

1 WHEREAS, GIC magnitude, which is measured in amps, is linear and directly
2 relates to the electric field strength of a GMD or HEMP event which is measured in volts per
3 kilometer; and

4 WHEREAS, on March 13, 1989, a geomagnetic storm caused widespread effects on
5 power systems including a nine-hour outage of the Hydro-Québec system; and

6 WHEREAS, on July 23, 2012, a powerful coronal mass ejection (CME) erupted off
7 the back side of the sun, racing through Earth's orbit, missing Earth by nine days. It was
8 measured by STEREO-A satellite and determined by the National Oceanic and Atmospheric
9 Administration (NOAA) to be in all respects at least the size of the Carrington event of 1859,
10 more than twenty volts per kilometer; and

11 WHEREAS, in July 2024, the Department of Energy warned that ninety percent of
12 all electricity consumed in the U.S. passes through a Large Power Transformer (LPT) and
13 that lead times for acquisition of a LPT have become exceptionally long, with
14 thirty-six-month lead times being commonly quoted and maximum lead times reaching as
15 much as sixty months; and

16 WHEREAS, in May 2025, the International Electrotechnical Commission (IEC)
17 updated the international standard IEC 61000-2-9, which provides a standardized reference
18 for the HEMP environment; and

19 WHEREAS, the current procedures in place to mitigate damage to the electric grid
20 are not enough to protect vulnerable systems that when damaged have widespread negative
21 impact; and

22 WHEREAS, these current procedures are no longer justified given the existence of
23 standardized, validated GIC mitigation hardware that automatically blocks GIC, protects
24 large power transformers, prevents half-cycle saturation, prevents the generation of
25 harmonics, and improves grid resilience against both minor and severe GIC events.

26 THEREFORE, BE IT RESOLVED that the House of Representatives of the
27 Legislature of Louisiana does hereby urge that the state's electric grid be assessed for its
28 vulnerability to GICs and induced harmonics utilizing the existing DC circuit model
29 developed for NERC GMD Standard TPL-007-04 and the waveform in Figure 9 of IEC
30 61000-2-9, Edition 2.0 (2025-05), modeling a peak electric field of eighty five volts per

1 kilometer, assuming Louisiana's transformers are fully loaded during GIC exposure, and
2 accounting for transformer age and condition using ANSI/IEEE Standard C57.110 and IEEE
3 Standard C57.91.

4 BE IT FURTHER RESOLVED that the state should identify hardware solutions to
5 block GIC from entering the grid, ascertain the total costs to implement this GIC protection
6 and explore funding, including federal grants, to cover the associated costs of this GIC
7 protection.

8 BE IT FURTHER RESOLVED that a copy of this Resolution be transmitted to
9 Louisiana Public Service Commission, the governor, the Louisiana Congressional
10 Delegation, the Secretary of Energy, and the Federal Energy Regulatory Commission.

DIGEST

The digest printed below was prepared by House Legislative Services. It constitutes no part of the legislative instrument. The keyword, one-liner, abstract, and digest do not constitute part of the law or proof or indicia of legislative intent. [R.S. 1:13(B) and 24:177(E)]

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Crews

Urges and requests that La. utilities assess their electric grids for vulnerability to ground induced currents.