

VIRGINIA ACTS OF ASSEMBLY — CHAPTER

An Act to amend and reenact § 56-585.5 of the Code of Virginia, relating to electric utilities; energy storage requirements; Department of Energy and Department of Environmental Quality to develop model ordinances; work group; reports.

[S 1394]

Approved

Be it enacted by the General Assembly of Virginia:

1. That § 56-585.5 of the Code of Virginia is amended and reenacted as follows:

§ 56-585.5. Generation of electricity from renewable and zero-carbon sources.

A. As used in this section:

"Accelerated renewable energy buyer" means a commercial or industrial customer of a Phase I or Phase II Utility, irrespective of generation supplier, with an aggregate load over 25 megawatts in the prior calendar year, that enters into arrangements pursuant to subsection G, as certified by the Commission.

"Aggregate load" means the combined electrical load associated with selected accounts of an accelerated renewable energy buyer with the same legal entity name as, or in the names of affiliated entities that control, are controlled by, or are under common control of, such legal entity or are the names of affiliated entities under a common parent.

"Control" has the same meaning as provided in § 56-585.1:11.

"Falling water" means hydroelectric resources, including run-of-river generation from a combined pumped-storage and run-of-river facility. "Falling water" does not include electricity generated from pumped-storage facilities.

"Low-income qualifying projects" means a project that provides a minimum of 50 percent of the respective electric output to low-income utility customers as that term is defined in § 56-576.

"Phase I Utility" has the same meaning as provided in subdivision A 1 of § 56-585.1.

"Phase II Utility" has the same meaning as provided in subdivision A 1 of § 56-585.1.

"Previously developed project site" means any property, including related buffer areas, if any, that has been previously disturbed or developed for non-single-family residential, nonagricultural, or nonsilvicultural use, regardless of whether such property currently is being used for any purpose. "Previously developed project site" includes a brownfield as defined in § 10.1-1230 or any parcel that has been previously used (i) for a retail, commercial, or industrial purpose; (ii) as a parking lot; (iii) as the site of a parking lot canopy or structure; (iv) for mining, which is any lands affected by coal mining that took place before August 3, 1977, or any lands upon which extraction activities have been permitted by the Department of Energy under Title 45.2; (v) for quarrying; or (vi) as a landfill.

"Total electric energy" means total electric energy sold to retail customers in the Commonwealth service territory of a Phase I or Phase II Utility, other than accelerated renewable energy buyers, by the incumbent electric utility or other retail supplier of electric energy in the previous calendar year, excluding an amount equivalent to the annual percentages of the electric energy that was supplied to such customer from nuclear generating plants located within the Commonwealth in the previous calendar year, provided such nuclear units were operating by July 1, 2020, or from any zero-carbon electric generating facilities not otherwise RPS eligible sources and placed into service in the Commonwealth after July 1, 2030.

"Zero-carbon electricity" means electricity generated by any generating unit that does not emit carbon dioxide as a by-product of combusting fuel to generate electricity.

B. 1. By December 31, 2024, except for any coal-fired electric generating units (i) jointly owned with a cooperative utility or (ii) owned and operated by a Phase II Utility located in the coalfield region of the Commonwealth that co-fires with biomass, any Phase I and Phase II Utility shall retire all generating units principally fueled by oil with a rated capacity in excess of 500 megawatts and all coal-fired electric generating units operating in the Commonwealth.

2. By December 31, 2045, except for biomass-fired electric generating units that do not co-fire with coal, each Phase I and II Utility shall retire all other electric generating units located in the Commonwealth that emit carbon as a by-product of combusting fuel to generate electricity.

3. A Phase I or Phase II Utility may petition the Commission for relief from the requirements of this subsection on the basis that the requirement would threaten the reliability or security of electric service to customers. The Commission shall consider in-state and regional transmission entity resources and shall evaluate the reliability of each proposed retirement on a case-by-case basis in ruling upon any such petition.

C. Each Phase I and Phase II Utility shall participate in a renewable energy portfolio standard program (RPS Program) that establishes annual goals for the sale of renewable energy to all retail customers in the

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utility's service territory, other than accelerated renewable energy buyers pursuant to subsection G, regardless of whether such customers purchase electric supply service from the utility or from suppliers other than the utility. To comply with the RPS Program, each Phase I and Phase II Utility shall procure and retire Renewable Energy Certificates (RECs) originating from renewable energy standard eligible sources (RPS eligible sources). For purposes of complying with the RPS Program from 2021 to 2024, a Phase I and Phase II Utility may use RECs from any renewable energy facility, as defined in § 56-576, provided that such facilities are located in the Commonwealth or are physically located within the PJM Interconnection, LLC (PJM) region. However, at no time during this period or thereafter may any Phase I or Phase II Utility use RECs from (i) renewable thermal energy, (ii) renewable thermal energy equivalent, or (iii) biomass-fired facilities that are outside the Commonwealth. From compliance year 2025 and all years after, each Phase I and Phase II Utility may only use RECs from RPS eligible sources for compliance with the RPS Program.

In order to qualify as RPS eligible sources, such sources must be (a) electric-generating resources that generate electric energy derived from solar or wind located in the Commonwealth or off the Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth or physically located within the PJM region; (b) falling water resources located in the Commonwealth or physically located within the PJM region that were in operation as of January 1, 2020, that are owned by a Phase I or Phase II Utility or for which a Phase I or Phase II Utility has entered into a contract prior to January 1, 2020, to purchase the energy, capacity, and renewable attributes of such falling water resources; (c) non-utility-owned resources from falling water that (1) are less than 65 megawatts, (2) began commercial operation after December 31, 1979, or (3) added incremental generation representing greater than 50 percent of the original nameplate capacity after December 31, 1979, provided that such resources are located in the Commonwealth or are physically located within the PJM region; (d) waste-to-energy or landfill gas-fired generating resources located in the Commonwealth and in operation as of January 1, 2020, provided that such resources do not use waste heat from fossil fuel combustion; (e) geothermal heating and cooling systems located in the Commonwealth; or (f) biomass-fired facilities in operation in the Commonwealth and in operation as of January 1, 2023, that (1) supply no more than 10 percent of their annual net electrical generation to the electric grid or no more than 15 percent of their annual total useful energy to any entity other than the manufacturing facility to which the generating source is interconnected and are fueled by forest-product manufacturing residuals, including pulping liquor, bark, paper recycling residuals, biowastes, or biomass, as described in subdivisions A 1, 2, and 4 of § 10.1-1308.1, provided that biomass as described in subdivision A 1 of § 10.1-1308.1 results from harvesting in accordance with best management practices for the sustainable harvesting of biomass developed and enforced by the State Forester pursuant to § 10.1-1105, or (2) are owned by a Phase I or Phase II Utility, have less than 52 megawatts capacity, and are fueled by forest-product manufacturing residuals, biowastes, or biomass, as described in subdivisions A 1, 2, and 4 of § 10.1-1308.1, provided that biomass as described in subdivision A 1 of § 10.1-1308.1 results from harvesting in accordance with best management practices for the sustainable harvesting of biomass developed and enforced by the State Forester pursuant to § 10.1-1105. Regardless of any future maintenance, expansion, or refurbishment activities, the total amount of RECs that may be sold by any RPS eligible source using biomass in any year shall be no more than the number of megawatt hours of electricity produced by that facility in 2022; however, in no year may any RPS eligible source using biomass sell RECs in excess of the actual megawatt-hours of electricity generated by such facility that year. In order to comply with the RPS Program, each Phase I and Phase II Utility may use and retire the environmental attributes associated with any existing owned or contracted solar, wind, falling water, or biomass electric generating resources in operation, or proposed for operation, in the Commonwealth or solar, wind, or falling water resources physically located within the PJM region, with such resource qualifying as a Commonwealth-located resource for purposes of this subsection, as of January 1, 2020, provided that such renewable attributes are verified as RECs consistent with the PJM-EIS Generation Attribute Tracking System.

1. The RPS Program requirements shall be a percentage of the total electric energy sold in the previous calendar year and shall be implemented in accordance with the following schedule:

Phase I Utilities		Phase II Utilities	
Year	RPS Program Requirement	Year	RPS Program Requirement
2021	6%	2021	14%
2022	7%	2022	17%
2023	8%	2023	20%
2024	10%	2024	23%
2025	14%	2025	26%
2026	17%	2026	29%
2027	20%	2027	32%
2028	24%	2028	35%
2029	27%	2029	38%
2030	30%	2030	41%
2031	33%	2031	45%
2032	36%	2032	49%

120	2033	39%	2033	52%
121	2034	42%	2034	55%
122	2035	45%	2035	59%
123	2036	53%	2036	63%
124	2037	53%	2037	67%
125	2038	57%	2038	71%
126	2039	61%	2039	75%
127	2040	65%	2040	79%
128	2041	68%	2041	83%
129	2042	71%	2042	87%
130	2043	74%	2043	91%
131	2044	77%	2044	95%
132	2045	80%	2045 and	100%
133			thereafter	
134	2046	84%		
135	2047	88%		
136	2048	92%		
137	2049	96%		
138	2050 and	100%		
139	thereafter			

140 2. A Phase II Utility shall meet one percent of the RPS Program requirements in any given compliance
 141 year with solar, wind, or anaerobic digestion resources of one megawatt or less located in the
 142 Commonwealth, with not more than 3,000 kilowatts at any single location or at contiguous locations owned
 143 by the same entity or affiliated entities and, to the extent that low-income qualifying projects are available,
 144 then no less than 25 percent of such one percent shall be composed of low-income qualifying projects.

145 3. Beginning with the 2025 compliance year and thereafter, at least 75 percent of all RECs used by a
 146 Phase II Utility in a compliance period shall come from RPS eligible resources located in the
 147 Commonwealth.

148 4. Any Phase I or Phase II Utility may apply renewable energy sales achieved or RECs acquired in excess
 149 of the sales requirement for that RPS Program to the sales requirements for RPS Program requirements in the
 150 year in which it was generated and the five calendar years after the renewable energy was generated or the
 151 RECs were created. To the extent that a Phase I or Phase II Utility procures RECs for RPS Program
 152 compliance from resources the utility does not own, the utility shall be entitled to recover the costs of such
 153 certificates at its election pursuant to § 56-249.6 or subdivision A 5 d of § 56-585.1.

154 5. Energy from a geothermal heating and cooling system is eligible for inclusion in meeting the
 155 requirements of the RPS Program. RECs from a geothermal heating and cooling system are created based on
 156 the amount of energy, converted from BTUs to kilowatt-hours, that is generated by a geothermal heating and
 157 cooling system for space heating and cooling or water heating. The Commission shall determine the form and
 158 manner in which such RECs are verified.

159 D. Each Phase I or Phase II Utility shall petition the Commission for necessary approvals to procure
 160 zero-carbon electricity generating capacity as set forth in this subsection and energy storage resources as set
 161 forth in subsection E. To the extent that a Phase I or Phase II Utility constructs or acquires new zero-carbon
 162 generating facilities or energy storage resources, the utility shall petition the Commission for the recovery of
 163 the costs of such facilities, at the utility's election, either through its rates for generation and distribution
 164 services or through a rate adjustment clause pursuant to subdivision A 6 of § 56-585.1. All costs not sought
 165 for recovery through a rate adjustment clause pursuant to subdivision A 6 of § 56-585.1 associated with
 166 generating facilities provided by sunlight or onshore or offshore wind are also eligible to be applied by the
 167 utility as a customer credit reinvestment offset as provided in subdivision A 8 of § 56-585.1. Costs associated
 168 with the purchase of energy, capacity, or environmental attributes from facilities owned by the persons other
 169 than the utility required by this subsection shall be recovered by the utility either through its rates for
 170 generation and distribution services or pursuant to § 56-249.6.

171 1. Each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or
 172 enter into agreements to purchase the energy, capacity, and environmental attributes of 600 megawatts of
 173 generating capacity using energy derived from sunlight or onshore wind.

174 a. By December 31, 2023, each Phase I Utility shall petition the Commission for necessary approvals to
 175 construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of
 176 at least 200 megawatts of generating capacity located in the Commonwealth using energy derived from
 177 sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of
 178 energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other
 179 than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase I
 180 Utility.

181 b. By December 31, 2027, each Phase I Utility shall petition the Commission for necessary approvals to
 182 construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of

at least 200 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase I Utility.

c. By December 31, 2030, each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 200 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase I Utility.

d. Nothing in this subdivision 1 shall prohibit such Phase I Utility from constructing, acquiring, or entering into agreements to purchase the energy, capacity, and environmental attributes of more than 600 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

2. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to (i) construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of 16,100 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, which shall include 1,100 megawatts of solar generation of a nameplate capacity not to exceed three megawatts per individual project and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar facilities owned by persons other than a utility, including utility affiliates and deregulated affiliates and (ii) pursuant to § 56-585.1:11, construct or purchase one or more offshore wind generation facilities located off the Commonwealth's Atlantic shoreline or in federal waters and interconnected directly into the Commonwealth with an aggregate capacity of up to 5,200 megawatts. At least 200 megawatts of the 16,100 megawatts shall be placed on previously developed project sites.

a. By December 31, 2024, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 3,000 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

b. By December 31, 2027, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 3,000 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

c. By December 31, 2030, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 4,000 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

d. By December 31, 2035, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or enter into agreements to purchase the energy, capacity, and environmental attributes of at least 6,100 megawatts of additional generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, and 35 percent of such generating capacity procured shall be from the purchase of energy, capacity, and environmental attributes from solar or onshore wind facilities owned by persons other than the utility, with the remainder, in the aggregate, being from construction or acquisition by such Phase II Utility.

e. Nothing in this subdivision 2 shall prohibit such Phase II Utility from constructing, acquiring, or entering into agreements to purchase the energy, capacity, and environmental attributes of more than 16,100 megawatts of generating capacity located in the Commonwealth using energy derived from sunlight or onshore wind, provided the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

3. Nothing in this section shall prohibit a utility from petitioning the Commission to construct or acquire

zero-carbon electricity or from entering into contracts to procure the energy, capacity, and environmental attributes of zero-carbon electricity generating resources in excess of the requirements in subsection B. The Commission shall determine whether to approve such petitions on a stand-alone basis pursuant to §§ 56-580 and 56-585.1, provided that the Commission's review shall also consider whether the proposed generating capacity (i) is necessary to meet the utility's native load, (ii) is likely to lower customer fuel costs, (iii) will provide economic development opportunities in the Commonwealth, and (iv) serves a need that cannot be more affordably met with demand-side or energy storage resources.

Each Phase I and Phase II Utility shall, at least once every year, conduct a request for proposals for new solar and wind resources. Such requests shall quantify and describe the utility's need for energy, capacity, or renewable energy certificates. The requests for proposals shall be publicly announced and made available for public review on the utility's website at least 45 days prior to the closing of such request for proposals. The requests for proposals shall provide, at a minimum, the following information: (a) the size, type, and timing of resources for which the utility anticipates contracting; (b) any minimum thresholds that must be met by respondents; (c) major assumptions to be used by the utility in the bid evaluation process, including environmental emission standards; (d) detailed instructions for preparing bids so that bids can be evaluated on a consistent basis; (e) the preferred general location of additional capacity; and (f) specific information concerning the factors involved in determining the price and non-price criteria used for selecting winning bids. A utility may evaluate responses to requests for proposals based on any criteria that it deems reasonable but shall at a minimum consider the following in its selection process: (1) the status of a particular project's development; (2) the age of existing generation facilities; (3) the demonstrated financial viability of a project and the developer; (4) a developer's prior experience in the field; (5) the location and effect on the transmission grid of a generation facility; (6) benefits to the Commonwealth that are associated with particular projects, including regional economic development and the use of goods and services from Virginia businesses; and (7) the environmental impacts of particular resources, including impacts on air quality within the Commonwealth and the carbon intensity of the utility's generation portfolio.

4. In connection with the requirements of this subsection, each Phase I and Phase II Utility shall, commencing in 2020 and concluding in 2035, submit annually a plan and petition for approval for the development of new solar and onshore wind generation capacity. Such plan shall reflect, in the aggregate and over its duration, the requirements of subsection D concerning the allocation percentages for construction or purchase of such capacity. Such petition shall contain any request for approval to construct such facilities pursuant to subsection D of § 56-580 and a request for approval or update of a rate adjustment clause pursuant to subdivision A 6 of § 56-585.1 to recover the costs of such facilities. Such plan shall also include the utility's plan to meet the energy storage project targets of subsection E, including the goal of installing at least 10 percent of such energy storage projects *petitioned for pursuant to subdivisions E 1 and 2* behind the meter. In determining whether to approve the utility's plan and any associated petition requests, the Commission shall determine whether they are reasonable and prudent and shall give due consideration to (i) the RPS and carbon dioxide reduction requirements in this section; (ii) the promotion of new renewable generation and energy storage resources within the Commonwealth, and associated economic development; and (iii) fuel savings projected to be achieved by the plan. Notwithstanding any other provision of this title, the Commission's final order regarding any such petition and associated requests shall be entered by the Commission not more than six months after the date of the filing of such petition.

5. If, in any year, a Phase I or Phase II Utility is unable to meet the compliance obligation of the RPS Program requirements or if the cost of RECs necessary to comply with RPS Program requirements exceeds \$45 per megawatt hour, such supplier shall be obligated to make a deficiency payment equal to \$45 for each megawatt-hour shortfall for the year of noncompliance, except that the deficiency payment for any shortfall in procuring RECs for solar, wind, or anaerobic digesters located in the Commonwealth shall be \$75 per megawatts hour for resources one megawatt and lower. The amount of any deficiency payment shall increase by one percent annually after 2021. A Phase I or Phase II Utility shall be entitled to recover the costs of such payments as a cost of compliance with the requirements of this subsection pursuant to subdivision A 5 d of § 56-585.1. All proceeds from the deficiency payments shall be deposited into an interest-bearing account administered by the Department of Energy. In administering this account, the Department of Energy shall manage the account as follows: (i) 50 percent of total revenue shall be directed to job training programs in historically economically disadvantaged communities; (ii) 16 percent of total revenue shall be directed to energy efficiency measures for public facilities; (iii) 30 percent of total revenue shall be directed to renewable energy programs located in historically economically disadvantaged communities; and (iv) four percent of total revenue shall be directed to administrative costs.

For any project constructed pursuant to this subsection or subsection E, a utility shall, subject to a competitive procurement process, procure equipment from a Virginia-based or United States-based manufacturer using materials or product components made in Virginia or the United States, if reasonably available and competitively priced.

E. To enhance reliability and performance of the utility's generation and distribution system, each Phase I and Phase II Utility shall petition the Commission for necessary approvals to construct ~~or~~, acquire ~~new~~, or

procure utility-owned energy storage resources. For the purposes of this subsection, "long-duration energy storage" means energy storage resources with 10 hours or more of generation capacity operating at full nameplate capacity and "short-duration energy storage" means energy storage resources with less than 10 hours of generation capacity.

1. By December 31, ~~2035~~ 2040, each Phase I Utility shall petition the Commission for necessary approvals to construct ~~or~~, acquire ~~400~~, or procure 780 megawatts of *short-duration* energy storage capacity. Nothing in this subdivision shall prohibit a Phase I Utility from constructing ~~or~~, acquiring, or procuring more than ~~400~~ 780 megawatts of *short-duration* energy storage, provided that the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

2. By December 31, ~~2035~~ 2040, each Phase II Utility shall petition the Commission for necessary approvals to construct ~~or~~, acquire ~~2,700~~, or procure 4,000 megawatts of *short-duration* energy storage capacity, and by December 31, 2045, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or procure 5,220 megawatts of *short-duration* energy storage capacity. Nothing in this subdivision shall prohibit a Phase II Utility from constructing ~~or~~, acquiring, or procuring more than ~~2,700~~ 5,220 megawatts of *short-duration* energy storage, provided that the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

3. By December 31, 2045, each Phase I Utility shall petition the Commission for necessary approvals to construct, acquire, or procure 520 megawatts of long-duration energy storage capacity, half of which shall be petitioned to the Commission for necessary approvals to be constructed, acquired, or procured by December 31, 2035. Of such 520 megawatts, half shall have between 10 and 24 hours of storage capacity and the other half shall have more than 24 hours of storage capacity. Nothing in this subdivision shall prohibit a Phase I Utility from constructing, acquiring, or procuring more than 520 megawatts of long-duration energy storage, provided that the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

4. By December 31, 2045, each Phase II Utility shall petition the Commission for necessary approvals to construct, acquire, or procure 3,480 megawatts of long-duration energy storage capacity, half of which shall be petitioned to the Commission for necessary approvals to be constructed, acquired, or procured by December 31, 2035. Of such 3,480 megawatts, half shall have between 10 and 24 hours of storage capacity and the other half shall have more than 24 hours of storage capacity. Nothing in this subdivision shall prohibit a Phase II Utility from constructing, acquiring, or procuring more than 3,480 megawatts of long-duration energy storage, provided that the utility receives approval from the Commission pursuant to §§ 56-580 and 56-585.1.

5. No single energy storage project shall exceed 500 megawatts in size, except that a Phase II Utility may procure a single energy storage project up to 800 megawatts.

~~4.~~ 6. All energy storage projects procured pursuant to this subsection shall meet the competitive procurement protocols established in subdivision D 3.

~~5.~~ 7. After July 1, 2020, at least 35 percent of the energy storage facilities placed into service shall be (i) purchased by the public utility from a party other than the public utility or (ii) owned by a party other than a public utility, with the capacity from such facilities sold to the public utility. By January 1, 2021, the Commission shall adopt regulations to achieve the deployment of energy storage for the Commonwealth required in subdivisions 1 and 2, including regulations that set interim targets and update existing utility planning and procurement rules. The regulations shall include programs and mechanisms to deploy energy storage, including competitive solicitations, behind-the-meter incentives, non-wires alternatives programs, and peak demand reduction programs. *The Commission shall update these regulations every five years.*

8. By December 1, 2025, the Department of Energy, in consultation with the Department of Environmental Quality and the Department of Fire Programs, shall create model ordinances suggested for use by localities in their regulation of energy storage projects and shall update such model ordinances every three years.

F. All costs incurred by a Phase I or Phase II Utility related to compliance with the requirements of this section or pursuant to § 56-585.1:11, including (i) costs of generation facilities powered by sunlight or onshore or offshore wind, or energy storage facilities, that are constructed or acquired by a Phase I or Phase II Utility after July 1, 2020, (ii) costs of capacity, energy, or environmental attributes from generation facilities powered by sunlight or onshore or offshore wind, or falling water, or energy storage facilities purchased by the utility from persons other than the utility through agreements after July 1, 2020, and (iii) all other costs of compliance, including costs associated with the purchase of RECs associated with RPS Program requirements pursuant to this section shall be recovered from all retail customers in the service territory of a Phase I or Phase II Utility as a non-bypassable charge, irrespective of the generation supplier of such customer, except (a) as provided in subsection G for an accelerated renewable energy buyer or (b) as provided in subdivision C 3 of § 56-585.1:11, with respect to the costs of an offshore wind generation facility, for a PIPP eligible utility customer or an advanced clean energy buyer or qualifying large general service customer, as those terms are defined in § 56-585.1:11. If a Phase I or Phase II Utility serves customers in more than one jurisdiction, such utility shall recover all of the costs of compliance with the RPS

Program requirements from its Virginia customers through the applicable cost recovery mechanism, and all associated energy, capacity, and environmental attributes shall be assigned to Virginia to the extent that such costs are requested but not recovered from any system customers outside the Commonwealth.

By September 1, 2020, the Commission shall direct the initiation of a proceeding for each Phase I and Phase II Utility to review and determine the amount of such costs, net of benefits, that should be allocated to retail customers within the utility's service territory which have elected to receive electric supply service from a supplier of electric energy other than the utility, and shall direct that tariff provisions be implemented to recover those costs from such customers beginning no later than January 1, 2021. Thereafter, such charges and tariff provisions shall be updated and tried up by the utility on an annual basis, subject to continuing review and approval by the Commission.

G. 1. An accelerated renewable energy buyer may contract with a Phase I or Phase II Utility, or a person other than a Phase I or Phase II Utility, to obtain (i) RECs from RPS eligible resources or (ii) bundled capacity, energy, and RECs from solar or wind generation resources located within the PJM region and initially placed in commercial operation after January 1, 2015, including any contract with a utility for such generation resources that does not allocate to or recover from any other customer of the utility the cost of such resources. Such an accelerated renewable energy buyer may offset all or a portion of its electric load for purposes of RPS compliance through such arrangements. An accelerated renewable energy buyer shall be exempt from the assignment of non-bypassable RPS compliance costs pursuant to subsection F, with the exception of the costs of an offshore wind generating facility pursuant to § 56-585.1:11, based on the amount of RECs obtained pursuant to this subsection in proportion to the customer's total electric energy consumption, on an annual basis. An accelerated renewable energy buyer obtaining RECs only shall not be exempt from costs related to procurement of new solar or onshore wind generation capacity, energy, or environmental attributes, or energy storage facilities, by the utility pursuant to subsections D and E, however, an accelerated renewable energy buyer that is a customer of a Phase II Utility and was subscribed, as of March 1, 2020, to a voluntary companion experimental tariff offering of the utility for the purchase of renewable attributes from renewable energy facilities that requires a renewable facilities agreement and the purchase of a minimum of 2,000 renewable attributes annually, shall be exempt from allocation of the net costs related to procurement of new solar or onshore wind generation capacity, energy, or environmental attributes, or energy storage facilities, by the utility pursuant to subsections D and E, based on the amount of RECs associated with the customer's renewable facilities agreements associated with such tariff offering as of that date in proportion to the customer's total electric energy consumption, on an annual basis. To the extent that an accelerated renewable energy buyer contracts for the capacity of new solar or wind generation resources pursuant to this subsection, the aggregate amount of such nameplate capacity shall be offset from the utility's procurement requirements pursuant to subsection D. All RECs associated with contracts entered into by an accelerated renewable energy buyer with the utility, or a person other than the utility, for an RPS Program shall not be credited to the utility's compliance with its RPS requirements, and the calculation of the utility's RPS Program requirements shall not include the electric load covered by customers certified as accelerated renewable energy buyers.

2. Each Phase I or Phase II Utility shall certify, and verify as necessary, to the Commission that the accelerated renewable energy buyer has satisfied the exemption requirements of this subsection for each year, or an accelerated renewable energy buyer may choose to certify satisfaction of this exemption by reporting to the Commission individually. The Commission may promulgate such rules and regulations as may be necessary to implement the provisions of this subsection.

3. Provided that no incremental costs associated with any contract between a Phase I or Phase II Utility and an accelerated renewable energy buyer is allocated to or recovered from any other customer of the utility, any such contract with an accelerated renewable energy buyer that is a jurisdictional customer of the utility shall not be deemed a special rate or contract requiring Commission approval pursuant to § 56-235.2.

H. No customer of a Phase II Utility with a peak demand in excess of 100 megawatts in 2019 that elected pursuant to subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior to April 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that the customer is not purchasing electric energy from the utility, and such customer's electric load shall not be included in the utility's RPS Program requirements. No customer of a Phase I Utility that elected pursuant to subdivision A 3 of § 56-577 to purchase electric energy from a competitive service provider prior to February 1, 2019, shall be allocated any non-bypassable charges pursuant to subsection F for such period that the customer is not purchasing electric energy from the utility, and such customer's electric load shall not be included in the utility's RPS Program requirements.

I. In any petition by a Phase I or Phase II Utility for a certificate of public convenience and necessity to construct and operate an electrical generating facility that generates electric energy derived from sunlight submitted pursuant to § 56-580, such utility shall demonstrate that the proposed facility was subject to competitive procurement or solicitation as set forth in subdivision D 3.

J. Notwithstanding any contrary provision of law, for the purposes of this section, any falling water generation facility located in the Commonwealth and commencing commercial operations prior to July 1,

2024, shall be considered a renewable energy portfolio standard (RPS) eligible source.

K. Nothing in this section shall apply to any entity organized under Chapter 9.1 (§ 56-231.15 et seq.).

L. The Commission shall adopt such rules and regulations as may be necessary to implement the provisions of this section, including a requirement that participants verify whether the RPS Program requirements are met in accordance with this section.

2. That it is the policy of the Commonwealth to further the evaluation and growth of existing and new energy storage technologies, including short-duration energy storage and long-duration energy storage, as those terms are defined in subsection E of § 56-585.5 of the Code of Virginia, as amended by this act, in bolstering reliability of the electric grid and resource adequacy needs. The State Corporation Commission shall consider such policy in evaluating petitions by a Phase I or Phase II Utility, as those terms are defined in subdivision A 1 of § 56-585.1 of the Code of Virginia, to construct, acquire, or procure short-duration or long-duration energy storage resources pursuant to subsection E of § 56-585.5 of the Code of Virginia, as amended by this act.

3. That the Department of Energy, in consultation with the Department of Environmental Quality (the Departments), shall convene a work group to determine recommendations and financial incentives for the development of long-duration energy storage projects, as defined in subsection E of § 56-585.5 of the Code of Virginia, as amended by this act. The work group shall include representatives from electric utilities, localities, interest groups, private businesses, and other stakeholders to develop recommendations and financial incentives related to the development of long-duration energy storage projects. In developing such recommendations and financial incentives, the work group shall give special consideration to projects on previously disturbed land, projects that connect directly to the electric distribution grid, and projects seeking to leverage the exemption for storage facilities provided in subsection G of § 58.1-3660 of the Code of Virginia and whether the threshold for such exemption should change. The Departments shall submit a report from the work group to the Chairmen of the House Committee on Labor and Commerce and the Senate Committee on Commerce and Labor no later than December 1, 2025.

4. That the Department of Energy, in consultation with the Department of Environmental Quality and the Department of Fire Programs (the Departments), shall convene a work group to develop model ordinances suggested for use by localities in their regulation of energy storage projects pursuant to subdivision E 8 of § 56-585.5 of the Code of Virginia, as amended by this act. The work group shall include representatives from the Virginia Association of Counties, the Virginia Fire Prevention Association, the Virginia Farm Bureau Federation, the Piedmont Environmental Council, the Chesapeake Solar and Storage Association, the Solar Energy Industries Association, the American Clean Power Association, Advanced Energy United, storage project engineers, electric utilities, and any other stakeholders deemed relevant by the Departments, the State Corporation Commission, or the Virginia Economic Development Partnership Authority. The Departments shall make available online the resources and studies that inform the model ordinances developed by the work group. The Departments shall submit a report from the work group to the Chairmen of the House Committee on Labor and Commerce and the Senate Committee on Commerce and Labor no later than December 1, 2025.

5. That the State Corporation Commission (the Commission) shall establish a technology demonstration program for long-duration energy storage resources, as defined in subsection E of § 56-585.5 of the Code of Virginia, as amended by this act, to evaluate the feasibility, effectiveness, and reliability benefits of such resources. Such program shall provide for a Phase II Utility, as defined in subdivision A 1 of § 56-585.1 of the Code of Virginia, to petition the Commission for approval to construct, acquire, or procure one or more long-duration energy storage resources with a discharge capacity of at least 3,000 megawatt-hours, unless the Commission in its discretion determines that long-duration energy storage resources were not reasonably available in sufficient quantities to support such petitions. The program shall also provide that the Phase II Utility may include any long-duration energy storage resources existing at the time of such petition in such aggregate capacity. In performing the technology demonstration as established by the Commission, a Phase II Utility shall make a reasonable good-faith effort to secure appropriate sources of funding from the U.S. Department of Energy. A Phase II Utility shall report technology demonstration program outcomes to the Commission no later than October 1, 2029. Such report may include data regarding the costs of projects included in the technology demonstration program, the ease and ability to procure necessary supply chain elements supporting long-duration energy storage, the relative ease associated with siting long-duration energy storage resources, and any other data that the Commission deems relevant.

6. That the provisions of subdivisions E 3 and 4 of § 56-585.5 of the Code of Virginia, as amended by this act, shall become effective only upon a determination by the State Corporation Commission (the Commission) that the technology referenced in such subdivisions is technically viable and that the construction, acquisition, or procurement targets referenced in such subdivisions are reasonably achievable. The Commission shall initiate a proceeding to make such determination or alternatively

493 propose modified targets for the construction, acquisition, or procurement of such technology upon
494 receipt of the report by a Phase II Utility as required by the fifth enactment of this act and shall enter
495 its final order in such proceeding no later than March 1, 2030. As part of such proceeding, the
496 Commission shall also determine whether an additional technology demonstration program for long-
497 duration energy storage is necessary to further the goal of evaluating the role for energy storage
498 technologies in bolstering reliability of the electric grid. If the Commission so determines, the
499 Commission shall establish the duration and scope of an additional technology demonstration
500 program, including an incremental amount of discharge capacity from long-duration energy storage
501 projects eligible to be deployed. The Commission shall use all available data and information relating
502 to such technology in the proceeding. In the event the Commission does not determine that such
503 technology and targets are viable and achievable, nothing in this act shall prohibit the Commission
504 from initiating future proceedings in its own discretion or upon a petition by an interested party to
505 assess such technology and targets.

506 7. That the State Corporation Commission (the Commission) shall update its regulations to achieve the
507 deployment of energy storage in the Commonwealth, including regulations that set interim targets
508 consistent with the provisions of subdivisions E 3 and 4 of § 56-585.5 of the Code of Virginia, as
509 amended by this act. Upon making the determination pursuant to the sixth enactment of this act, the
510 Commission shall promulgate regulations, including interim targets, reflecting the provisions of
511 subdivisions E 3 and 4 of § 56-585.5 of the Code of Virginia, as amended by this act.

512 8. That the Department of Energy shall, through the Independent State Agencies Committee, engage
513 with PJM Interconnection, LLC, and other state-level utility regulators within the PJM region in
514 reviewing regional market conditions for the energy storage market, including existing cost signals and
515 interconnection related to energy storage technology.

516 9. That, in order to promote research and workforce development in the energy storage industry, a
517 Phase II Utility, as defined in subdivision A 1 of § 56-585.1 of the Code of Virginia, may propose an
518 energy storage partnership with institutions of higher education in the Commonwealth, which may
519 include energy storage deployment at such institutions, internships related to the energy storage
520 industry, and involvement as appropriate in new and ongoing research in the energy storage industry.
521 Such proposal shall be subject to approval by the State Corporation Commission and shall include at
522 least one historically black college or university, as defined in § 2.2-1604 of the Code of Virginia, and
523 one comprehensive community college, as defined in § 23.1-100 of the Code of Virginia.