I

119TH CONGRESS
1ST SESSION

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.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Grid Research and Development Act''.

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

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

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

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

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

(B) project classification information, including whether the project represents new construction, an upgrade, or a rebuild of existing infrastructure;

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

(D) the location of any applicable project;

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

(F) an identification of the applicable planning process through which the applicable project originated.

(2) The costs and economic justifications of a project, existing asset, or system owned or operated by a transmitting utility or Transmission Organization, as applicable, including—

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

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

(C) original projected and actual maintenance and operations expenses of the projects and existing assets on a current-year and five-year rolling average basis;

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

(E) cost-benefit analyses of projects;

(F) whether the project was subject to a competitive solicitation process and, if applicable, the outcome of that process; and

(G) classification of the project based on benefits provided, under the relevant transmission planning framework.

(3) The capital structure and the rate of return of a project, existing asset, or system owned or operated by a transmitting utility or Tranmission Organization, including—

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

(B) the authorized or actual capital structure, including the percentage of debt, equity, and preferred stock used in ratemaking;

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

(D) any Commission-approved incentive adders applied to the base return on equity, including rationale and duration; and

(E) where applicable, information necessary to assess potential double leveraging effects arising from a holding company structure, as defined by the Commission.

(4) For information and data relating to a system owned or operated by a transmitting utility or Transmission Organization, as applicable, congestion-related costs or the costs incurred by rate-

payers, power supplies, or distribution customers as a result of transmission system constraints that prevent the dispatch of least-cost generation resources.

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

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

(A) study fees;

(B) milestones or reservation payments;

(C) costs of local interconnection attachment facilities;

(D) grid network upgrade costs; and

(E) estimates of costs to a larger system.

(7) The projected and actual capacity and load of a system owned or operated by a transmitting utility or Transmission Organization and the projected and actual amount of energy delivered by such system.

(8) Information and data on the use of capital-efficient advanced technologies, including information on—

(A) hourly usage;

(B) the location of the technologies; and

(C) the types of technologies deployed.

(9) Any additional metric the Commission determines necessary to improve ratepayer affordability and understanding of the transmission sector.

(c) CONTENT OF INTERCONNECTION REPORTS.—In carrying out subsection (a), the Commission shall require a transmitting utility or Transmission Organization to report, no less than quarterly, to the Commission information and data on interconnection queues and details relating to interconnection study models used.

(d) FORMAT OF REPORTS.—

(1) IN GENERAL.—Pursuant to subsection (a), the Commission shall ensure the completeness, accuracy, and accessibility of information and data reported to the Commission under the Federal Power Act, as the Commission determines necessary, by—

(A) establishing standardized reporting requirements that specify standards for describing and recording such information and data, and, if the Commission determines appropriate, providing templates or other tools to reduce administrative burden;

(B) providing a format for such information and data to be submitted in a manner that is fully searchable and machine-readable;

(C) requiring any form filed by a transmitting utility or a Transmission Organization contains no blank cells, unless clearly marked as exempt pursuant to paragraph (2);

(D) requiring any projections required under subsection (a) are defined, including key assumptions, methodologies, and any other information that could influence the result of the projection; and

(E) requiring the information and data reported under this section are made available to the public through a single, user-friendly web interface that allows users to search, filter, and download the data in a machine-readable format.

(2) EXEMPTION.—

(A) IN GENERAL.—A transmitting utility or a Transmission Organization may request an exemption from a requirement under paragraph (1) if such transmitting utility or Transmission Organization submits to the Commission a written statement explaining why such an exemption is needed.

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

the Commission determines that the exemption is justified based on the written statement submitted under subparagraph (A).

(e) FERC FORM NO. 1.—

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

(2) COMPLETENESS.—Upon reviewing covered forms under paragraph (1), if the Commission determines that a covered form is incomplete, the Commission shall require the relevant transmitting utility or Transmission Organization to file a revised FERC Form No. 1 in a manner that complies with the requirements of subsection (d) and the requirements under section 141.1 of title 18, Code of Federal Regulations (or any successor regulations).

(3) COVERED FORM DEFINED.—In this subsection, the term ''covered form'' means a FERC Form No. 1 filed with the Commission by a transmitting utility or Transmission Organization during the 5-year period immediately preceding the date of enactment of this Act.

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

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

SEC. 3. DEVELOPMENT OF CENTRALIZED DATA REPOSITORY.

(a) IN GENERAL.—The Commission, in collaboration with the Administrator, shall develop and maintain a searchable and publicly accessible data repository containing information and data the Commission determines necessary to carry out the requirements of the Federal Power Act and this Act, including information and data reported or filed by a transmitting utility or Transmission Organization—

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

(2) pursuant to the requirements of this Act.

(b) EIA EXPERTISE.—In collaborating with the Commission under this section with respect to the data repository developed under subsection (a), the Administrator shall—

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

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

(3) ensure such data is accessible to the public in both bulk and disaggregated forms, with Application Programming Interfaces and visualization tools where feasible.

(c) REQUIREMENTS.—The Commissioner shall ensure that the data repository developed and maintained under subsection (a)—

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

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

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

(4) uses standardized data formats across all Transmission Organizations and transmitting utilities;

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

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

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

(8) includes interactive tools and visualization interfaces to allow users to explore trends in transmission buildout, interconnection timelines, and associated ratepayer costs;

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

(10) ensures that publicly accessible data is aligned with the security of guidelines for Critical Energy/Electric Infrastructure Information, and includes appropriate data anonymization and cybersecurity protections, based on Commission guidance.

SEC. 4. GRID RESEARCH AND ANALYTICS.

(a) RESEARCH AND POLICY ANALYSIS.—The Secretary, in collaboration with the Commission, using standardized methodologies and anonymized queue data col-

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

(1) Primary drivers of increased costs to ratepayers associated with transmission and interconnection, including—

(A) transmission capital expenditures;

(B) interconnection-related upgrade costs;

(C) interconnection study delays;

(D) regional variations in cost allocation methodologies; and

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

(2) Value delivered to ratepayers from transmission and interconnection investments, including through—

(A) improvements to electric system reliability;

(B) avoided emissions or emissions reductions; and

(C) enhancements to long-term system resilience and grid flexibility.

(3) Mechanisms to enhance ratepayer affordability, including—

(A) evaluation of performance-based regulation frameworks applied to transmission and interconnection-related investments;

(B) assessment of alternative interconnection solutions such as grid-enhancing technologies, shared infrastructure models, or consolidated upgrades; and

(C) evaluation of demand-side interventions that reduce the need for costly transmission or interconnection investments.

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

(A) identify lowest-cost pathways to national grid expansion;

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

(C) inform decision-making by utilities, regional planning entities, and Federal agencies.

(5) Systemic cost impacts from interconnection inefficiencies, including analysis of how study delays, queue withdrawals, and increased construction periods contribute to higher system costs for ratepayers or generators.

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

ational practices and deployment of advanced technologies, including—

(A) assessment of unused or underutilized grid capacity due to outdated planning assumptions or lack of dynamic optimization;

(B) evaluation of technologies such as dynamic line ratings, topology optimization, flexible interconnection, or flow control devices; and

(C) quantification of benefits to ratepayers and system operators from unlocking this capacity relative to traditional capital-intensive buildout.

(b) INTERCONNECTION TRANSPARENCY AND DASHBOARD.—

(1) IN GENERAL.—The Secretary shall, through one or more National Laboratories, develop, maintain, and continuously improve an Interconnection Data Dashboard (in this section referred to as the ''Dashboard'') that presents real-time and historical information relevant to interconnection of generators, loads, and other utilities or transmission systems.

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

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

(3) DATA SOURCES.—The Dashboard shall incorporate data collected under section 3 of this Act and from FERC Form No. 1 filings, relevant Commission filings, publicly available interconnection queue data, and additional datasets, as determined appropriate by the Secretary or the Commission.

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

(A) present anonymized interconnection queue data, including application volumes, withdrawal rates, project timelines, and milestones;

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

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

(D) allow filtering by geographic location (e.g., State, balancing authority, latitude/longitude coordinate), utility, fuel type, and project size;

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

submitted, study phase, approved, under construction, or in-service;

(F) display physical asset characteristics for each interconnection project and system segment, including nameplate generation capacity, peak load served, and conductor capacity ratings;

(G) identify trends in queue reform outcomes, including impacts on throughput, delay reduction, and project completion rates;

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

(I) perform any other function the Secretary determines appropriate.

(5) REPORTING.—The Secretary, in collaboration with National Laboratories and the Commission, shall publish annual reports summarizing findings from the Dashboard, based on data collected pursuant to section 3, without substituting for the more comprehensive cost-driver analysis required under subsection (a), including—

(A) interregional comparisons of queue efficiency and project success rates;

(B) systemic drivers of delay or cost escalation;

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

(D) recommendations for improving interconnection transparency and system performance.

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

SEC. 5. DEFINITIONS.

In this Act:

(1) ADMINISTRATOR.—The term ''Administrator'' means the Administrator of the Energy Information Administration of the Department of Energy.

(2) COMMISSION.—The term ''Commission'' means the Federal Energy Regulatory Commission.

(3) FERC FORM NO. 1.—The term ''FERC Form No. 1'' means the Form of Annual Report for Major electric utilities, licensees, and others, designated as FERC Form No. 1 and prescribed under section 141.1 of title 18, Code of Federal Regula-

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

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

(5) PROJECT.—The term ''project'' refers exclusively to transmission infrastructure projects planned, proposed, or undertaken by the transmitting utility. This includes projects initiated through—

(A) regional or local transmission planning processes;

(B) interconnection studies;

(C) reliability-driven upgrades; and

(D) other applicable pathways as determined by the Commission.

(6) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

(7) FEDERAL POWER ACT TERMS.—The terms ''transmitting utility'', and ''Transmission Organization'' have the meanings given those terms in section 3 of the Federal Power Act (16 U.S.C. 796).

○