Ashland-Ironwood Transmission Line Project Frequently Asked Questions

1. **Q: Why is Xcel Energy rebuilding the two transmission lines from Ashland to Ironwood, we have not had any electric reliability issues?**
   A: Xcel Energy is proposing to rebuild these two transmission lines because they are nearing the end of their useful life. Additionally, there are environmental, engineering and construction challenges when accessing these lines for maintenance and vegetation management.

2. **Q: Will Xcel Energy rebuild the transmission lines in the same place they are today?**
   A: No. We will be looking for new routes that share corridors with existing Xcel Energy right-of-way, roads, railroads, and other opportunities between Ashland-Mellen-Ironwood. We are looking for routes that provide improved construction and maintenance access and reduced environmental impacts. The final route will be determined by the Public Service Commission of Wisconsin (PSCW) after a public process that will study various alternatives.

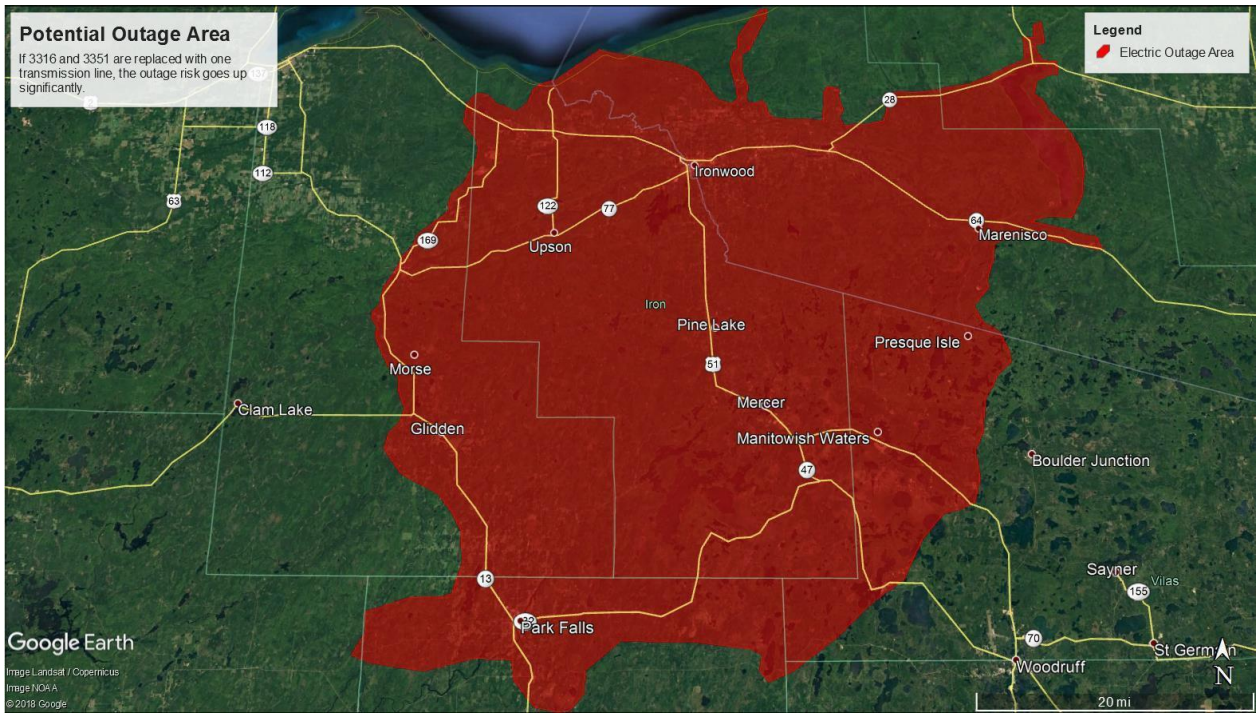
3. **Q: Are the lines being rebuilt and rerouted to provide electricity for a new Gogebic mine?**
   A: No. These lines are being rerouted for access, environmental, maintenance and grid reliability concerns. At this time, there is no new Gogebic mine or any other taconite mine being planned or proposed in the project area. A new mine would require a new, separate high voltage transmission line(s) sourced from other parts of the region.

4. **Q: When were the two lines originally built that cross from Ashland to Ironwood?**
   A: The 88 kilovolt (kV) line (Line W3351) was built in 1952 and is now 68-years old. The 115 kV line (Line W3316) was built in 1976 and is currently 44-years old.

5. **Q: Can Xcel Energy leave the newer line in place and only rebuild and reroute the older line?**
   A: The 115 kV, which was built in 1976, has approximately 20 years of useful life remaining. However, a section of the line crosses the Bad River reservation and the current 50-year Bureau of Indian Affairs (BIA) permit expires in February 2025. Its remote location across rugged and wetland terrain pose accessibility and environmental challenges and we feel now is the appropriate time to relocate the line to a more accessible and less environmentally impactful location. We are working with the tribe and BIA on a temporary solution to keep the lines energized past the permit expiration date for reliability purposes while the new lines are being rebuilt.

6. **Q: For the 88 kV segment from Saxon Pump to Hurley, why is this 8-mile segment of line not being rebuilt if the line is the same age as the western segment being relocated?**
   A: The eastern segment of this 88 kV line (Line W3351) has good road access and we are able to maintain it without environmental and terrain limitations. At some point in the future, it might get rebuilt by a separate project. In the immediate future, we are planning to perform single pole change outs when routine inspections identify that new defects exist.

7. **Q: Why does Xcel Energy need two separate lines, can they build one higher voltage line that covers the needs of the two lines?**
   A: If the two transmission lines would be removed and replaced with one line, transmission system reliability would be reduced. The chances of a widespread outage for a large portion of Northern Wisconsin would increase as the two lines provide redundancy in the system. If one line is out of service or goes down in a storm, the second line ensures that customers do not lose service. The map below provides an example of a potential area impacted by an outage if only one line is built rather than building the two separate lines.



8. **Q: Can Xcel Energy rebuild one of the lines along Highway 2, as it's a state highway?**
   A: We have looked at this alternative and although Highway 2 would be a shorter distance to relocate the lines, there are several wetland crossings that pose construction challenges. In addition, the Highway 2 corridor includes private lands, Bad River Tribal lands and Trust Lands. Xcel Energy would need to go through the "Requesting a Grant of Easement for Right-of-Way on Trust Lands", a 12-step BIA process to seek consent for a 50-year easement/permit. This process does not assure the company an easement or a land right for the facilities. At this time, we do not plan to include this corridor in our analysis. In addition, we received numerous comments at our first open house of landowners not in favor of a route along Hwy 2 because of homes in near proximity to the highway right-of-way and a historic building called Little Finland.

9. **Q: When would construction start on these new lines?**
   A: Construction of the new line is dependent on when the company receives approval from the Public Service Commission of Wisconsin (PSCW) as well as seasonal site conditions. Construction begins with vegetation maintenance of existing ROW areas and removal of vegetation from any new ROW obtained as well as installing polymer mats in sensitive soil areas. Tentatively, we anticipate vegetation removal and construction starting in 2025 with installation complete in 2026. Removal of the existing transmission lines would occur in years 2026 thru 2028.

10. **Q: What happens if the project is not built?**
    A: The existing 88 kV line is nearly 70 years old and nearing the end of its lifespan. The line provides service to thousands of customers in the area. If the 88 kV line is not rebuilt, it could fail and the transmission system in the area would no longer have a backup line to transfer power. This means there would no longer be a high level of redundancy in the system. It will leave the transmission system less reliable and make the system more susceptible to widespread outages that cover more than 2000 square miles and affect thousands of customers.

11. **Q: Will this project improve our electric service?**
    A: The electric reliability for the transmission system will increase as a result of this project. The two transmission lines we are proposing to rebuild have a combined age of 112 years.

The two lines provide redundancy on the grid so that if one line has an outage, the other line is able to transfer the power needed to keep all customers in service. The new lines will have more robust structures and upgraded conductor (wire).

12. **Q: What permits will be required for the project?**
    A: Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission of Wisconsin (PSCW), waterway and wetland individual permits from the Wisconsin Department of Natural Resources (WDNR) and US Army Corps of Engineers, storm water permit from WDNR. The project would be exempt from local permitting requirements if a CPCN is granted.

13. **Q: Does Xcel Energy require approval from Ashland and Iron Counties to build the proposed project? Does the State of Wisconsin, the Wisconsin Department of Natural Resources (WDNR) and Public Service Commission of Wisconsin (PSCW) get involved in the permitting of the project?**
    A: If the PSCW issues a Certificate of Public Convenience and Necessity (CPCN) Order for this project, then local permitting is not applicable. Yes, the State of WI, PSCW and WDNR, are the lead agencies reviewing the project.

14. **Q: I'm not an Xcel Energy customer, how will this project benefit me?**
    A: In this area, the Bayfield Electric Cooperative and Price County Electric Cooperative substations tie into the Xcel Energy transmission system. Xcel Energy's transmission lines deliver the bulk electricity (100 kV and greater) that Bayfield Electric Co-op and Price County Electric Co-op's customers depend on. Therefore, the proposed transmission improvements will result in more reliable power to all Cooperative and Xcel Energy customers in the area.

15. **Q: How does this project differ from Xcel Energy's Bayfield Second Circuit Transmission Project that connects Ashland?**
    A: The Bayfield Second Circuit Transmission Project (aka: Bayfield Loop) is needed to improve electric reliability and to provide voltage support to communities on the Bayfield Peninsula. It helps to avoid voltage collapse and power outages to those communities served as well as fixing low voltage on the system during peak usage days. The Bayfield project is aimed at fixing issues on the low voltage system for serving load.

    The Ashland to Ironwood project is a high voltage transmission project which will relocate and rebuild two critical transmission lines that deliver electricity to serve several thousand customers in north central Wisconsin and western U.P. Michigan. The relocation of the lines would address access, environmental and aged condition issues. This project would upgrade the transmission grid which serves the lower voltage systems that feed customers. Without this robust transmission solution, grid reliability would suffer in north central Wisconsin and western U.P. Michigan.

16. **Q: What are the criteria used by Xcel Energy in identifying and selecting a route for a transmission line?**
    A: The routing criteria used in the CPCN process include a variety of factors including
    - Opportunities to follow existing road and existing utility corridors
    - Land use considerations such as proximity to residences, agricultural activities, aesthetics, etc
    - Environmental resource considerations such as impacts to wildlife, plants, streams, wetlands, cultural and historic sites
    - Construction and maintenance access
    - Cost

- Topography

17. **Q: What are the routes that are being considered for the two lines you plan to rebuild?**
    A: We are seeking public input in helping us identify route segment alternatives between Ashland – Mellen – Ironwood to tie into our existing substations.

18. **Q: Will the public have any input on the route selection?**
    A: Yes. The public will have multiple opportunities to comment on route alternatives including at Xcel Energy open houses, on the project web site page, PSCW open house(s), public hearings and on the PSCW website during the application review process once they create a docket number for the project.

19. **Q: Can the transmission line be built underground?**
    A: Yes. However, that is an alternative that we are not pursuing for this project. Utilities must approach all projects from a prudent business position, and for this project overhead transmission is the most prudent option. Overhead lines are more reliable, have less environmental impacts than an underground line and are far less expensive. Unlike undergrounding a distribution line, placing transmission lines underground is a costly process. Due to technical limitations on underground transmission lines, installations throughout the country are rare and limited to the shortest distance possible. An overhead 115 kV transmission line generally requires an approximately 100-foot easement that can continue to be used for many activities. An underground transmission duct bank for a 115 kV line would require a permanently cleared right-of-way of approximately 50 feet in width. An underground line must also be routed to avoid other underground installations, such as water, gas and sewer lines. Unstable slopes, hazardous material sites, wetlands and bedrock must be avoided for underground lines, whereas overhead lines can more easily accommodate these areas. Going under a road, highway or river requires expensive construction techniques such as directional boring. Underground installation requires lengthy, more disruptive construction techniques than overhead lines. Design concerns such as capacity, voltage drop, and heat dissipation are frequent limitations for underground lines. Equivalent underground transmission lines generally cost 10 times more than an overhead line on a per mile basis.

20. **Q: What about the EMF health effects?**
    A: Electric and magnetic fields (EMF) are created by anything that conducts electricity, including transmission lines, household appliances and business equipment. These fields are strongest closest to their source, so the farther away you are from the source; the less EMF reaches your body. The EMF associated with a high voltage transmission line occurs mainly on the transmission line right-of-way since the electric and magnetic fields surround the conductor and decrease rapidly with increasing distance from the conductor. Magnetic fields travel through most materials including iron, steel, lead, and the soil. Magnetic and electric field strengths drop rapidly as distance increases from the conductors such that at a few hundred feet from the line the fields are non-detectable. Depending on the flow of electrons, when there are two lines side-by-side, there can be cancellation of EMF. Magnetic fields are caused by current, not voltage. With a higher voltage more power is delivered with less current. Considerable research and study has been done to investigate potential health effects of EMF from high-voltage transmission lines on living organisms. Based on evidence to date, no cause-and-effect relationship has been found between exposure to magnetic fields and human disease. Nevertheless, the proposed transmission line will be designed to operate within the EMF parameters deemed reasonable by the Public Service Commission of Wisconsin. The proposed

transmission line will also be designed and constructed to meet or exceed all applicable requirements of the National Electric Safety Code.

More information about EMF is available at the following locations:

Xcel Energy: https://www.xcelenergy.com/staticfiles/xe/Corporate/All-EMF-Brochure.pdf

PSCW: https://psc.wi.gov/documents/emf.pdf

21. **Q: How will the proposed line affect my property values?**
A: A number of studies have shown that the presence of transmission lines has very little effect on property values. Xcel Energy will provide compensation in the form of easement payments based on fair market value to property owners for the property where new easements are necessary. This considers the impact of the line on the strip of land it is placed on. Property owners may continue to use the land around transmission structures as long as it does not interfere with the safe operation of the transmission line facilities.

22. **Q: How tall would the structures be on the rebuilt lines?**
A: The structures would range from 80 feet to 120 feet depending on the location and design of the structure. As routes are identified, we will be able to provide more specific information. The final design of the transmission towers will be impacted by the route and circuit layout chosen by the PSCW.

23. **Q: We read that Xcel Energy is closing its coal plants in Minnesota, is the company going to stop burning coal at Bay Front?**
A: Bay Front burns three different types of fuels, biomass (wood) with a small amount of shredded tires mixed in, and coal. The primary fuel is the biomass blend of waste wood and a small amount of shredded tires. On average Bay Front burns about 250,000 tons of waste wood and railroad ties each year purchased from local loggers and other suppliers located within approximately 75 miles of the plant. Coal is usually only used during annual emissions testing for state and federal organizations. In 2018 and 2017 the plant used 800 and 400 tons of coal respectively. For comparison, a large 1000 megawatt (MW) coal fired power plant might use 9000 tons of coal per day. That would mean a large traditional coal plant might use more than 10 times the amount of coal in one day as Bay Front uses in a year.

24. **Q: When is Xcel Energy planning to close the Bay Front plant?**
A: There are no immediate plans to close the Bay Front plant located in Ashland. The most recent Xcel Energy Integrated Resource Plan (IRP), which was filed July 1st 2019 with the Minnesota Public Utilities Commission, lists 2035 as the projected retirement date of the Bay Front plant.

25. **Q: Where does the energy come from that serves our area?**
A: The closest source of energy is from Xcel Energy's Bay Front Generating Station in Ashland that burns biomass, primarily wood and a small percentage of shredded tires from local sources. However, since the transmission system is fully integrated, the various lines in the region also bring power from our mix of energy sources, including natural gas, nuclear, solar, wind, coal and hydro power.

26. **Q: If Xcel Energy built more solar generation in the area could they shut down the Bay Front plant and eliminate the need for the transmission lines as the power would be generated locally?**
A: No. To have the same level of reliability that is experienced today, you must have transmission infrastructure. The issues with solar generation occur during cloudy days and at night. During these times, solar resources produce little or no power. Even during the winter when the sun is shining, solar only produces electricity about 8 hours a day. Without adequate transmission there will be no access to power for our customers and co-op customers when solar facilities are not generating electricity. We need transmission lines to ensure reliable electricity for customers.

27. **Q: The Bay Front plant has multiple power lines going into it. Where are these lines going and can any of these help serve the Ashland / Ironwood area?**
A: Three transmission lines terminate at Bay Front Substation which is located next to the Bay Front plant in Ashland. The three lines provide both generation outlet, deliver bulk electricity (100 kV and greater), and meet local demand. These three lines are the Bay Front – Stinson 115 kV line (Line W3315 which heads west towards Superior), Bay Front – Gingles – Ironwood 115 kV line (Line W3316 which heads southeast towards Ironwood), and Bay Front – Norrie 88 kV line (Line W3351 which heads southeast towards Ironwood). All three of these lines directly serve the lower voltage systems that serve customers in the Ashland and Ironwood areas. Without this robust transmission backbone, the lower voltage network serving the area customers becomes weaker. This project will help ensure that in the future this area is served at the same reliability standards of any area in the region.

28. **Q: How will Xcel Energy protect the Bad River Watershed in its relocation and rebuild of the two transmission lines?**
A: The existing lines are located in environmentally sensitive areas including wetlands, rivers, steep ravines with erodible soils, beaver dams, and rock outcroppings. Access to these lines requires additional impacts to these sensitive areas, often miles of impacts just to access a few structures because of the remote location. For example, access routes that are miles in length might need to be constructed to get to the existing work areas. By relocating the lines within the study area, we will reduce our environmental impacts for construction and improve our future access for maintenance. In addition, the existing corridors will be allowed to revegetate into their natural state (i.e. convert back into forest lands, forested wetland, etc.).

29. **Q: What does Xcel Energy plan to do with the newer composite fiberglass poles that are part of the 34.5 kV line between Upson and Iron Belt that were installed a few years ago along Highway 77?**
A: The PSCW will dictate what we do with those poles. Xcel Energy will evaluate repurposing these poles as part of the greater relocation project.

30. **Q: How do these lines benefit Mellen and other communities in the area?**
A: The 88 kV and 115 kV lines provide bulk system power (100 kV and greater) from both the east and the south. Without these bulk transmission lines, the electricity for customers in Mellen, Ashland, Hurley, Ironwood and the surrounding communities would be served from only one direction. A radial source would mean there is no redundancy (i.e. no backup) for any planned or unplanned line outages. Lastly, having no redundancy means a higher risk of longer-duration power outages under all circumstances. These two lines are responsible for providing a higher level of redundancy and reliability for the communities served in this area.

31. **Q: Could the existing 34.5 kV and distribution lines along Highways 13 and 77 be rebuilt?**
    A: The existing 34.5 kV lines with Distribution underbuild (Line W3606 along Highway 13 and Line W3607 along Highway 77) could be rebuilt by this project, if that's what the PSCW orders for this project.

32. **Q. Could the voltage increase greater than 115 kV for the new lines?**
    A: The new 115 kV transmission lines could be designed and insulated to 161 kV standards, if that's what the PSCW orders for this project. Also, the new 34.5kV transmission lines could be designed and insulated to 69 kV standards, if that's what the PSCW orders for this project. The new transmission lines would continue to operate at their respective existing voltages 34.5kV, 88 kV, and 115 kV upon project completion, and until a voltage conversion (either 34.5kV to 69 kV, or 88 kV to 115 kV, or 115 kV to 161 kV) occurs at an undetermined time in the future.