STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 15-E-0302 - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and Clean Energy Standard.

ORDER ADOPTING MODIFICATIONS TO THE CLEAN ENERGY STANDARD

Issued and Effective: October 15, 2020

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At a session of the Public Service Commission held in the City of Albany on October 15, 2020

COMMISSIONERS PRESENT:

John B. Rhodes, Chair
Diane X. Burman, dissenting
James S. Alesi
Tracey A. Edwards
John B. Howard

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BY THE COMMISSION:

INTRODUCTION

New York State has taken a number of significant steps to combat climate change by reducing greenhouse gas emissions associated with electric generation. The Public Service Commission (Commission) has played a critical role in these efforts through various initiatives to promote the deployment of clean energy resources, energy efficiency measures, and advanced energy storage technologies. Building on these initiatives, the State enacted the Climate Leadership and Community Protection Act (CLCPA), which directs the Commission to establish a program to ensure (1) sufficient amounts of renewable energy resources to serve at least 70% of load in 2030, and (2) that there are

zero emissions in 2040 associated with electrical demand.[1] The CLCPA also directs the Commission to establish programs to achieve procurement goals for specific technologies, including the deployment of 6 gigawatts (GW) of photovoltaic solar generation by 2025, 3 GW of energy storage resources by 2030, and at least 9 GW of offshore wind by 2035.

In this Order, the Commission adopts several modifications to its existing Clean Energy Standard (CES) in order to align with the CLCPA mandates. The Commission also adopts a competitive procurement program under Tier 2 of the CES to secure the continued availability of existing renewable resources. These actions together will put New York on a path toward achieving the State's ambitious climate and clean energy objectives.

BACKGROUND

On August 1, 2016, the Commission adopted the CES to achieve a statewide deployment goal of 50% renewable generation resources by 2030 (the 50 by 30 goal).[2] The Commission divided the CES into a Renewable Energy Standard (RES) and a Zero-Emissions Credit (ZEC) requirement.[3] The RES includes a Tier 1

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[1] See, Chapter 106 of the Laws of 2019 (codified, in part, in Public Service Law (PSL) §66-p). The CLCPA became effective on January 1, 2020.

[2] Case 15-E-0302, et al., Order Adopting A Clean Energy Standard (issued August 1, 2016)(CES Framework Order). The Commission adopted the CES in furtherance of the 2015 State Energy Plan, which set a target that 50 percent of electricity used in New York State be generated from renewable energy sources by 2030.

[3] The ZEC program provides support for certain nuclear power facilities in the State. In contrast to the Tier 1 RES program, NYSERDA and DPS Staff annually calculate a uniform per MWh rate that is applied to each LSE's actual wholesale load to calculate each LSE's ZEC monthly obligation.

component that obligates each load-serving entity (LSE) to serve its retail customers by procuring new renewable resources, evidenced by the procurement of qualifying Tier 1 Renewable Energy Certificates (RECs) from the New York State Energy Research and Development Authority (NYSERDA) or other sources, or by making Alternative Compliance Payments (ACPs).[4] The RES also includes a Tier 2 maintenance program to provide financial support for existing eligible renewable facilities that are at risk of ceasing operations. In 2018, the Commission added an Offshore Wind Standard to the CES by requiring LSEs to support the procurement of 2.4 GW of offshore wind resources by 2030.[5]

The Tier 1 RES program operates through a demand obligation on each LSE, which must either procure RECs produced by eligible Tier 1 facilities to serve a specified percentage of its load or make up any shortfall by providing ACPs to NYSERDA. The LSE obligation, which the Commission set for the 2017 to 2022 timeframe, is determined based on projections of the sum of: (1) the expected available volume of Tier 1-eligible RECs under contract to NYSERDA; and (2) the expected Tier 1-eligible RECs conveyed to investor-owned utilities (IOUs) from Value of Distributed Energy Resource (VDER) projects. The CES Framework Order set LSE obligation percentages through 2021 and directed DPS Staff and NYSERDA to base the LSE obligation on a three-year rolling trajectory for subsequent years. DPS Staff and NYSERDA

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[4] RECs represent the environmental attributes, including but not limited to estimated avoided carbon dioxide emissions, associated with electricity generated by facilities that meet the Tier 1 eligibility criteria established in the CES Framework Order.

[5] Case 18-E-0071, In the Matter of Offshore Wind Energy, Order Establishing Offshore Wind Standard and Framework for Phase 1 Procurement (issued July 12, 2018) (Offshore Wind Order).

subsequently established the 2022 obligation through issuance of the 2019 Divergence Test.[6]

The Maintenance or Tier 2 RES program is intended to ensure the continued availability of legacy baseline resources to meet the State's renewable energy goals. The program presumes that, absent some form of State support, certain baseline renewable resources may become uneconomic and shut down or seek revenue from another state, with the subsequent loss of these resources making it more difficult for the State to meet its clean energy targets. The Commission's March 16, 2018 Baseline Order expanded the Maintenance Tier 2 program, streamlined the review process, expanded eligibility, and allowed additional costs to be included in the determination of need.[7] The Baseline Order authorized a standard three-year contract term for maintenance tier contracts and permitting facilities to apply for renewal of an existing Maintenance Tier contract. Under the existing construct, Tier 2 contracts are awarded on a case-by-case basis, and eligible facilities are limited to run-of-river hydroelectric facilities sized 10 megawatt (MW) or less, wind facilities, and biomass direct combustion facilities that were in commercial operation before January 1, 2015. Each participant must demonstrate a financial need showing that it would cease operations without such support.

Of course, the voluntary market remains one of the potential outlets for resources not contracted with NYSERDA. Voluntary purchases of new, New York-based renewable energy supply counts towards CES goals and can be driven by

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[6] Case 15-E-0302, 2019 Divergence Test and Target Setting Filing (filed September 30, 2019).

[7] Case 15-E-0302, Order Adopting Measures for the Retention of Existing Renewable Baseline Resources (issued March 16, 2018).

participants of community choice aggregation (CCA) projects or from purchases by customers of energy service companies (ESCOs) and utilities offering products backed by RECs from renewables whose energy is consumed within New York. Demand can also come from voluntary procurements by larger commercial, industrial, institutional, or government end-use customers.

In 2018, the Commission augmented the Tier 1 and Tier 2 programs through addition of an LSE obligation to purchase Offshore Wind Renewable Energy Certificates (ORECs) in proportion to the load served by each LSE. The Offshore Wind Order established the Offshore Wind Standard with a goal of adding 2,400 MW of offshore wind capacity in New York State by 2030. The Commission also authorized NYSERDA to hold initial procurement solicitations in 2018 and 2019, for an aggregate of approximately 800 MW or more of offshore wind. In response to the initial procurement, NYSERDA successfully contracted for 1,696 MW of offshore wind in October 2019.[8] On April 23, 2020, to maintain New York's trajectory in meeting its clean energy goals, the Commission authorized NYSERDA to issue an additional offshore wind solicitation for 1,000 MW or more.[9] Many of the details related to the OREC LSE obligation have yet to be determined due to the offshore wind industry's nascent development and a project's relatively long development timeframes. The LSE's compliance obligation will not commence until an offshore wind development starts producing ORECs, which is not expected until 2024 at the earliest.

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[8] Case 18-E-0071, NYSERDA's Launching New York's Offshore Wind Industry: Phase 1 Report (filed October 23, 2019).

[9] Case 18-E-0071, In the Matter of Offshore Wind Energy, Order Authorizing Offshore Wind Solicitation in 2020 (issued April 23, 2020).

PSL §66-p (added by the CLCPA) directs the Commission to establish a program whereby: (1) jurisdictional LSEs have secured adequate amounts of renewable energy resources to serve at least 70% of load in 2030 (70 by 30 Target); and (2) there are zero emissions in 2040 associated with the "statewide electrical demand system." The CLCPA also mandates technology-specific procurement goals, including the deployment of 6 GW of distributed photovoltaic (PV) solar generation by 2025, 9 GW of offshore wind by 2035, and 3 GW of energy storage resources by 2030.[10] The CLCPA requires the Commission, by July 1, 2024 and every two years thereafter, to issue for notice and comment a "comprehensive review" that considers "(a) progress in meeting the overall targets for deployment of renewable energy systems and zero emission sources, including factors that will or are likely to frustrate progress toward the targets; (b) distribution of systems by size and load zone; and (c) annual funding commitments and expenditures."[11]

The CLCPA describes the program the Commission must establish as applying to "electric generation secured by jurisdictional load serving entities."[12] The CLCPA defines the

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[10] Before the CLCPA was enacted, the Commission had established a similar energy storage deployment goal of 3 GW. See, 18-E-0130, In the Matter of Energy Storage Deployment Program, Order Establishing Energy Storage Goal and Deployment Policy (issued December 18, 2018). The 3 GW energy storage target is in addition to 1.4 GW of traditional pumped hydro storage that is already deployed.

[11] PSL §66-p(5). PSL §66-p(4) provides the Commission with authority to "temporarily suspend or modify" the obligations created by the Program if, after conducting a hearing, it finds that the Program "impedes the provision of safe and adequate electric service," "is likely to impair existing obligations and agreements," and/or is related to "a significant increase in arrears or service disconnections."

[12] PSL §66-p(2)(a).

term "jurisdictional load serving entity" as "any entity subject to the jurisdiction of the [C]ommission that secures energy to serve the electrical energy requirements of end-use customers in New York [S]tate."[13] As defined, these entities include IOUs, ESCOs, CCAs not served by ESCOs, jurisdictional municipal utilities, and any retail customers self-supplying through the New York Independent System Operator (NYISO). While not jurisdictional LSEs, the New York Power Authority (NYPA) and the Long Island Power Authority (LIPA) have also committed to adopting renewable energy targets that achieve the CES's renewable energy targets.[14]

The CLCPA's definition of renewable energy systems differs from the eligible resources under the existing RES. The CLCPA defines "renewable energy systems" as:

> systems that generate electricity or thermal energy through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity.[15]

The CLCPA's definition does not include biomass or biogas, which are currently eligible under the RES. In addition, while the RES includes low-impact run-of-river projects and hydroelectric resources to the extent of the incremental production associated with upgrades to existing facilities without new storage impoundments, the CLCPA contains no such eligibility limitations for such resources. Finally, fuel cells are RES-eligible technologies without regard to fuel source, whereas the CLCPA

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[13] PSL §66-p(1)(a).

[14] NYSERDA, Clean Energy Standard Annual Progress Report: 2018 Compliance Year (filed December 31, 2019), pp. 6-8.

[15] PSL §66-p(1)(b).

applies to fuel cells only if they "do not utilize a fossil fuel resource in the process of generating electricity."[16]

Of particular importance, the CLCPA directs the Commission to design the programs for achieving the renewable energy targets "in a manner to provide substantial benefits for disadvantaged communities. . . including low to moderate income consumers, at a reasonable cost while ensuring safe and reliable electric service."[17] The CLCPA defines "disadvantaged communities" as "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the Environmental Conservation Law (ECL). ECL §75-0111, in turn, creates a process through which the Climate Justice Working Group will establish criteria for identifying disadvantaged communities. The CLCPA also requires the Commission to take steps to ensure reductions in emissions from peaker plants, many of which are located in low-income communities. The CLCPA requires the Commission: "[t]o the extent practicable, specify that a minimum percentage of energy storage projects should deliver clean energy benefits into NYISO zones that serve disadvantaged communities . . . and that energy storage projects

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[16] The Commission has addressed the eligibility of fuel cells using fossil fuels to receive the Environmental Value under the VDER Value Stack. The Commission precluded these resources from receiving the Environmental Value due to their disqualification under the CLCPA. See, Case 15-E-0751, The Value of Distributed Energy Resources, Order Regarding Value Stack Compensation for High-Capacity-Factor Resources (issued December 12, 2019).

[17] PSL §66-p(7).

be deployed to reduce the usage of combustion-powered peaking facilities located in or near disadvantaged communities."[18]

On June 18, 2020, to implement PSL §66-p, DPS Staff and NYSERDA jointly prepared a "White Paper on Clean Energy Standard Procurements to Implement New York's Climate Leadership and Community Protection Act." The White Paper proposes to use the existing regulatory and procurement structure established under RES to meet the 70 by 30 Target and adopt policy changes and other modifications to the CES in order to align with the CLCPA. Specifically, the White Paper proposes, among other issues, to: (1) align RES eligibility with the definition of renewable energy systems in the CLCPA; (2) adopt average annual procurement targets for Tier 1 and offshore wind intended to meet the CLCPA target dates; (3) modify the Tier 1 and offshore wind solicitation process; (4) create a new Tier 4 that would provide support for renewable energy projects that deliver energy into New York City (i.e., load Zone J); (5) adopt new repowering requirements; (6) adopt a mechanism for addressing shortfalls in ZEC obligations; (7) establish a new funding mechanism; and (8) establish new reporting requirements. The White Paper also seeks stakeholder input on various issues related to CES modifications intended to align with the CLCPA.

This Order also addresses a petition, filed by NYSERDA on January 24, 2020, to establish a Competitive Tier 2 Program to support wind and hydroelectric baseline facilities (Tier 2 Petition). The Tier 2 Petition proposes a five-year Competitive Tier 2 Program that would include three annual solicitations, with each solicitation procuring one-third of the overall program capacity. Facilities selected in the solicitation would receive a standard three-year contract with NYSERDA. Eligible

[18] PSL §66-p(7)(a).

facilities would include in-state wind resources and privately-owned run-of-river hydroelectric generators, regardless of facility size, that commenced commercial operation prior to January 1, 2015. NYSERDA proposes funding the Tier 2 Program up to $200 million, which is expected to allow for the majority of eligible generation to receive support, while also maintaining a competitive market. The program would begin in 2020 with the issuance of the first Request for Proposal (RFP), and continue through 2026 for transactions in 2025, the last compliance year.

NOTICES OF PROPOSED RULEMAKING

A Notice of Proposed Rulemaking with respect to the Tier 2 Petition was published in the State Register on February 12, 2020 [SAPA No. 15E0302SP41] pursuant to the State Administrative Procedure Act (SAPA) §202(1). On April 2, 2020, the Secretary extended the comment period from April 13, 2020, to May 4, 2020. The Commission received 19 comments and one reply comment, each of which is summarized in Appendix F.[19]

A Notice of Proposed Rulemaking with respect to the White Paper was published in the State Register on July 1, 2020 [SAPA No. 15-E-0302SP44]. A Notice Scheduling Technical Conference and Soliciting Comments, issued on June 30, 2020, scheduled a technical conference related to the White Paper for July 14, 2020. The Notice required preliminary feedback by July 24, 2020, on the substance of the White Paper and the Technical Conference, and the submission of formal comments by August 31, 2020. The deadline for submission of comments pursuant to the July 1, 2020 SAPA Notice was August 31, 2020. Over 60 comments

[19] In addition to a summary of the comments received, Appendix F also provides the full names of the commenting entities, as well as the acronyms used in this Order.

from parties and over 1,500 public comments were filed in the docket, which are summarized in Appendix F.

LEGAL AUTHORITY

The Commission's authority derives from the PSL, through which numerous legislative powers are delegated to the Commission. Pursuant to PSL §5(1), the "jurisdiction, supervision, powers and duties" of the Commission extend to the "manufacture, conveying, transportation, sale or distribution of . . . electricity." PSL §5(2) requires the Commission to "encourage all persons and corporations subject to its jurisdiction to formulate and carry out long-range programs, individually or cooperatively, for the performance of their public service responsibilities with economy, efficiency, and care for the public safety, the preservation of environmental values and the conservation of natural resources."

In addition, PSL §66(2) provides that the Commission shall "examine or investigate the methods employed by [] persons, corporations and municipalities in manufacturing, distributing and supplying . . . electricity . . . and have power to order such reasonable improvements as will best promote the public interest, preserve the public health and protect those using such . . . electricity." Further, PSL §65(1) provides the Commission with authority to ensure that "every electric corporation and every municipality shall furnish and provide such service, instrumentalities and facilities as shall be safe and adequate and, in all respects, just and reasonable." PSL §4(1) also expressly provides the Commission with "all powers necessary or proper to enable [the Commission] to carry out the purposes of [the PSL]" including, without limitation, a guarantee to the public of safe and adequate service at just and

reasonable rates,[20] environmental stewardship, and the conservation of resources.[21]

The CLCPA amended the PSL by adding PSL §66-p(2), which directs the Commission to "establish a program to require that: (a) a minimum of seventy percent of the state wide electric generation secured by jurisdictional load serving entities to meet the electrical energy requirements of all end-use customers in New York state in two thousand thirty shall be generated by renewable energy systems; and (b) that by the year two thousand forty (collectively, the 'targets') the statewide electrical demand system will be zero emissions." In establishing such program, PSL §66-p(2) requires the Commission to "consider and where applicable formulate the program to address impacts of the program on safe and adequate electric service in the state under reasonably foreseeable conditions. The commission may, in designing the program, modify the obligations of jurisdictional load serving entities and/or the targets upon consideration of the factors described in this subdivision."

In addition to the PSL, the New York State Energy Law §6-104(5)(b) requires that "[a]ny energy-related action or decision of a state agency, board, commission or authority shall be reasonably consistent with the forecasts and the policies and long-range energy planning objectives and strategies contained in the plan, including its most recent update."

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[20] See, International R. Co. v Public Service Com., 264 AD 506, 510 (1942).

[21] PSL §5(2); see also, Consolidated Edison Co. v Public Service Commission, 47 NY2d 94 (1979) (overturned on other grounds) (describing the broad delegation of authority to the Commission and the Legislature's unqualified recognition of the importance of environmental stewardship and resource conservation in amending the PSL to include §5).

STATE ENVIRONMENTAL QUALITY REVIEW ACT

On June 12, 2020, in accordance with the State Environmental Quality Review Act (SEQRA), the Commission issued a Draft Supplemental Generic Environmental Impact Statement (SGEIS) that explored the potential environmental impacts associated with the increase in renewable resources needed for implementation of the following CLCPA requirements: (1) 70% of electricity from renewable energy by 2030; (2) 9 GW of offshore wind electricity by 2035; and (3) 6 GW of distributed photovoltaic solar generation. Over 140 entities submitted comments. After evaluating the comments, on September 17, 2020, the Commission finalized and published a Final SGEIS.

In conjunction with the decisions made in this Order, the Commission has considered the information in the Final SGEIS and hereby adopts the SEQRA Findings Statement prepared by the Commission as lead agency for these actions in accordance with ECL Article 8 (i.e., SEQRA) and 6 NYCRR Part 617. The SEQRA Findings Statement is attached to this Order as Appendix E. The SEQRA Findings Statement is based on the facts and conclusions set forth in the Final SGEIS. It concludes that several direct benefits would result from this action in the form of reductions in greenhouse gas emissions, additional economic development, workforce employment, the avoidance of adverse health outcomes, and improved transmission and distribution networks. Additional secondary benefits that may result include further development of new agricultural markets, coastal tourism, indirect jobs associated with construction and operation, purchases of local products and services, and new or increased tax payments by employees and facilities. In conjunction with other State and Federal policies and initiatives, implementation of the CLCPA's renewable energy targets as proposed in the White Paper is designed to reduce the adverse environmental, social and

economic impacts of fossil fuel energy resources by increasing the use of clean energy resources and technologies.

DISCUSSION

The CLCPA establishes an ambitious set of objectives that are necessary to reduce greenhouse gas emissions, combat climate change, and improve the State's public health and welfare. As discussed further below, the Commission seeks to build upon the CES in a manner that will benefit New York energy consumers and the overall economy by encouraging new clean energy and related investments in the State, maintaining existing jobs, and attracting capital from outside the State.

The Commission recognizes the significant benefits anticipated with respect to the actions taken herein. For instance, the Tier 1 procurements between 2021 and 2026 are estimated to have a levelized impact on electricity bills of less than 0.5% (or $0.35 per month for the typical residential customer), but yield a net benefit of around $7.7 billion over the lifetime of the projects, taking into account the value of the avoided carbon emissions.[22] Similarly, the incremental offshore wind procurements from 2021 required to reach the 2035 9 GW goal are estimated to have a levelized impact on electricity bills of less than 1.1% (or $0.81 per month for the typical residential customer), while these procurements are estimated to yield a net benefit of almost $9.6 billion over the lifetime of the projects.[23] The reductions in other types of air pollutants would increase these benefits.

[22] White Paper, p. 23.

[23] White Paper, p. 24.

A. Definition of "Renewable Energy Systems"

The White Paper proposes to align the eligible technologies listed in Appendix A of the CES Framework Order with the definition of renewable energy systems contained in the CLCPA. The CLCPA defines renewable energy systems as "systems that generate electricity or thermal energy through use of the following technologies: solar thermal, photovoltaics, on land and offshore wind, hydroelectric, geothermal electric, geothermal ground source heat, tidal energy, wave energy, ocean thermal, and fuel cells which do not utilize a fossil fuel resource in the process of generating electricity."[24] This definition differs from the current technologies eligible under the RES in three notable ways discussed below.

1. Biomass and Biogas

The CLCPA definition of renewable energy systems does not include biomass or biogas, which are currently eligible under the RES. The White Paper thus proposes that future RES solicitations exclude biomass and biogas, while recommending that NYSERDA make no changes to its existing biomass and biogas contracts. Additionally, the White Paper proposes that RECs produced by biomass and biogas facilities subject to such existing contracts continue to be eligible to satisfy LSEs' Tier 1 compliance obligations through 2029, although the RECs associated with these resources would not count toward the 70 by 30 Target.

Many commenters assert that biogas or biomass should be included as eligible technologies because, among other reasons, these technologies have been eligible renewable energy technologies in the past and will be essential to New York achieving its clean energy goals. The Business Council, for example, recommends the creation of a separate CES tier to

[24] PSL §66-p(1)(b).

incorporate these resources. ESFPA also recommends the creation of a new tier within the CES for resources that are not included in the CLCPA's definition but are nevertheless zero-carbon or low-carbon dispatchable resources that it asserts should be supported. The JU argues that the Commission should establish biogas as a clean energy resource and either continue qualifying the energy produced by these resources for Tier 1 RECs, or alternatively establish a separate tier for such resources.

Generate states that the omission of organic waste-based renewable energy generation from the definition of renewable energy systems is out of step with New York State's previous clean energy policy, as well as the existing policies of, among others, the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA), the United Nations Food and Agriculture Organization (UN FAO). Cornell explains that bioenergy can efficiently provide baseload and/or dispatchable heat and electricity utilizing continuously available waste streams including manure, food scraps, forest residue, and others, while generating collateral benefits like protecting water quality, improving soil health, and sequestering carbon.

ReEnergy states that bioenergy is included as a renewable resource in virtually all renewable energy programs across the United States and internationally. Bioenergy projects, ReEnergy continues, need to monetize the value of their renewable energy attributes to be financially viable, and such projects would be forced to terminate operations without being compensated through sufficiently valued RECs. ReEnergy argues that bioenergy is a firm low-carbon resource that can address the challenge of seasonal variation in supply and play a key role in climate change mitigation. ReEnergy suggests the creation of a separate tier within the CES framework for

resources that are not included in the CLCPA definition of renewable energy systems but are zero-carbon or low-carbon dispatchable resources that should be supported for purposes of ensuring the State's ability to reach other CLCPA goals.

Taylor Biomass Energy requests that biomass energy systems currently authorized for Tier 1 eligibility be grandfathered in perpetuity. Taylor Biomass Energy also argues that the Commission needs to address questions related to the administration of RECs from biomass generation imported into New York.

While the Commission certainly understands the concerns raised by commenters, its actions regarding the resources covered under the definition of "renewable energy systems" under PSL §66-p(1)(b) must be based on the plain language of the statute. The Commission thus adopts the interpretation of that term as set forth in the White Paper, which by its plain terms excludes from eligibility biomass and biogas resources.

However, recognizing that such technologies have historically been included as eligible technologies under the RES, the Commission adopts the White Paper proposal to direct NYSERDA to continue to honor its obligations under existing contracts with biomass and biogas resources. The Commission also finds that RECs associated with energy generated by biogas and biogas facilities shall remain eligible through 2029 (i.e., ending in 2030) for the purpose of counting towards LSE Tier 1 obligations. This finding is also consistent with the plain language of PSL §66-p, which precludes energy from these facilities from qualifying under the 70 by 30 Target, which is binding on the Commission in 2030. Given the significant monetary support underlying the Tier 1 program and the need to protect ratepayers from funding resources that will not

contribute to State goals, the Commission rejects any new tiers or programs for these resources.

2. Hydroelectric Resources

While the CLCPA includes all hydroelectric resources as renewable energy systems, Appendix A of the CES Framework Order places additional restrictions on such resources. The CES Framework Order makes eligible for Tier 1 those hydroelectric resources that either (1) constitute new or existing low-impact run-of-river facilities, or (2) for other existing facilities, to the extent of their incremental production associated with upgrades so long as such upgrades do not include new storage impoundments. The White Paper proposes to continue to impose the same eligibility requirements on hydroelectric resources found in Appendix A of the CES Framework Order for all future Tier 1 solicitations. However, as explained below, the White Paper also proposes that the Commission authorize NYSERDA to procure RECs from a broader array of hydropower resources under a new Tier 4, so long as the associated energy does not involve new impoundments and is shown to be additional to the supplier's baseline production of renewable energy. New impoundments were excluded from the recommendations in the White Paper because of the environmental damage that may result and the potential for greenhouse gas emissions to increase, contrary to the explicit goals of the CLCPA. The Commission finds this reasoning to be sound and thus adopts the requirements for hydroelectric resources noted above.

3. Fuel Cells and Resources that Use Hydrogen

Appendix A of the CES Framework Order included fuel cells as eligible technologies without regard to fuel source. However, the CLCPA includes fuel cells within the definition of renewable energy systems only to the extent that they "do not utilize a fossil fuel resource in the process of generating

electricity."[25] Thus, the White Paper proposes eligibility be limited to those fuel cells that utilize a non-fossil fuel resource, such as hydrogen (or other fuel), that has been produced using a renewable energy system as a primary energy source. The White Paper proposes that NYSERDA be directed to maintain all active fuel cell contracts and that RECs produced from fuel cells subject to existing contracts that otherwise do not qualify as "renewable energy systems" under PSL §66-p(1)(b) should continue to be eligible for Tier 1 compliance through 2029.

Several commenters assert that the White Paper's proposal regarding eligible fuel cells is too narrow considering the language of the CLCPA. For example, ACE NY argues that, because biomass and biogas are not technically fossil fuels, fuel cells that use these fuels should be considered "renewable energy resources" under §66-p(1)(b). ACE NY adds that the process of anaerobic digestion does not add new carbon into the naturally occurring cycle and it removes methane - a more pernicious global warming pollutant - from the cycle. Bloom Energy likewise argues that biogas is not a fossil fuel and thus biogas-powered fuel cells should be eligible as a renewable energy system. Bloom Energy also notes that fuel cells convert renewable fuel (either biogas or renewable hydrogen) electrochemically (without high temperature combustion), resulting in far less greenhouse gas emissions than from fossil fuel combustion.

IPPNY argues that biofuels and biomass are renewable fuels, not fossil fuels and thus fuel cells that use biofuels should be eligible resources under the CES. NFCRC recommends that biogas and hydrogen be included in CES eligibility as a

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[25] PSL §66-p(1)(b).

non-fossil fuel resources for fuel cell systems. NFCRC notes that biogas and hydrogen are zero-emission sources of generation for power and heat. NFGDC also argues that technologies such as new dispatchable electric generation facilities that utilize renewable natural gas (RNG), renewable hydrogen gas, carbon capture and sequestration (CCS), and energy storage resources should be encouraged and deployed into the State's overall energy mix. NFGDC adds that ongoing technological developments are revealing that hydrogen can be utilized in advanced dual-fuel combined cycle turbines in hydrogen/power-to-gas (P2G) applications. RNG Coalition asserts that energy from fuel cells derived from non-fossil fuel inputs such as renewable natural gas must be CES eligible for consistency with the CLCPA.

Plug Power asserts that renewable green hydrogen will play a more pivotal role in fueling energy systems in the future and thus must receive robust support under the next round of CES initiatives. Plug Power argues that a fuel cell utilizing hydrogen in the process of generating electricity is not utilizing a fossil fuel with respect to hydrogen produced from grid power and should be eligible under the CLCPA. Shell contends that the White Paper recommendations for the use of green hydrogen should be expanded so this resource can assume a larger role in meeting State energy policies, particularly in enabling a transition to a climate-neutral energy system.

LIPA seeks further explanation of the White Paper's proposed end date of 2029 for RECs produced from biomass, biogas, or ineligible fuel cell projects subject to existing contracts, and recommends that existing fuel cell contracts executed in good faith prior to CLCPA enactment remain Tier 1 REC eligible until the CLCPA requirement of 100% carbon-free electric generation by 2040 becomes effective.

The Commission agrees with those commenters asserting that PSL §66-p(1)(b) requires fuel cells to be considered "renewable energy resources" to the extent fueled by non-fossil fuels like biomass,[26] biogas, or hydrogen. As they correctly note, PSL §66-p(1)(b) includes "fuel cells which do not utilize a fossil fuel," and biomass, biogas, and hydrogen are not fossil fuels. The Commission thus finds that fuel cells that use biomass, biogas, hydrogen, or other non-fossil fuels to be eligible for RES procurements. However, we interpret the term "utilize a fossil fuel" broadly to require that the non-fossil fuel inputs to otherwise eligible fuel cells be produced and/or manufactured through a process that does not include the combustion or electrolysis of fossil fuels, or the use of fossil fuel or non-renewable grid power in the conversion process. In other words, fuel inputs must be produced using a renewable energy system as a primary energy source in order for the fuel used in the fuel cell to be eligible. Thus, a fuel cell that uses a biofuel or hydrogen produced through a process that includes the combustion or electrolysis of fossil fuels will not be eligible.[27]

B. Load Forecasts and the 70 by 30 Target

The White Paper proposes to determine the amount of new renewable energy necessary to meet the 70 by 30 Target by subtracting the contribution of currently operating and already-contracted renewable energy projects from an estimate of

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[26] Biomass is eligible as a renewable fuel source only if it is gasified using a process that utilizes a renewable energy source in the conversion process.

[27] A fuel cell that uses biofuel manufactured through a process that uses grid power would also be ineligible because the electric grid carries electricity from non-renewable resources.

statewide electric load in 2030. The White Paper forecasts the statewide electric load in 2030 to be 151,678 GWh of wholesale energy requirements and uses this load projection to establish RES procurement targets. Multiplying the 151,678 GWh (year 2030) load projection by 70% produces an estimate of 106,174 GWh of renewable electricity that must be operating in 2030 to meet the 70 by 30 Target. The White Paper further estimates that approximately 63,317 GWh of renewable energy are already either in operation, under contract, or separately required by statute. Therefore, subtracting that figure from the 106,174 GWh total yields 42,858 GWh, which is the incremental quantity of renewable energy that must be obtained through new RES and offshore wind solicitations in order to meet the 70 by 30 Target.

When taking into consideration the contribution of offshore wind discussed more fully below, the White Paper estimates that approximately 24,990 GWh must be secured through RES, mainly through the Tier 1 program. To ensure that a sufficient number of projects are operating in 2030, the White Paper proposes that the full 24,990 GWh of incremental renewable energy be procured no later than 2026. Additionally, the White Paper proposes that any renewable generation procured through Tier 4, as well as any distributed solar that may be deployed after achievement of the 6 GW target required pursuant to PSL §66-p(5), should be used to reduce the renewable generation that must be procured through Tier 1. The White Paper proposes that these procurement estimates be updated through the annual divergence test as the decade progresses.

The Commission finds the methodology used in the White Paper to be sound and thus adopts both the initial load forecasts and procurement targets proposed therein as summarized above. The Commission also directs DPS Staff and NYSERDA to

provide annual updates of both the load forecasts and procurement targets to assure that the renewable energy projects being developed are on schedule to meeting the 70 by 30 Target and that adjustment to procurement targets are timely made.

Some commenters assert that the load projections relied upon in the White Paper may be understated in light of the potential for more rapid deployment of electric vehicles and greater increases in building electrification. They argue that such developments would result in a higher estimate of load by 2030 than the load forecast presented in the White Paper. The Commission recognizes that, like with any forecast, the forecasts presented in the White Paper will likely require adjustment as actual data is received. Nevertheless, the Commission does not find the forecasts to be artificially low and reaffirms that adjustments to the load forecasts, annual procurement targets, and LSE obligations will be handled in the annual divergence test. The Commission discusses this annual process in the next section.

In its comments, LIPA notes that the new renewable generation required to meet the 70 by 30 Target falls into three distinct categories: (1) new offshore wind; (2) distributed solar; and (3) Tier 1 and Tier 4 REC procurements. LIPA explains that NYSERDA's costs for REC procurements are allocated to LSEs according to each LSE's load ratio share; however, no LSE-specific targets have been established for distributed solar. LIPA asserts that failing to establish LSE-specific targets for distributed solar may result in LIPA bearing a disproportionate share of cost-shifts, given the success of its net metering programs. To remedy this, LIPA proposes that the State's 6 GW distributed solar goal be similarly allocated to each LSE according to its load ratio share, and each LSE's Tier

1 and Tier 4 REC obligation be adjusted to reflect whether it exceeds or falls below its distributed solar allocation.

The Commission agrees that LIPA's behind-the-meter program has been successful and that it may be contributing more on a load ratio basis to the 6 GW solar target under the CLCPA than other LSEs. However, LIPA's proposal to get credit for its contribution to that target under Tier 1 did not receive sufficient review from and comment by other stakeholders to support a decision at this time. Therefore, the Secretary shall issue a notice requesting comments on LIPA's proposal to build a more detailed record, following which the Commission will determine whether adoption of LIPA's proposal or other action is warranted.

C. Modifications to the RES Tier 1 Program

1. Annual Solicitations

As discussed above, approximately 24,990 GWh of energy from new Tier 1 resources will be needed to achieve the 70 by 30 Target. To achieve this amount of incremental generation, the White Paper proposes average annual Tier 1 procurement targets of approximately 4,500 GWh per year over the 2021 to 2026 period, assuming an attrition rate of 20%. The White Paper proposes that NYSERDA be authorized to conduct annual Tier 1 solicitations, beginning in 2021, in amounts necessary to achieve the 70 by 30 Target, but with neither minimum nor maximum quantity limitations in any given year. Additionally, the White Paper proposes that NYSERDA be allowed to move forward without conducting makeup solicitations in the event that an annual solicitation procures less than the 4,500 GWh per year target. The White Paper proposes instead that NYSERDA be directed to annually revise the average annual amount of renewable generation required to be procured to reach the 70 by

30 Target, taking into account the most recent data for the year, with the goal to make up any shortfalls in the following year's solicitation. The White Paper proposes to make these adjustments to the annual average procurement targets through the divergence test process.

ACE NY supports the 4,500 GWh per year annual target over the 2021-2026 period. However, ACE NY proposes an annual solicitation date of May 1 each year with the requirement to conduct a makeup solicitation in any year where the 4,500 GWh target is not achieved. Avangrid supports the flexibility proposed in the White Paper with respect to annual procurement targets, though it recommends establishing a minimum annual procurement target and proposes that NYSERDA be required to file with the Commission any plans to deviate significantly from the 4,500 GWh per year annual target.

Boralex supports the proposal to procure 4,500 GWh of new Tier 1 renewable energy annually and, for purposes of predictability, sees no reason to depart from the current process. Borrego similarly emphasizes the importance of predictability in annual solicitations and comments that the absence of a minimum procurement capacity may create significant uncertainty that disrupts development timelines. For its part, CEA supports affording NYSERDA the flexibility to procure more than 4,500 GWh in a given year. Additionally, CEA proposes that NYSERDA be required to conduct a makeup solicitation if it falls 1,000 MW or more behind the 4,500 GWh per year target.

The City and the Named Utilities comment that the Commission should continue to oversee NYSERDA's procurement activities to both ensure that customer rates remain just and reasonable and avoid any unexpected or unreasonable electricity bill impacts. The City and the Named Utilities also recommend

that NYSERDA be required to notify the Commission of any plans to deviate significantly from the projected annual GWh levels.

EDFR supports the flexibility proposed in the White Paper but urges some level of consistency in the procurement process by establishing predictable solicitation schedules and requiring NYSERDA to procure at least 75% of the annual targets each year. EDFR also recommends that NYSERDA conduct makeup solicitations in any year that the target is not reached. LIPA supports affording NYSERDA flexibility in annual procurement capacities but suggests the establishment of a reasonably predictable procurement trajectory to provide stable market signals. MI supports the proposed flexibility but cautions that NYSERDA should use this discretion judiciously and to adjust its procurements as needed to respond to market signals, subject to active oversight by the Commission and Staff.

Finally, Shell states that a consistent procurement schedule with flexibility to respond to market conditions would improve investment certainty. It nevertheless asserts that NYSERDA should not be permitted to cancel procurements based on past solicitation successes.

The Commission agrees with the element of the White Paper proposing that NYSERDA be given the flexibility to respond to market conditions regarding its solicitations. Allowing such flexibility will facilitate a cost-effective procurement process that reflects the most recent market developments. The Commission also agrees with the comments supporting some level of certainty in the procurement schedule. The commitment to offer a solicitation each year with a target of 4,500 GWh per year would provide sufficient certainty to investors that will allow effective planning and other market-based activities to develop. The Commission therefore declines to adopt minimum or maximum GWh requirements for each solicitation, instead allowing

NYSERDA to adjust annual procurement targets based on its annual review of the latest market data by means of the divergence test. This data would include the procurement activities of non-jurisdictional LSEs, updated information on project attrition, changes in project load, and parallel project development amongst offshore wind and distributed solar.

However, the Commission directs NYSERDA not to include projected Tier 4 contributions in its divergence test calculation in a manner that would reduce the expected schedule of Tier 1 procurements. There are several reasons why excluding projected Tier 4 contributions from the Tier 1 procurement calculations is the conservative and prudent course at this time. First, Tier 4 projects not located in Zone J will be associated with newly developed transmission and thus may face a higher risk of attrition than projects in other tiers. The risk of attrition is compounded by the prospect that, if load exceeds current projections, the State could end up needing the full contemplated schedule of Tier 1 procurements in addition to procurements under Tier 4. Although NYSERDA will update its load projections in the divergence test annually, a rapid increase in electric vehicle adoption or building sector electrification in the 2020s might not be predicted in time to adjust the Tier 1 procurement targets in time to meet 70 by 30. Second, Tier 1 resources have concentrated in upstate regions, while Tier 4 would concentrate exclusively in Zone J. Thus, from a planning perspective, there is no necessary conflict in proceeding with robust procurement targets for each tier. And, were the State to overperform modestly on the 70 by 30 Target, that overperformance would inure to its benefit in planning for the 2040 Zero Emission Target.

Additionally, as discussed more fully below in Section I, in all future Tier 1 procurements NYSERDA is directed to