

House File 2283 - Introduced

HOUSE FILE 2283
BY THOMSON

A BILL FOR

1 An Act relating to grid-enhancing technologies and
2 reconductoring, including study and reporting requirements.
3 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

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1 Section 1. NEW SECTION. **478.34 Grid-enhancing technologies**
2 **and reconductoring.**

3 1. For purposes of this section:

4 a. "Capacity" means the maximum amount of electricity that
5 can flow through a transmission line while observing industry
6 safety standards.

7 b. "Congestion" means a condition in which a lack of
8 transmission line capacity prevents the delivery of the
9 lowest-cost electricity dispatched to meet the load demand at a
10 specific location.

11 c. "Dynamic line rating system" means hardware or software
12 used to calculate the thermal limit of existing electric
13 transmission lines at a specific point in time by incorporating
14 information on real-time and forecasted weather conditions.

15 d. "Grid-enhancing technology" means hardware and software
16 that increases the capacity of electrical lines and improves
17 the congestion, efficiency, reliability, and safety of the grid.
18 "Grid-enhancing technology" includes but is not limited to a
19 dynamic line rating system, an advanced power flow control
20 system, or topology optimization.

21 e. "Power flow control system" means hardware and software
22 used to reroute electricity from overloaded electric transmission
23 lines to underutilized electric transmission lines.

24 f. "Reconducted with an advanced conductor" means replacing
25 the existing electric conductor with a conductor that has a
26 direct current electrical resistance not less than ten percent
27 lower than existing conductors of a similar diameter on the
28 system and may include rebuilding support structures or other
29 associated facilities.

30 g. "Thermal limit" means the temperature an electric
31 transmission line reaches when heat from the electric current
32 flow within the electric transmission line causes excessive
33 sagging of the electric transmission line.

34 h. "Topology optimization" means a software technology
35 that uses mathematical models to identify reconfigurations in

1 the transmission grid in order to reroute electricity from
2 overloaded electric transmission lines to underutilized electric
3 transmission lines.

4 2. a. On or before January 1, 2027, and every three years
5 thereafter, each public utility or transmission company that
6 owns or operates an electric transmission line in Iowa shall
7 prepare and submit a study of the feasibility of projects
8 using grid-enhancing technologies and identifying which of
9 its transmission lines can be reconductored with an advanced
10 conductor to achieve one or more of the purposes listed in
11 paragraph "c".

12 b. The study shall provide information on feasibility, cost,
13 rating, implementation time, and any other information deemed
14 relevant by the utilities commission and be submitted to the
15 commission in a public filing.

16 c. The study required under paragraph "a" shall be designed
17 to identify projects that can use grid-enhancing technologies or
18 reconductoring with an advanced conductor to achieve one or more
19 of the following purposes:

20 (1) Increase transmission capacity.

21 (2) Reduce transmission system congestion.

22 (3) Reduce curtailment of or increase capacity to connect
23 renewable and zero-carbon resources.

24 (4) Increase reliability.

25 (5) Reduce potential siting conflicts or land impacts from
26 the development of new electric transmission lines.

27 (6) Increase flexibility to reduce risks surrounding
28 technology and permitting uncertainties in statewide electrical
29 system planning and improve optionality for load-serving
30 entities.

31 (7) Reduce line losses.

32 (8) Increase the ability to quickly energize new customers or
33 serve increased customer load.

34 3. This section does not apply to a municipal utility, a
35 cooperative electric association, or a company or organization

1 that owns a transmission line that serves a single customer or
2 interconnects a single electric generating facility.

3 4. To meet the requirements of this section, reporting
4 parties may rely on available information and analysis developed
5 by a regional transmission organization or any subgroup of a
6 regional transmission organization and may develop and include
7 additional information as necessary.

8 EXPLANATION

9 The inclusion of this explanation does not constitute agreement with
10 the explanation's substance by the members of the general assembly.

11 This bill relates to grid-enhancing technologies and
12 reconductoring. The bill defines terms related to
13 electric transmission capacity, congestion, and grid-enhancing
14 technologies.

15 The bill requires each public utility or transmission
16 company that owns or operates electric transmission lines in
17 Iowa to prepare and submit by January 1, 2027, and every
18 three years thereafter, a public study to the Iowa utilities
19 commission (commission) examining the feasibility of projects
20 using grid-enhancing technologies and identifying reconductoring
21 opportunities. The bill requires the study to provide
22 information on feasibility, costs, implementation time, and other
23 information deemed relevant by the commission.

24 The study must be designed to identify projects that can
25 achieve one or more specified purposes, including increasing
26 transmission capacity, reducing congestion, reducing curtailment
27 of renewable and zero-carbon resources, improving reliability,
28 reducing siting conflicts, increasing flexibility to reduce
29 risks surrounding technology, reducing line losses, increasing
30 flexibility in transmission planning, and improving the ability
31 to serve new customers or increased customer load.

32 The bill does not apply to a municipal utility, a cooperative
33 electric association, or a company or organization that owns a
34 transmission line that serves a single customer or interconnects
35 a single electric generating facility.

1 The bill allows public utilities and electric transmission
2 line companies to rely on existing analyses and information
3 developed by a regional transmission organization or its
4 subgroups to satisfy the study requirements and to include that
5 information as necessary.

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