- 1) Was the alternative submitted in a timely manner, i.e., prior to the end of the public comment period for scoping;*
- 2) Does the alternative contain an explanation of why the route should be included in the EIS;*
- 3) Is the alternative outside of areas prohibited in Minnesota Rule 7850.4300, e.g., state and national parks;*
- 4) Does the alternative meet the applicant's stated need for the project; and*
- 5) Is the alternative feasible? Can the alternative be constructed and is it permissible by state and federal agencies with authority for construction or operation of the project?*

Staff Briefing Papers, p. 9, fn. 6, February 28, 2019([20192-150745-01](#)).

In the case of the green and red routes, these “alternatives” were not submitted in a timely manner prior to the public comment period for scoping. Had they been, the people of Dodge Center could have provided specific information demonstrating why these routes are not acceptable, and likely even worse than the rejected Hwy. 14 routes. The explanation provided for addition of the green and red routes was generic, regarding use of existing transmission corridor, appropriate given Minnesota’s policy of transmission non-proliferation, however, there was no specific explanation of why these specific routes should be included in the EIS. Applicant would argue that neither of these alternatives meet their stated need for the project, as the Applicant is not a utility and would not be able to condemn land, and has no “need” for a route through the City of Dodge Center. Most importantly, the green and red alternative routes are not feasible, could not be constructed, and are not permissible. The green and red routes fail in consideration of Commission staff’s stated criteria for inclusion as alternatives in the EIS scope.

At this time, on behalf of Mr. Applegate and the many neighbors of the Dodge Center green and red proposed route alternatives, I request that Commerce and Commission staff recognize these inherent issues and that the DEIS declare that the green and red routes are not feasible and should be removed from consideration.

Please let me know if you have any questions or require anything further.

Very truly yours,

A handwritten signature in cursive script that reads "Carol A. Overland". The signature is written in a light gray or blue ink.

Carol A. Overland  
Attorney at Law