

Sec. 52. **GRID ENHANCING TECHNOLOGIES REPORT; PUBLIC UTILITIES COMMISSION ORDER.**

Subdivision 1. Definitions.(a) For the purposes of this section, the following terms have the meanings given.

(b) "Capacity" means the maximum amount of electricity that can flow through a transmission line while observing industry safety standards.

(c) "Congestion" means a condition in which a lack of transmission line capacity prevents the delivery of the lowest-cost electricity dispatched to meet load at a specific location.

(d) "Dynamic line rating" means hardware or software used to calculate the thermal limit of existing transmission lines at a specific point in time by incorporating information on real-time and forecasted weather conditions.

(e) "Grid enhancing technology" means hardware or software that reduces congestion or enhances the flexibility of the transmission system by increasing the capacity of a high-voltage transmission line or rerouting electricity from overloaded to uncongested lines, while maintaining industry safety standards. Grid enhancing technologies include but are not limited to dynamic line rating, advanced power flow controllers, and topology optimization.

(f) "Line rating methodology" means a methodology used to calculate the maximum amount of electricity that can be carried by a transmission line without exceeding thermal limits designed to ensure safety.

(g) "Power flow controller" means hardware and software used to reroute electricity from overloaded transmission lines to underutilized transmission lines.

(h) "Thermal limit" means the temperature a transmission line reaches when heat from the electric current flow within the transmission line causes excessive sagging of the transmission line.

(i) "Topology optimization" means a software technology that uses mathematical models to identify reconfigurations in the transmission grid in order to reroute electricity from overloaded transmission lines to underutilized transmission lines.

(j) "Transmission line" has the meaning given to "high-voltage transmission line" in section 216E.01, subdivision 4.

(k) "Transmission system" means a network of high-voltage transmission lines owned or operated by an entity subject to this section that transports electricity to Minnesota customers.

Subd. 2. Report; content. An entity that owns more than 750 miles of transmission lines in Minnesota, as reported in the state transmission report submitted to the Public Utilities Commission under Minnesota Statutes, section 216B.2425, by November 1, 2025, must include in that report information that:

(1) identifies, during each of the last three years, locations that experienced 168 hours or more of congestion, or the ten locations at which the most costly congestion occurred, whichever measure produces the greater number of locations;

(2) estimates the frequency of congestion at each location and the increased cost to ratepayers resulting from the substitution of higher-priced electricity;

(3) identifies locations on each transmission system that are likely to experience high levels of congestion during the next five years;

(4) evaluates the technical feasibility and estimates the cost of installing one or more grid enhancing technologies to address each instance of grid congestion identified in clause (1), and projects the grid enhancing technology's efficacy in reducing congestion;

(5) analyzes the cost-effectiveness of installing grid enhancing technologies to address each instance of congestion identified in clause (1) by using the information developed in clause (2) to calculate the payback period of each installation, using a methodology developed by the commission;

(6) proposes an implementation plan, including a schedule and cost estimate, to install grid enhancing technologies at each congestion point identified in clause (1) at which the payback period is less than or equal to a value determined by the commission, in order to maximize transmission system capacity; and

(7) explains the transmission owner's current line rating methodology.

Subd. 3. Commission review; order.(a) The commission must review the implementation plans proposed by each reporting entity as required in subdivision 2, clause (6), and must:

(1) review, and may approve, reject, or modify, the plan; and

(2) issue an order requiring implementation of an approved plan.

(b) Within 90 days of the date the commission issues an order under this subdivision each public utility must file with the commission a plan containing a workplan, cost estimate, and schedule to implement the elements of the plan approved by the commission that are located within the public utility's electric service area. For each entity required to report under this section that is not a public utility, the commission's order is advisory.

Subd. 4. Cost recovery.Notwithstanding any other provision of this chapter, the commission may approve cost recovery under Minnesota Statutes, section 216B.16, including an appropriate rate of return, of any prudent and reasonable investments made or expenses incurred by a public utility to administer and implement a grid enhancing technologies plan approved by the commission under this section.

EFFECTIVE DATE. This section is effective the day following final enactment.