

**SENATE
STATE OF MINNESOTA
NINETIETH SESSION**

S.F. No. 2840

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DATE
03/01/2018

D-PG

Introduction and first reading
Referred to Energy and Utilities Finance and Policy

OFFICIAL STATUS

1.1 A bill for an act
1.2 relating to energy; requiring a study on the vulnerability of the electrical grid to
1.3 solar storms; appropriating money.

1.4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

1.5 Section 1. STUDY; ELECTRICAL GRID VULNERABILITY TO GEOMAGNETIC
1.6 DISTURBANCES AND ELECTROMAGNETIC PULSE.

1.7 (a) The Public Utilities Commission and the Department of Public Safety must conduct
1.8 a joint study analyzing the Minnesota electrical grid's vulnerability to geomagnetic
1.9 disturbances caused by solar storms and electromagnetic pulse, and include information
1.10 regarding how any vulnerability may be reduced. Information must be gathered from a
1.11 variety of stakeholders, including but not limited to (1) electric utilities, (2) the Midcontinent
1.12 Independent System Operator, (3) scientists and others with expertise in the field of solar
1.13 disturbances, electromagnetic pulses, and the impact of each on the electrical grid, and (4)
1.14 emergency hazard planners.

1.15 (b) At a minimum, the report must contain information regarding:

1.16 (1) potential disturbances that may impact Minnesota's electrical grid as a result of solar
1.17 storms and electromagnetic pulse;

1.18 (2) the existing system for predicting solar storms;

1.19 (3) steps utilities and the private and public sectors could take to minimize grid
1.20 vulnerability to geomagnetic disturbances and electromagnetic pulse;

1.21 (4) how to maintain and restore communications systems after grid damage from
1.22 geomagnetic disturbances and electromagnetic pulse; and

2.1 (5) how current emergency planning efforts may incorporate concerns regarding grid
2.2 damage and long-term power outage resulting from geomagnetic disturbances and
2.3 electromagnetic pulse.

2.4 (c) By February 15, 2019, the Public Utilities Commission and the Department of Public
2.5 Safety must submit a report to the chairs and ranking minority members of the senate and
2.6 house of representatives committees with jurisdiction over energy policy and public safety.

2.7 (d) For the purposes of this section, "solar storms" means the ejection of particles, plasma,
2.8 flares, or electromagnetic radiation from the sun's surface or corona that travel through
2.9 space and reach the surface of the earth, where the ejection may damage the electric power
2.10 grid and other critical infrastructure.

2.11 (e) For the purposes of this section, "electromagnetic pulse" means one or more pulses
2.12 of electromagnetic energy capable of disabling, disrupting, or destroying an electric
2.13 transmission and distribution system.

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

2.15 Sec. 2. **APPROPRIATION.**

2.16 \$50,000 in fiscal year 2019 is appropriated from the general fund to the Public Utilities
2.17 Commission to complete the study described in section 1.