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STATE OF MAINE
PUBLIC UTILITIES COMMISSION

Mark A. Vannoy
CHAIRMAN

R. Bruce Williamson
Randall D. Davis
COMMISSIONERS

Harry Lanphear
ADMINISTRATIVE DIRECTOR

March 29, 2019

Honorable Mark W. Lawrence, Senate Chair
Honorable Seth A. Berry, House Chair
Energy, Utilities and Technology Committee
100 State House Station
Augusta, Maine 04333

Re: Annual Report on New Renewable Resource Portfolio Requirement

Dear Senator Woodsome and Representative Berry:

During its 2007 session, the Legislature enacted an "Act to Stimulate Demand for Renewable Energy (Act), PL 2007, c. 403 (now codified at 35-A M.R.S. § 3210(3-A)). The Act added a mandate specifying percentages of electricity that supply Maine's consumers which come from "new" renewable resources. The Act contains an annual reporting requirement, due March 31, on the status of Class I renewable resource development and compliance with the portfolio requirement. Attached is the Commission's report.

If you have any questions, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark A. Vannoy'.

Mark A. Vannoy, Chairman

On behalf of the Chairman
R. Bruce Williamson, Commissioner
Randall D. Davis, Commissioner
Maine Public Utilities Commission

Attachment

cc: Energy, Utilities and Technology Committee Members
Lucia Nixon, Legislative Analyst

MAINE PUBLIC UTILITIES COMMISSION

ANNUAL REPORT ON NEW RENEWABLE RESOURCE PORTFOLIO REQUIREMENT

Report for 2017 Activity

**Presented to the
Joint Standing Committee on
Energy, Utilities and Technology
March 31, 2019**

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I. INTRODUCTION

During its 2007 session, the Legislature enacted an Act to Stimulate Demand for Renewable Energy (Act).¹ The Act added a mandate that specified percentages of electricity that supply Maine's consumers come from "new" renewable resources. Generally, new renewable resources are renewable facilities that have an in-service date, resumed operation or were refurbished after September 1, 2005. The percentage requirement began at one percent in 2008 and increases in annual one percentage point increments to ten percent in 2017 and remains at ten percent thereafter, unless the Commission suspends the requirement pursuant to the provisions of the Act.

The Act contains an annual reporting requirement on the status of Class I renewable resource development and compliance with the portfolio requirement. The reporting provision specifies:

Annual Reports. No later than March 31, 2008 and annually thereafter, the Commission shall submit a report regarding the status of new renewable capacity resources in the State and New England, and compliance with the portfolio requirement required by this section to the joint standing committee of the Legislature having jurisdiction over utilities and energy matters. The report shall include, but is not limited to, a description of new renewable capacity resources available to meet the portfolio requirement required by this section, documentation of the loss of any existing renewable generation capacity in the State, the status of implementation of the new renewable resources portfolio requirement, including any suspensions pursuant to subsection D, and recommendations to stimulate investment in new renewable resources.

The Commission hereby submits its report to the Energy, Utilities and Technology Committee to describe the status of Maine's new renewable resource portfolio requirement. The Commission notes that this report is based on the most recently filed Competitive Electricity Provider (CEP) annual compliance reports, which were filed in July 2018 for calendar year 2017. Therefore, this report generally presents information on implementation and compliance with the portfolio requirement for calendar year 2017.

II. BACKGROUND

A. New Renewable Resource Portfolio Requirement (Class I)

As stated above, the new renewable resource portfolio requirement, referred to as Class I² requires that specified percentages of electricity that supply Maine's

¹ P.L. 2007, c. 403 (codified at 35-A M.R.S. § 3210(3-A)).

² The "new" renewable resource requirement was designated as Class I in the Commission's implementing rules (Chapter 311) because the requirement is similar to

consumers come from “new” renewable resources.³ The percentage requirement began at one percent in 2008 and increases in annual one percentage point increments to ten percent in 2017 and remains at ten percent thereafter. The Act specifies the resource type, capacity limit and the vintage requirements for the new renewable resource requirement. As specified in the Act, a new renewable resource used to satisfy the Class I portfolio requirement must be of the following types:

- fuel cells;
- tidal power;
- solar arrays and installations;
- wind power installations;
- geothermal installations;
- hydroelectric generators that meet all state and federal fish passage requirement; or
- biomass generators, including generators fueled by landfill gas.

In addition, except for wind power installations, the generating resource must not have a nameplate capacity that exceeds 100 MW. Moreover, the resource must satisfy one of four vintage requirements. These are:

- 1) Renewable capacity with an in-service date after September 1, 2005;
- 2) Renewable capacity that has been added to an existing facility after September 1, 2005;
- 3) Renewable capacity that has not operated for two years or was not recognized as a capacity resource by the New England Independent System Operator (ISO-NE) or the Northern Maine Independent System Administrator (NMISA) and has resumed operation or has been recognized by the ISO-NE or NMISA after September 1, 2005; and
- 4) Renewable capacity that has been refurbished after September 1, 2005 and is operating beyond its useful life or employing an alternate technology that significantly increases the efficiency of the generation process.

The Act also includes an “alternative compliance mechanism” (ACM) that allows suppliers to pay specified amounts into the Energy Efficiency and Renewable Resource Fund⁴ in lieu of compliance with the new renewable resource portfolio requirement, and

portfolio requirements in other New England states that are referred to as “Class I.” Maine’s pre-existing “eligible” resource portfolio requirement is designated as Class II.

³ Contracts or standard offer arrangements that pre-date the effective date of the Act, 35-A M.R.S. § 3210(3-A)(D), and sales to qualified Pine Tree Development Zone businesses, 35-A M.R.S. § 3210-B(4), are exempt from the portfolio requirement.

⁴ The Energy Efficiency and Renewable Resource Fund was established to fund research, development and demonstration projects related to energy technologies. 35-A M.R.S. § 10121.

states that the Commission shall set the alternative compliance payment rate in its implementing rules. In addition, the Act allows the Commission to suspend scheduled percentage increases in the portfolio requirement if it finds that investment in new renewable resources has not been sufficient for suppliers to satisfy the requirement, the requirement has burdened electricity customers without providing the benefits from new renewable resources or that there has been an over reliance on the ACM.

B. Class I Implementing Rules

As required by the Act, the Commission modified its portfolio requirement rule (Chapter 311) to implement the “new” renewable resource requirement.⁵ The implementing rules establish a certification process that requires generators to pre-certify facilities as a new renewable resource under the requirements of the rule and provide for a Commission determination of resource eligibility on a case-by-case basis.⁶ The rule also specifies that the Commission may revoke a certification if there is a material change in circumstance that renders the generation facility ineligible as a new renewable resource. Under the rules, a generator does not have to be located in Maine to be eligible as long as its power is used to serve load in New England.

As required by the Act, the rules establish an ACM that allows suppliers to make a payment in lieu of compliance with the new renewable resource portfolio requirement.⁷ The rule established a base alternative compliance payment rate of \$57.12 per megawatt-hour (MWh) that is adjusted annually based on the Consumer Price Index. The alternative compliance payment rate in 2017 was \$67.71 per MWh.

Finally, the implementing rules allow suppliers to satisfy or “cure” a compliance deficiency in one calendar year during the following calendar year. This cure provision only applies if the supplier has satisfied at least two-thirds of its calendar year requirement. In addition, a supplier may “bank” any excess renewable credits in a calendar year for use in the next calendar year. However, a supplier may not use banked credits to satisfy more than one-third of the requirement in any year.⁸

C. Maine’s Eligible Resource Portfolio Requirement (Class II)

Maine’s original restructuring legislation, which became effective in March 2000, included a 30% eligible resource portfolio requirement.⁹ The eligible resource portfolio requirement, now referred to as Class II, mandated that each retail competitive

⁵ *Order Adopting Rule and Statement of Factual and Policy Basis*, Docket No. 2007-391 (Oct. 22, 2007).

⁶ Chapter 311, § 3(B)(4).

⁷ Chapter 311, § 3(C).

⁸ Chapter 311, § 7(A) and (B).

⁹ 35-A M.R.S. § 3210(3).

electricity supplier meet at least 30% of its retail load in Maine from “eligible resources.” Eligible resources are defined in statute as either renewable resources or efficient resources. Renewable resources are defined in statute as fuel cells, tidal power, solar arrays, wind power, geothermal installations, hydroelectric generators, biomass generators, and municipal solid waste facilities. Renewable resources may not exceed a production capacity of 100 megawatts. “Efficient” resources are cogeneration facilities that were constructed prior to 1997, meet a statutory efficient standard and may be fueled by fossil fuels.

D. Renewable Energy Credits

Most of the compliance with Maine’s portfolio requirements occurs through the purchase of renewable energy credits (RECs). The New England Power Pool (NEPOOL) has established a REC trading and tracking mechanism referred to as the Generation Information System (GIS). This system allows for the trading of the renewable attribute of a MWh separately from the energy value of the MWh. The GIS serves to significantly simplify compliance by suppliers and verification by regulatory commissions, and avoids double counting. Consistent with statutory direction,¹⁰ the Commission requires suppliers in the ISO-NE to verify compliance with the portfolio requirement through the GIS. In Docket No. 2017-00050, the Northern Maine System Administrator (NMISA) requested and was granted to use a tracking and verification system in northern Maine (Docket No. 2017-00050).

III. IMPLEMENTATION AND COMPLIANCE

A. Certified Generators

The implementing rules require generation facilities to be certified by the Commission as a Class I new renewable resource before such facilities can be used to satisfy Maine’s new renewable resource portfolio requirement. However, not all of the facilities that have been certified are in-service and many of the facilities are also eligible for portfolio requirements in other New England states.¹¹ Presently, there are over 133 certified facilities, with a total capacity of approximately 2,655 MW.

¹⁰ The portfolio requirement statute states that the Commission shall allow competitive providers to satisfy the portfolio requirements through the use of RECs if it determines that a reliable system of electrical attribute trading exists. 35-A M.R.S. § 3210(8). The Commission has determined that the GIS is such a reliable system.

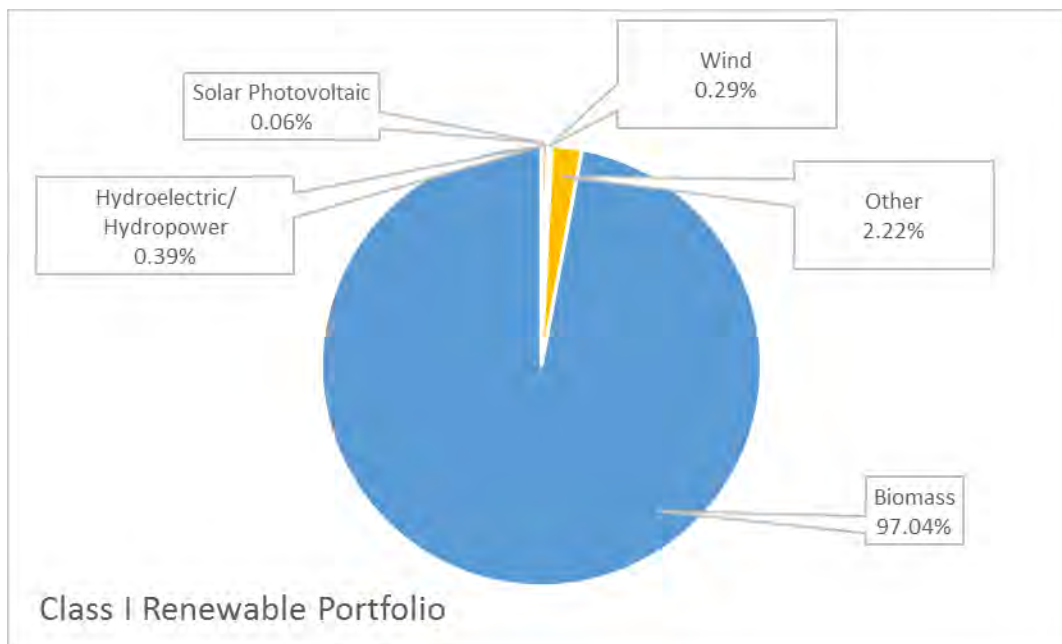
¹¹ Information on the RPS Class I Renewable Resource Applications can be found at <http://www.maine.gov/mpuc/electricity/rps-class-i-list.shtml>

B. Exempt Sales

Electricity sales to serve qualified Pine Tree Development Zone businesses established under Title 30-A are exempt from the portfolio requirements. During 2017, approximately 34,004 MWh, or 0.32% of Maine’s electricity sales as reported by the CEPs, were exempt from the new renewable resource portfolio requirement as a result of the Pine Tree Zone exemption.

C. New Renewable Portfolio Requirement (Class I); Resources and Cost Impacts

The following chart shows the mix of resources used to satisfy Maine’s new renewable resource portfolio requirement during 2017.



**REPORT ON NEW RENEWABLE RESOURCE
PORTFOLIO REQUIREMENT**

March 31, 2019

As the table below shows, the RECs from forty facilities were used by suppliers to comply with the 2017 new renewable resource requirement. Twenty-one of the facilities are biomass, eight are hydro, one is wind, six are photovoltaic and four are other. Twenty-seven of the forty facilities are located in Maine, four are located in New York, and one each is located in Massachusetts, New Hampshire, Quebec and Vermont. Of the 999,758 RECs purchased to meet the 2017 portfolio requirement, approximately 79% came from facilities located in Maine.

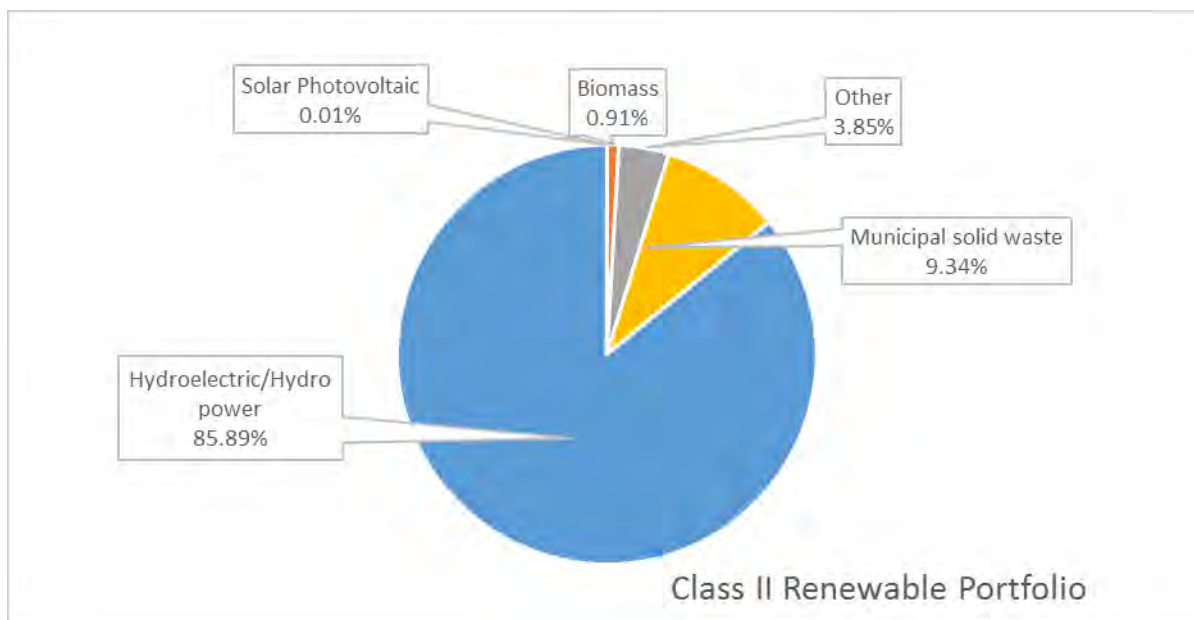
Fuel Type/State	Number of Generating Facilities	GIS Certificates	% of Total
Biomass			
CONNECTICUT	4	177,114	17.72%
MAINE	14	787,821	78.80%
NEW HAMPSHIRE	1	3,723	0.37%
NEW YORK	1	36	0.00%
QUEBEC	1	1,500	0.15%
Biomass Total	21	970,194	97.04%
Hydroelectric/Hydropower			
CONNECTICUT	1	1,619	0.16%
MAINE	5	1,882	0.19%
MASSACHUSETTS	1	230	0.02%
NEW HAMPSHIRE	1	176	0.02%
Hydroelectric/Hydropower Total	8	3,907	0.39%
Other			
MAINE	1	14	0.00%
NEW YORK	3	22,134	2.21%
Other Total	4	22,148	2.22%
Solar Photovoltaic			
MAINE	6	618	0.06%
Solar Photovoltaic Total	6	618	0.06%
Wind			
MAINE	1	2,891	0.29%
Wind Total	1	2,891	0.29%
Grand Total	40	999,758	100.00%

The cost to ratepayers of Maine's new renewable resource portfolio requirement is estimated by the cost of compliance by suppliers, primarily through their purchase of RECs. For calendar year 2017, 80% of the Class 1 RPS requirement was satisfied through the purchase of RECs during that year, 16% was satisfied using RECs banked from 2016 and 4% will be satisfied during the 2018 cure period allowed by the rule. Finally, 307,022 RECs were purchased in 2017 and banked for future use. 3,311 RECs purchased in 2017 were used to satisfy the requirements for the 2016 Class 1 RECs purchased during the cure period.

During 2017, the cost of RECs used for compliance ranged from approximately \$1.15 per MWh to \$33.00 per MWh, with an average cost of \$ 16.04 per MWh and a total cost of \$16,835,969. This is equivalent to about 74 cents per month, or 1% of the total bill, for a typical residential customer; \$70.15 per month for a medium commercial customer that uses 50,000 kWh per month; and \$701.50 per month for a large commercial/industrial customer that uses 500,000 kWh per month.

D. Eligible Resources Portfolio Requirement (Class II); Resources and Cost Impacts

The following chart shows the mix of resources used to satisfy Maine’s Class II renewable resource portfolio requirement during 2017.



During 2017, the costs of RECs used to satisfy the Class II eligible resource portfolio requirement ranged from \$0.00 per MWh (some RECs were provided for free as part of an energy transaction) to \$2.00 per MWh, with an average cost of \$1.31 per MWh and a total cost of \$5,162,536. This is equivalent to about 23 cents per month for a typical residential customer, and \$21.50 and \$215 per month for medium and large commercial/industrial customers with the usage levels described above, respectively.

E. Portfolio Requirement Percentage Suspension

The Act allows the Commission to suspend scheduled percentage increases in the Class I portfolio requirement if it finds that investment in new renewable resources has not been sufficient for suppliers to satisfy the requirement, the requirement has burdened electricity customers without providing the benefits from new renewable resources or that there has been an over reliance on the ACM. As specified in

section III(C) above, all of the compliance with the Class I portfolio requirement occurred through the purchase of RECs with no reliance on the ACM at an average REC cost that is substantially less than the alternative compliance payment. Thus, it appears clear that renewable resource development and operation has been sufficient for suppliers to satisfy the Class I portfolio requirement without reliance on the ACM. Accordingly, the Commission did not act to suspend percentage increases in the portfolio requirement in 2017.

F. Status of Renewable Resource Development

Maine's portfolio requirement operates in conjunction with the portfolio requirements in the other New England states to promote the development of renewable resources in Maine and New England.¹² The ISO-NE interconnection queue, which includes proposed generation projects that have initiated the review process for interconnection to the regional grid, includes a significant number of renewable projects. As of March 2019, the ISO-NE queue includes renewable projects totaling 11,368 MW (wind-8,075 MW, biomass-37 MW, hydro- 73 MW, solar-3,183 MW, landfill gas-0 MW). The proposed projects in Maine total 3,198 MW (wind-2,243 MW, biomass-0 MW, hydro-0 MW, solar 955-MW).¹³ Although all of the projects in the queue may not be developed, there appears to be adequate renewable resource development in the region to meet the requirements of the RPS.

Because existing requirements and mechanisms in the region appear to be providing sufficient incentives for the continued operation and development of renewable resources sufficient to meet Maine's portfolio requirement, the Commission, at this time, makes no recommendations regarding mechanisms to stimulate investment in renewable resources beyond those that already exist on the state, regional and federal levels.

IV. CONCLUSION

During 2017, Maine's electricity suppliers complied with the State's Class I and Class II portfolio requirements. The total cost of compliance for the Class I requirement was \$16,835,969. For Class II, the total cost of compliance was \$5,162,536.

¹² Generally, newly developed renewable resources located within or adjacent to New England can be used to satisfy the various New England state's portfolio requirements.

¹³MW are Net and derived from ISO New England Interconnection Request Tracking Tool at <https://www.iso-ne.com/system-planning/transmission-planning/interconnection-request-queue> In calculating these numbers, projects listed with an operational or withdrawn date before 3/10/2019 have been removed.