



# House of Representatives

General Assembly

**File No. 556**

January Session, 2025

Substitute House Bill No. 7017

*House of Representatives, April 7, 2025*

The Committee on Energy and Technology reported through REP. STEINBERG of the 136th Dist., Chairperson of the Committee on the part of the House, that the substitute bill ought to pass.

## ***AN ACT CONCERNING GRID-ENHANCING TECHNOLOGIES.***

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1       Section 1. (NEW) (*Effective October 1, 2025*) (a) As used in this section  
2       and section 2 of this act:

3       (1) "Advanced conductor" means a conductor that, in comparison to  
4       conductors operated by an electric distribution company on October 1,  
5       2025, has a direct current electrical resistance not less than ten per cent  
6       lower, and has a similar diameter, while simultaneously increasing the  
7       capacity of such conductors by not less than seventy-five per cent.  
8       "Advanced conductor" includes the rebuilding of conductor support  
9       structures or other associated facilities;

10       (2) "Advanced power flow control" means any hardware or software  
11       technologies used to push or pull electric power in a manner that  
12       balances electric lines that are either exceeding capacity or are  
13       underutilized within the distribution or transmission system;

14 (3) "Dynamic line rating" means any hardware or software  
15 technologies used to update the calculated thermal limits of existing  
16 distribution or transmission lines in the state based on real-time and  
17 forecasted weather conditions;

18 (4) "Electric distribution company" has the same meaning as  
19 provided in section 16-1 of the general statutes;

20 (5) "Grid-enhancing technology" means any hardware or software  
21 technology that increases the capacity of, or enables enhanced or more  
22 efficient performance from, the electric distribution or transmission  
23 system in the state, including, but not limited to, dynamic line rating,  
24 advanced power flow control, topology optimization and energy  
25 storage when used as a distribution or transmission resource;

26 (6) "Incumbent transmission owner" means any person or entity that  
27 owns, operates and maintains an electric transmission facility in the  
28 state and that is not an electric distribution company;

29 (7) "Materially modify" means any construction activity relating to a  
30 facility described in subdivision (1) or (4) of subsection (a) of section 16-  
31 50i of the general statutes with an estimated cost of not less than five  
32 million dollars;

33 (8) "Nontransmission alternative" means an electric grid investment  
34 or project that uses nontraditional transmission and distribution  
35 solutions, including, but not limited to, distributed generation, energy  
36 storage, energy efficiency demand response and grid software and  
37 controls, to defer or replace the need for specific equipment upgrades,  
38 such as transmission and distribution lines or transformers, by reducing  
39 electric load at a substation or circuit level; and

40 (9) "Topology optimization" means any hardware or software  
41 technology that identifies reconfigurations of the distribution or  
42 transmission grid in the state to enable the routing of power flows  
43 around congested or overloaded elements of the electric grid.

44 (b) (1) Any electric distribution company or incumbent transmission

45 owner that seeks to construct or materially modify any facility described  
46 in subdivision (1) or (4) of subsection (a) of section 16-50i of the general  
47 statutes, except where such proposed construction or modification is the  
48 result of a transmission planning process administered by the regional  
49 independent system operator, as defined in section 16-1 of the general  
50 statutes, shall design at least (A) one project alternative to such  
51 construction or modification that utilizes advanced conductors to  
52 benefit electric ratepayers, mitigate environmental concerns and  
53 promote electric grid efficiency, through cost savings to such ratepayers,  
54 increased efficiency and the mitigation of long-term risk to human life,  
55 infrastructure and property resulting from wildfires, and (B) one such  
56 project alternative utilizing grid-enhancing technology or  
57 nontransmission alternative technology, applicable in whole or in part,  
58 to such construction or material modification.

59 (2) Such company or owner shall submit each project alternative  
60 required under subdivision (1) of this subsection with any application  
61 submitted by such company or owner to the Connecticut Siting Council  
62 concerning such construction or material modification. If any such  
63 project alternative is not preferred by such company or owner, such  
64 company or owner shall provide a detailed, written explanation  
65 comparing the cost-effectiveness and appropriateness of the project  
66 alternative with such project preferred by such company or owner and  
67 submit such explanation with such application.

68 (3) If any project alternative submitted pursuant to this subsection  
69 proposes to utilize any grid-enhancing technology or nontransmission  
70 alternative, and such project alternative is not less cost effective than the  
71 project preferred by such company or owner, the Connecticut Siting  
72 Council shall give preference to such project alternative in rendering a  
73 decision concerning such application.

74 (c) Beginning January 15, 2026, and annually thereafter, each electric  
75 distribution company and incumbent transmission owner shall file with  
76 the Public Utilities Regulatory Authority (1) a schedule of any planned  
77 construction or material modification of any facility described in

78 subdivision (1) or (4) of subsection (a) of section 16-50i of the general  
79 statutes for the next five years, including cost estimates and project  
80 details, (2) a plain-language description of each such planned  
81 construction or material modification not exceeding two written pages,  
82 and (3) data concerning any construction or material modification of any  
83 facility described in subdivision (1) or (4) of subsection (a) of section 16-  
84 50i of the general statutes completed by such company or owner on or  
85 after January 1, 2020, including estimated costs during planning and  
86 final costs for such projects.

87 (d) (1) Not more than one hundred eighty days after any filing  
88 required pursuant to subsection (c) of this section, the commissioner, in  
89 consultation with the Consumer Counsel, shall determine whether any  
90 facility listed for construction or material modification requires further  
91 evaluation, considering factors including, but not limited to, (A) project  
92 justification, scope and cost-effectiveness, (B) transmission planning, (C)  
93 environmental impacts, (D) infrastructure necessity, and (E) the  
94 feasibility of alternative solutions, including any nontransmission  
95 alternative.

96 (2) If any evaluation under this subsection identifies a feasible  
97 nontransmission alternative, the commissioner may initiate a  
98 procurement process to seek proposals to implement any such  
99 alternative. The Public Utilities Regulatory Authority shall review and  
100 approve any agreement concerning the implementation of any such  
101 alternative if the authority determines such alternative (A) ensures  
102 reliability, (B) is cost effective, and (C) is technically feasible.

103 (3) In conducting an evaluation pursuant to this subsection, the  
104 commissioner and the Consumer Counsel may hire consultants to assist  
105 with such evaluation. Costs incurred by the commissioner or the  
106 Consumer Counsel for the service of any such consultant may be  
107 recovered through the nonbypassable, federally mandated congestion  
108 charge.

109 (4) Each electric distribution company or incumbent transmission  
110 owner shall provide data and information requested by the

111 commissioner or the Consumer Counsel in connection with any  
112 evaluation pursuant to this subsection.

113 (e) Beginning on January 1, 2027, and every five years thereafter, each  
114 electric distribution company and incumbent transmission owner shall  
115 file a report concerning their compliance with the provisions of this  
116 section with the Public Utilities Regulatory Authority. The authority  
117 shall transmit a copy of each such report to the regional independent  
118 system operator, as defined in section 16-1 of the general statutes, and,  
119 in accordance with the provisions of section 11-4a of the general statutes,  
120 the joint standing committee of the General Assembly having  
121 cognizance of matters relating to energy and technology.

122 Sec. 2. (NEW) (*Effective October 1, 2025*) In any base rate or capital  
123 improvement proceeding before the Public Utilities Regulatory  
124 Authority, an electric distribution company shall submit a report to the  
125 authority that analyzes the cost-effectiveness of, and projected  
126 timetables for, deploying grid-enhancing technologies, advanced  
127 conductors or energy storage relevant to such company's operations.  
128 Such report may include, but need not be limited to, proposed  
129 performance incentive mechanisms for the cost-effective deployment of  
130 such technologies, conductors or storage. The authority may approve  
131 the deployment of such technologies, conductors or storage, with or  
132 without performance incentive mechanisms, if the authority deems such  
133 technologies, conductors or storage are cost effective.

134 Sec. 3. Subsection (c) of section 16-18a of the general statutes is  
135 repealed and the following is substituted in lieu thereof (*Effective October*  
136 *1, 2025*):

137 (c) The Department of Energy and Environmental Protection, [in  
138 consultation with] the Public Utilities Regulatory Authority and the  
139 Office of Consumer Counsel [,] may retain consultants to assist [its] the  
140 staff of the department, authority or office by providing expertise in  
141 areas in which staff expertise does not currently exist or to supplement  
142 staff expertise for any proceeding before or in any negotiation with the  
143 Federal Energy Regulatory Commission, the United States Department

144 of Energy, the United States Nuclear Regulatory Commission, the  
 145 United States Securities and Exchange Commission, the Federal Trade  
 146 Commission, the Federal Communications Commission or the United  
 147 States Department of Justice. [The Public Utilities Regulatory Authority,  
 148 in consultation with the Office of Consumer Counsel, may retain  
 149 consultants to assist its staff by providing expertise in areas in which  
 150 staff expertise does not currently exist or to supplement staff expertise  
 151 for any proceeding before or in any negotiation with the Federal  
 152 Communications Commission.] All reasonable and proper expenses of  
 153 any such consultants shall be borne by the public service companies,  
 154 certified telecommunications providers, holders of a certificate of video  
 155 franchise authority, electric suppliers or gas registrants affected by the  
 156 decisions of such proceeding and shall be paid at such times and in such  
 157 manner as the authority directs, provided such expenses (1) shall be  
 158 apportioned in proportion to the revenues of each affected entity as  
 159 reported to the authority pursuant to section 16-49 for the most recent  
 160 fiscal year, and (2) shall not exceed two and one-half million dollars per  
 161 calendar year, including any appeals thereof, unless the authority finds  
 162 good cause for exceeding the limit. The authority shall recognize all such  
 163 expenses as proper business expenses of the affected entities for  
 164 ratemaking purposes pursuant to section 16-19e, if applicable.

This act shall take effect as follows and shall amend the following sections:

Section 1	October 1, 2025	New section
Sec. 2	October 1, 2025	New section
Sec. 3	October 1, 2025	16-18a(c)

**Statement of Legislative Commissioners:**

Section 1(a)(1) was rewritten for clarity.

**ET**            *Joint Favorable Subst.*

*The following Fiscal Impact Statement and Bill Analysis are prepared for the benefit of the members of the General Assembly, solely for purposes of information, summarization and explanation and do not represent the intent of the General Assembly or either chamber thereof for any purpose. In general, fiscal impacts are based upon a variety of informational sources, including the analyst's professional knowledge. Whenever applicable, agency data is consulted as part of the analysis, however final products do not necessarily reflect an assessment from any specific department.*

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## **OFA Fiscal Note**

**State Impact:** None

**Municipal Impact:** None

### **Explanation**

The bill makes various procedural changes that apply to electric distribution companies (EDCs) and incumbent transmission owners regarding grid-enhancing technologies. These changes do not result in a cost to the Public Utilities Regulatory Authority (PURA) or to the Department of Energy and Environmental Protection (DEEP) as they have the staff and expertise necessary to address the changes.

### **Rate Payer Impact**

Generally, grid enhancing technologies reduce costs to rate payers. Grid enhancing technologies can reduce utility capital investment and reduce distribution system costs, which can be reflected as savings to rate payers. Additionally, grid enhancing technologies lower energy costs and improve the benefits of updating and investing in various capital projects by EDCs.

The bill expands instances when DEEP, PURA, and the Office of Consumer Counsel (OCC) may retain consultants for various proceedings or negotiations, and caps expenses at \$2.5 million per calendar year. Consultant fees are borne by the regulated companies affected by the proceeding, which are transferred to rate payers as increased costs.

It is anticipated, that approved projects for grid enhancing

technologies, would yield savings to rate payers that would outweigh any additional consulting or capital costs<sup>1</sup>. However, the extent of the savings would be dependent upon the specific project and various EDC decisions, that are outside the immediate scope of the bill.

***The Out Years******State Impact:*** None***Municipal Impact:*** None

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<sup>1</sup> PURA's Decision dated November 9, 2022, Docket No. 17-12-03RE07



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**OLR Bill Analysis****sHB 7017*****AN ACT CONCERNING GRID-ENHANCING TECHNOLOGIES.*****SUMMARY**

This bill requires electric distribution companies (EDCs, i.e. Eversource and United Illuminating) and incumbent transmission owners to submit project alternatives to the Siting Council when seeking to construct or modify transmission lines, substations, and switchyards that are subject to the council's jurisdiction (see BACKGROUND). Under the bill, an incumbent transmission owner is anyone that owns, operates, and maintains an electric transmission facility in the state and is not an EDC.

EDCs and incumbent transmission owners must submit at least one project alternative that uses advanced conductors and one project alternative that uses grid-enhancing technologies (GETs) or nontransmission alternative technologies. The bill requires the Siting Council, when deciding on an application, to give preference to project alternatives if they are at least as cost effective as the project preferred by the EDC or transmission owner.

The bill also requires EDCs and incumbent transmission owners to file information on planned projects annually with the Public Utilities Regulatory Authority (PURA). The bill establishes a process for the Department of Energy and Environmental Protection (DEEP) commissioner to evaluate planned projects and seek proposals to implement any nontransmission alternatives. Under the bill, in any base rate or capital improvement proceeding EDCs must report to PURA information on GETs, advanced conductors, and energy storage deployment.

Under the bill, EDCs and incumbent transmission owners must file a

report with PURA on their compliance with the bill's requirements every five years, starting by January 1, 2027. PURA must submit a copy to the Independent System Operator of New England (ISO-New England) and the Energy and Technology Committee.

Lastly, the bill broadens the authority for DEEP, PURA, and the Office of Consumer Council to retain consultants.

EFFECTIVE DATE: October 1, 2025

### **SITING COUNCIL DETERMINATIONS**

The bill requires EDCs and incumbent transmission owners to submit at least two project alternatives to the Siting Council when seeking to construct or materially modify transmission lines, electric substations, and switchyards. A proposed modification is subject to this requirement if its estimated cost is at least \$5 million. The bill exempts from this requirement any proposed construction or modification resulting from ISO-New England's transmission planning process.

#### ***Project Alternatives***

One project alternative must use advanced conductors to benefit electric ratepayers, mitigate environmental concerns, and promote electric grid efficiency, through ratepayer cost savings, increased efficiency, and mitigation of long-term wildfire risk. Under the bill, an advanced conductor is one that has a similar diameter as conductors operated by an EDC on October 1, 2025, but has a direct current electrical resistance at least 10% lower and simultaneously increases the conductor's capacity by at least 75%. These project alternatives include rebuilding conductor support structures or other associated facilities.

The other project alternative must use GETs or nontransmission alternative technology (see below), applicable in whole or in part, to facility construction or material modification. GETs are any hardware or software technology that increases the electric distribution or transmission system's capacity or enables enhanced or more efficient performance from the system. GETs include the following:

1. dynamic line rating, which is any hardware or software technologies used to update the calculated thermal limits of existing distribution or transmission lines in the state based on real-time and forecasted weather conditions;
2. advanced power flow control, which is any hardware or software technologies used to push or pull electric power in a way that balances electric lines that are either exceeding capacity or are underutilized within the distribution or transmission system;
3. topology optimization, which is any hardware or software technology that identifies reconfigurations of the distribution or transmission grid in the state to enable the routing of power flows around congested or overloaded electric grid elements; and
4. energy storage when used as a distribution or transmission resource (e.g., a battery).

A “nontransmission alternative” is an electric grid investment or project that uses nontraditional transmission and distribution solutions (e.g., distributed generation, energy storage, energy efficiency, demand response, and grid software and controls) to defer or replace the need for specific equipment upgrades by reducing electric load at a substation or circuit level.

### ***Application Materials and Council Decisions***

The bill requires EDCs and incumbent transmission owners to submit each project alternative with any application the company submits to the Siting Council to construct or materially modify transmission lines, electric substations, and switchyards. If the EDC or transmission owner does not prefer the project alternatives, the application must include a detailed, written explanation comparing the project alternative’s cost-effectiveness and appropriateness with the preferred construction or modification.

The bill requires the Siting Council, when making a decision on an application, to give preference to any project proposing to use GETs or

nontransmission alternatives, so long as it is at least as cost effective as the project preferred by the EDC or incumbent transmission owner.

## **DEEP EVALUATION AND PROCUREMENT**

### ***Annual PURA Filing Requirement***

The bill requires EDCs and incumbent transmission owners to file the following information with PURA, annually starting by January 15, 2026:

1. a schedule of any planned construction or material modification of transmission lines, electric substations, and switchyards for the next five years, including cost estimates and project details;
2. a plain-language description, up to two pages long, of each planned construction or material modification project; and
3. data on any construction or material modification of any transmission lines, electric substations, and switchyards completed by the company or owner on or after January 1, 2020, including estimated costs during planning and final costs.

### ***DEEP Evaluation and Procurement Process***

Within 180 days after the EDC or transmission owner files the schedule and other information with PURA, the bill requires the commissioner (presumably, the DEEP commissioner), in consultation with the Office of Consumer Counsel (OCC), to determine whether any facility listed for construction or material modification requires further evaluation, considering factors that include the following:

1. project justification, scope, and cost-effectiveness;
2. transmission planning;
3. environmental impacts;
4. infrastructure necessity; and
5. alternative solution feasibility, including any nontransmission

alternative.

The bill requires EDCs and transmission owners to provide data and information requested by DEEP or OCC for this evaluation. The bill allows (1) the commissioner and OCC to hire consultants to help with the evaluation and (2) DEEP and OCC to recover costs for consultant services through the non-bypassable federally mandated congestion charge.

If this evaluation identifies a feasible nontransmission alternative, the bill requires the commissioner to start a procurement process to seek proposals to implement the nontransmission alternative. The bill requires PURA to review and approve any agreement to implement the alternative if PURA determines it ensures reliability, is cost effective, and is technically feasible.

### **PURA RATE PROCEEDINGS**

The bill requires EDCs and transmission owners to submit a report to PURA in any base rate or capital improvement proceeding. The report must analyze cost-effectiveness of, and projected timetables for, deploying GETs, advanced conductors, or energy storage relevant to the company's operations. The report may include proposed performance incentive mechanisms for the cost-effective deployment of GETs, advanced conductors, or energy storage. The bill authorizes PURA to approve this deployment, with or without a performance incentive mechanism, if it deems the GETs, advanced conductors, or energy storage cost effective.

### **CONSULTANTS**

The bill broadens authorizations for DEEP, PURA, and OCC to retain consultants. Current law allows (1) DEEP, in consultation with PURA and the OCC, to retain consultants for proceedings or negotiations with various federal agencies and (2) PURA, in consultation with OCC, to retain consultants for proceedings or negotiations with the Federal Communications Commission (FCC).

The bill instead (1) allows DEEP, PURA, and the OCC to retain

consultants for proceedings or negotiations with various federal agencies and (2) removes any requirement that they consult with each other to do so. The provision applies for proceedings and negotiations with the same federal agencies that DEEP may retain consultants for under current law: the Federal Energy Regulatory Commission; U.S. Department of Energy; U.S. Nuclear Regulatory Commission; U.S. Securities and Exchange Commission; Federal Trade Commission; FCC; or U.S. Department of Justice.

Existing law requires reasonable and proper expenses for consultants to be paid by the regulated companies affected by the proceeding (e.g., EDCs, telecommunication providers, and electric suppliers), as determined by PURA. The law caps these expenses at \$2.5 million per calendar year, unless PURA finds good cause to exceed the limit. PURA must recognize these expenses as proper business expenses for purposes of ratemaking.

## **BACKGROUND**

### ***Siting Council Jurisdiction***

By law, the siting council has jurisdiction over various types of facilities, including (1) electric transmission lines of at least 69 kilovolts and associated equipment and (2) any electric substation or switchyard designed to change or regulate voltage of at least 69 kilovolts to connect two or more electric circuits and other facilities that the council may prescribe by regulation (CGS § 16-50i(a)). The law excludes transmission line taps from the council's jurisdiction, which are electrical transmission lines that do not have a substantial adverse environmental effect as determined by the council (CGS § 16-50i(e)).

## **COMMITTEE ACTION**

Energy and Technology Committee

Joint Favorable Substitute

Yea 17    Nay 8    (03/18/2025)