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H. R. 6177

To modernize and standardize the manner in which information and data is reported to the Federal Energy Regulatory Commission, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

NOVEMBER 20, 2025

Mr. CASTEN (for himself, Mr. LEVIN, Mr. HUFFMAN, Mr. SUBRAMANYAM, Mr. QUIGLEY, Mr. GARAMENDI, Ms. CASTOR of Florida, Mr. CARSON, Mr. MOULTON, and Mr. FOSTER) introduced the following bill; which was referred to the Committee on Energy and Commerce, and in addition to the Committee on Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To modernize and standardize the manner in which information and data is reported to the Federal Energy Regulatory Commission, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Grid Research and
5 Development Act”.

1 **SEC. 2. MODERNIZATION OF REPORTING INFORMATION**
2 **AND DATA UNDER THE FEDERAL POWER ACT.**

3 (a) IN GENERAL.—The Commission shall, by rule,
4 modernize and standardize the manner in which informa-
5 tion and data are reported, by transmitting utilities and
6 Transmission Organizations, to the Commission under the
7 Federal Power Act (16 U.S.C. 972 et seq.) in accordance
8 with this section.

9 (b) CONTENT OF REPORTS REQUIREMENTS.—In car-
10 rying out subsection (a), the Commission shall require the
11 information and data that will be reported, as it applies
12 to projects, existing assets, or systems owned or operated
13 by a transmitting utility or Transmission Organization, to
14 include the following:

15 (1) Information and data relating to a project
16 and the lifecycle of such project, including—

17 (A) project milestones, including proposed,
18 approved, and actual in-service dates;

19 (B) project classification information, in-
20 cluding whether the project represents new con-
21 struction, an upgrade, or a rebuild of existing
22 infrastructure;

23 (C) major development history, including
24 original construction and last major upgrade
25 dates;

26 (D) the location of any applicable project;

1 (E) the project nameplate capacity, length,
2 and voltage; and

3 (F) an identification of the applicable plan-
4 ning process through which the applicable
5 project originated.

6 (2) The costs and economic justifications of a
7 project, existing asset, or system owned or operated
8 by a transmitting utility or Transmission Organiza-
9 tion, as applicable, including—

10 (A) original projected and actual final
11 costs of all new projects;

12 (B) original projected and actual final
13 costs of renewals and replacements of project
14 works;

15 (C) original projected and actual mainte-
16 nance and operations expenses of the projects
17 and existing assets on a current-year and five-
18 year rolling average basis;

19 (D) cost allocation shares where applicable,
20 including identification of entities responsible
21 for shared investments in projects;

22 (E) cost-benefit analyses of projects;

23 (F) whether the project was subject to a
24 competitive solicitation process and, if applica-
25 ble, the outcome of that process; and

1 (G) classification of the project based on
2 benefits provided, under the relevant trans-
3 mission planning framework.

4 (3) The capital structure and the rate of return
5 of a project, existing asset, or system owned or oper-
6 ated by a transmitting utility or Transmission Orga-
7 nization, including—

8 (A) the allowed return on equity, return on
9 debt, and return on preferred stock;

10 (B) the authorized or actual capital struc-
11 ture, including the percentage of debt, equity,
12 and preferred stock used in ratemaking;

13 (C) the resulting overall weighted average
14 rate of return;

15 (D) any Commission-approved incentive
16 adders applied to the base return on equity, in-
17 cluding rationale and duration; and

18 (E) where applicable, information nec-
19 essary to assess potential double leveraging ef-
20 fects arising from a holding company structure,
21 as defined by the Commission.

22 (4) For information and data relating to a sys-
23 tem owned or operated by a transmitting utility or
24 Transmission Organization, as applicable, conges-
25 tion-related costs or the costs incurred by rate-

1 payers, power supplies, or distribution customers as
2 a result of transmission system constraints that pre-
3 vent the dispatch of least-cost generation resources.

4 (5) Technical and non-technical losses and inefficiencies.
5

6 (6) A complete accounting of interconnection-
7 related costs incurred by interconnection customers,
8 transmitting utilities, or other entities, disaggregated
9 by cost type and responsible party, including—

10 (A) study fees;

11 (B) milestones or reservation payments;

12 (C) costs of local interconnection attach-
13 ment facilities;

14 (D) grid network upgrade costs; and

15 (E) estimates of costs to a larger system.

16 (7) The projected and actual capacity and load
17 of a system owned or operated by a transmitting
18 utility or Transmission Organization and the pro-
19 jected and actual amount of energy delivered by
20 such system.

21 (8) Information and data on the use of capital-
22 efficient advanced technologies, including informa-
23 tion on—

24 (A) hourly usage;

25 (B) the location of the technologies; and

1 (C) the types of technologies deployed.

2 (9) Any additional metric the Commission de-
3 termines necessary to improve ratepayer afford-
4 ability and understanding of the transmission sector.

5 (c) CONTENT OF INTERCONNECTION REPORTS.—In
6 carrying out subsection (a), the Commission shall require
7 a transmitting utility or Transmission Organization to re-
8 port, no less than quarterly, to the Commission informa-
9 tion and data on interconnection queues and details relat-
10 ing to interconnection study models used.

11 (d) FORMAT OF REPORTS.—

12 (1) IN GENERAL.—Pursuant to subsection (a),
13 the Commission shall ensure the completeness, accu-
14 racy, and accessibility of information and data re-
15 ported to the Commission under the Federal Power
16 Act, as the Commission determines necessary, by—

17 (A) establishing standardized reporting re-
18 quirements that specify standards for describ-
19 ing and recording such information and data,
20 and, if the Commission determines appropriate,
21 providing templates or other tools to reduce ad-
22 ministrative burden;

23 (B) providing a format for such informa-
24 tion and data to be submitted in a manner that
25 is fully searchable and machine-readable;

1 (C) requiring any form filed by a transmit-
2 ting utility or a Transmission Organization con-
3 tains no blank cells, unless clearly marked as
4 exempt pursuant to paragraph (2);

5 (D) requiring any projections required
6 under subsection (a) are defined, including key
7 assumptions, methodologies, and any other in-
8 formation that could influence the result of the
9 projection; and

10 (E) requiring the information and data re-
11 ported under this section are made available to
12 the public through a single, user-friendly web
13 interface that allows users to search, filter, and
14 download the data in a machine-readable for-
15 mat.

16 (2) EXEMPTION.—

17 (A) IN GENERAL.—A transmitting utility
18 or a Transmission Organization may request an
19 exemption from a requirement under paragraph
20 (1) if such transmitting utility or Transmission
21 Organization submits to the Commission a writ-
22 ten statement explaining why such an exemp-
23 tion is needed.

24 (B) DETERMINATION.—The Commission
25 may approve the request for an exemption if

1 the Commission determines that the exemption
2 is justified based on the written statement sub-
3 mitted under subparagraph (A).

4 (e) FERC FORM NO. 1.—

5 (1) IN GENERAL.—Not later than 1 year after
6 the date on which the Commission issues a rule
7 under subsection (a), the Commission shall review
8 covered forms.

9 (2) COMPLETENESS.—Upon reviewing covered
10 forms under paragraph (1), if the Commission deter-
11 mines that a covered form is incomplete, the Com-
12 mission shall require the relevant transmitting utility
13 or Transmission Organization to file a revised
14 FERC Form No. 1 in a manner that complies with
15 the requirements of subsection (d) and the require-
16 ments under section 141.1 of title 18, Code of Fed-
17 eral Regulations (or any successor regulations).

18 (3) COVERED FORM DEFINED.—In this sub-
19 section, the term “covered form” means a FERC
20 Form No. 1 filed with the Commission by a trans-
21 mitting utility or Transmission Organization during
22 the 5-year period immediately preceding the date of
23 enactment of this Act.

24 (4) MODERNIZATION AND CENTRALIZATION OF
25 FERC FORM NO. 1.—Not later than 2 years after the

1 date of enactment of this Act, the Commission, in
2 collaboration with the Administrator, shall make all
3 historical and future FERC Form No. 1 filings pub-
4 licly available through the centralized data repository
5 established under section 3.

6 **SEC. 3. DEVELOPMENT OF CENTRALIZED DATA REPOSI-**
7 **TORY.**

8 (a) IN GENERAL.—The Commission, in collaboration
9 with the Administrator, shall develop and maintain a
10 searchable and publicly accessible data repository con-
11 taining information and data the Commission determines
12 necessary to carry out the requirements of the Federal
13 Power Act and this Act, including information and data
14 reported or filed by a transmitting utility or Transmission
15 Organization—

16 (1) in FERC Form Nos. 1, 1–F, 3–Q, 714,
17 715, and 730, including information or data from
18 these forms reported prior to the date of enactment
19 of this Act; and

20 (2) pursuant to the requirements of this Act.

21 (b) EIA EXPERTISE.—In collaborating with the
22 Commission under this section with respect to the data
23 repository developed under subsection (a), the Adminis-
24 trator shall—

1 (1) develop and maintain schemas and
2 metadata for Form No. 1 data consistent with sec-
3 tion 3506(b)(6) of title 44, United States Code;

4 (2) provide user-friendly tools to explore,
5 download, and analyze such data, including filtering
6 by utility, year, region, and data category; and

7 (3) ensure such data is accessible to the public
8 in both bulk and disaggregated forms, with Applica-
9 tion Programming Interfaces and visualization tools
10 where feasible.

11 (c) REQUIREMENTS.—The Commissioner shall en-
12 sure that the data repository developed and maintained
13 under subsection (a)—

14 (1) includes the data in fully searchable and
15 machine-readable format;

16 (2) is capable of including high-quality data
17 through schemas and accompanying metadata;

18 (3) ensures consistent identification of data ele-
19 ments or assets that satisfy regulatory requirements
20 for data, established by the Commission, as reflected
21 in machine-readable metadata;

22 (4) uses standardized data formats across all
23 Transmission Organizations and transmitting utili-
24 ties;

1 (5) is used by Transmission Organizations and
2 transmitting utilities to file reports required under
3 the Federal Power Act and this Act;

4 (6) enables uploading of reports filed under the
5 Federal Power Act or this Act;

6 (7) is optimized for operability by Transmission
7 Organizations and transmitting utilities to limit the
8 administrative burden of, and ensure consistency in,
9 such filings;

10 (8) includes interactive tools and visualization
11 interfaces to allow users to explore trends in trans-
12 mission buildout, interconnection timelines, and as-
13 sociated ratepayer costs;

14 (9) incorporates Application Programming
15 Interfaces or bulk download functionality to support
16 third-party analysis and research; and

17 (10) ensures that publicly accessible data is
18 aligned with the security of guidelines for Critical
19 Energy/Electric Infrastructure Information, and in-
20 cludes appropriate data anonymization and cyberse-
21 curity protections, based on Commission guidance.

22 **SEC. 4. GRID RESEARCH AND ANALYTICS.**

23 (a) RESEARCH AND POLICY ANALYSIS.—The Sec-
24 retary, in collaboration with the Commission, using stand-
25 ardized methodologies and anonymized queue data col-

1 lected under this Act, shall conduct research and publish
2 periodic reports on the following topics:

3 (1) Primary drivers of increased costs to rate-
4 payers associated with transmission and interconnec-
5 tion, including—

6 (A) transmission capital expenditures;

7 (B) interconnection-related upgrade costs;

8 (C) interconnection study delays;

9 (D) regional variations in cost allocation
10 methodologies; and

11 (E) cost recovery practices by utilities and
12 grid operators.

13 (2) Value delivered to ratepayers from trans-
14 mission and interconnection investments, including
15 through—

16 (A) improvements to electric system reli-
17 ability;

18 (B) avoided emissions or emissions reduc-
19 tions; and

20 (C) enhancements to long-term system re-
21 silience and grid flexibility.

22 (3) Mechanisms to enhance ratepayer afford-
23 ability, including—

1 (A) evaluation of performance-based regu-
2 lation frameworks applied to transmission and
3 interconnection-related investments;

4 (B) assessment of alternative interconnec-
5 tion solutions such as grid-enhancing tech-
6 nologies, shared infrastructure models, or con-
7 solidated upgrades; and

8 (C) evaluation of demand-side interven-
9 tions that reduce the need for costly trans-
10 mission or interconnection investments.

11 (4) Comparative scenario modeling of potential
12 energy futures, to—

13 (A) identify lowest-cost pathways to na-
14 tional grid expansion;

15 (B) assess trade-offs among investment
16 strategies; and

17 (C) inform decision-making by utilities, re-
18 gional planning entities, and Federal agencies.

19 (5) Systemic cost impacts from interconnection
20 inefficiencies, including analysis of how study delays,
21 queue withdrawals, and increased construction peri-
22 ods contribute to higher system costs for ratepayers
23 or generators.

24 (6) Opportunities to increase system efficiency
25 and unlock latent capacity through improved oper-

1 ational practices and deployment of advanced tech-
2 nologies, including—

3 (A) assessment of unused or underutilized
4 grid capacity due to outdated planning assump-
5 tions or lack of dynamic optimization;

6 (B) evaluation of technologies such as dy-
7 namic line ratings, topology optimization, flexi-
8 ble interconnection, or flow control devices; and

9 (C) quantification of benefits to ratepayers
10 and system operators from unlocking this ca-
11 pacity relative to traditional capital-intensive
12 buildout.

13 (b) INTERCONNECTION TRANSPARENCY AND DASH-
14 BOARD.—

15 (1) IN GENERAL.—The Secretary shall, through
16 one or more National Laboratories, develop, main-
17 tain, and continuously improve an Interconnection
18 Data Dashboard (in this section referred to as the
19 “Dashboard”) that presents real-time and historical
20 information relevant to interconnection of genera-
21 tors, loads, and other utilities or transmission sys-
22 tems.

23 (2) PURPOSE.—The Dashboard shall provide
24 public stakeholders, regulators, utilities, developers,
25 and researchers with transparent, up-to-date in-

1 sights into the effectiveness, efficiency, affordability,
2 and reliability of interconnection processes across all
3 transmission planning regions.

4 (3) DATA SOURCES.—The Dashboard shall in-
5 corporate data collected under section 3 of this Act
6 and from FERC Form No. 1 filings, relevant Com-
7 mission filings, publicly available interconnection
8 queue data, and additional datasets, as determined
9 appropriate by the Secretary or the Commission.

10 (4) CAPABILITIES.—The Secretary shall develop
11 the Dashboard to be able to—

12 (A) present anonymized interconnection
13 queue data, including application volumes, with-
14 drawal rates, project timelines, and milestones;

15 (B) provide visualization of average and
16 median interconnection study durations,
17 disaggregated by region and project type;

18 (C) show aggregated system upgrade costs,
19 study backlogs, and queue performance metrics;

20 (D) allow filtering by geographic location
21 (e.g., State, balancing authority, latitude/lon-
22 gitude coordinate), utility, fuel type, and project
23 size;

24 (E) present each interconnection project's
25 current development status, such as application

1 submitted, study phase, approved, under con-
2 struction, or in-service;

3 (F) display physical asset characteristics
4 for each interconnection project and system seg-
5 ment, including nameplate generation capacity,
6 peak load served, and conductor capacity rat-
7 ings;

8 (G) identify trends in queue reform out-
9 comes, including impacts on throughput, delay
10 reduction, and project completion rates;

11 (H) support export of underlying data in
12 machine-readable formats for public analysis;
13 and

14 (I) perform any other function the Sec-
15 retary determines appropriate.

16 (5) REPORTING.—The Secretary, in collabora-
17 tion with National Laboratories and the Commis-
18 sion, shall publish annual reports summarizing find-
19 ings from the Dashboard, based on data collected
20 pursuant to section 3, without substituting for the
21 more comprehensive cost-driver analysis required
22 under subsection (a), including—

23 (A) interregional comparisons of queue ef-
24 ficiency and project success rates;

1 (B) systemic drivers of delay or cost esca-
2 lation;

3 (C) estimated ratepayer impacts associated
4 with interconnection bottlenecks; and

5 (D) recommendations for improving inter-
6 connection transparency and system perform-
7 ance.

8 (6) PUBLIC ACCESS.—The Dashboard shall be
9 made available on a public website and designed for
10 use by a broad range of users, including through vis-
11 ualizations, downloadable datasets, and API access,
12 while maintaining protections for CEII.

13 **SEC. 5. DEFINITIONS.**

14 In this Act:

15 (1) ADMINISTRATOR.—The term “Adminis-
16 trator” means the Administrator of the Energy In-
17 formation Administration of the Department of En-
18 ergy.

19 (2) COMMISSION.—The term “Commission”
20 means the Federal Energy Regulatory Commission.

21 (3) FERC FORM NO. 1.—The term “FERC
22 Form No. 1” means the Form of Annual Report for
23 Major electric utilities, licensees, and others, des-
24 ignated as FERC Form No. 1 and prescribed under
25 section 141.1 of title 18, Code of Federal Regula-

1 tions (as in effect on the date of enactment of this
2 Act).

3 (4) METADATA.—The term “metadata” has the
4 meaning given such term in section 3502 of title 44,
5 United States Code.

6 (5) PROJECT.—The term “project” refers ex-
7 clusively to transmission infrastructure projects
8 planned, proposed, or undertaken by the transmit-
9 ting utility. This includes projects initiated
10 through—

11 (A) regional or local transmission planning
12 processes;

13 (B) interconnection studies;

14 (C) reliability-driven upgrades; and

15 (D) other applicable pathways as deter-
16 mined by the Commission.

17 (6) SECRETARY.—The term “Secretary” means
18 the Secretary of Energy.

19 (7) FEDERAL POWER ACT TERMS.—The terms
20 “transmitting utility”, and “Transmission Organiza-
21 tion” have the meanings given those terms in section
22 3 of the Federal Power Act (16 U.S.C. 796).

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