



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

**Rhode Island**  
**Renewable Energy Standard**  
**Annual RES Compliance Report**  
**for**  
**Compliance Year 2007**

**February 2009**

**Rhode Island Public Utilities Commission**

**89 Jefferson Boulevard**

**Warwick, Rhode Island 02888**

## Table of Contents

Table of Contents .....	i
Executive Summary .....	1
I. Introduction to the Renewable Energy Standard .....	4
II. Compliance Year 2007: Obligation and Sources of Compliance .....	6
III. 2007 RES Compliance by Fuel Type and Geographic Location .....	9
IV. Renewable Energy Standard –Future Obligations .....	11
V. Authorized Rate Increases .....	13
VI. Status of Implementation of Renewable Energy Standards in Other States .....	14
VII. Conclusion .....	17
Appendix 1: New Renewable Energy Resources certified by the PUC .....	18
Appendix 2: Existing Renewable Energy Resources certified by the PUC .....	19
Appendix 3: RI RES Compliance Summary .....	20
<i>Table 1: Composition of 2007 RES Compliance .....</i>	<i>1</i>
<i>Table 2: Authorized Rate Increases .....</i>	<i>1</i>
<i>Table 3: RES targets, by compliance year, for both new and existing resources .....</i>	<i>4</i>
<i>Table 4: Obligated Entities submitting 2007 RES Compliance Filings to the PUC .....</i>	<i>6</i>
<i>Table 5: Summary of 2007 RES Compliance .....</i>	<i>8</i>
<i>Table 6: Forecast of RES MWh, by compliance year, for both new and existing resources .....</i>	<i>12</i>
<i>Table 7: Summary of New England States’ New Renewable RPS Targets (%) .....</i>	<i>15</i>
<i>Table 8: Projection of New England States’ New Renewable RPS Demand (GWh) .....</i>	<i>15</i>
<i>Figure 1: 2007 Compliance with the New Renewable Energy Standard Requirement .....</i>	<i>7</i>
<i>Figure 2: 2007 Compliance with the Existing Renewable Energy Standard Requirement .....</i>	<i>7</i>
<i>Figure 3: Compliance with New RES Obligation by renewable fuel type .....</i>	<i>9</i>
<i>Figure 4: Compliance with New RES Obligation by geographic location .....</i>	<i>9</i>
<i>Figure 5: Compliance with New RES Obligation by renewable fuel type .....</i>	<i>10</i>
<i>Figure 6: Compliance with Existing RES Obligation by geographic location .....</i>	<i>10</i>
<i>Figure 7: Projection of New England States’ New Renewable RES Demand .....</i>	<i>16</i>
<i>Figure 8: Composition of 2007 Aggregate New RES Demand in New England .....</i>	<i>16</i>
<i>Figure 9: Projection of 2015 Composition of Aggregate New RES Demand in NE .....</i>	<i>16</i>

## Executive Summary

Compliance Year 2007 (from January 1, 2007 through December 31, 2007) was the first compliance year for the Rhode Island Renewable Energy Standard (RES). Each Obligated Entity was required to obtain at least three percent (3%) of electricity<sup>1</sup> sold to Rhode Island end-use customers from Eligible Renewable Energy Resources, with no less than one percent (1%) from New Renewable Energy Resources. This first Annual RES Compliance Report is intended to satisfy the legislative requirement at Section 39-26-6 for a filing on “*the status of the implementation of the renewable energy standards in Rhode Island and other states.*” The legislation specifically requests a summary of the role of both renewable energy certificates and alternative compliance payments in meeting the RES obligation, as well as the amount of rate increases authorized to recover costs arising from the implementation of the RES. The values and relative proportions are shown in Table 1 below for both the New RES Obligation and the Existing RES Obligation. Table 2 shows the relevant authorized rate increases per kWh and the total billed to Rhode Island customers to support the implementation of the RES. This Report is also intended to satisfy the requirement to report to the legislature on the status of implementation of renewable energy standards in other states. A description of renewable energy standard implementation throughout New England is located in Section VI.

**Table 1: Composition of 2007 RES Compliance**

	<b>New RES Obligation</b>	<b>Existing RES Obligation</b>
2007 Obligations	83,361 Certificates	166,718 Certificates
GIS Certificates Applied to 2007 RI RES Compliance (MWh, %)	79,798 (96%)	166,491* (99.86%)
RI RES Compliance by Alternative Compliance Payments (MWh, %, \$)	3,563 MWh (4%) \$203,519	227 (MWh) (0.14%) \$12,966
Banked for Future Compliance	30 MWh	Not Applicable
* In aggregate, Obligated Entities over-complied with the Existing RES Obligation, demonstrating the purchase of a total 173,488 GIS Certificates from Existing Renewable Energy Resources.		

**Table 2: Authorized Rate Increases**

	<b>Authorized Rate Increase per kWh</b>	<b>Total Renewable Energy Charge Billings</b>
Narragansett Electric	\$0.00062 per kWh	\$4,450,073.56

<sup>1</sup> Including retail losses.

Rhode Island's 2007 RES-obligated retail sales totaled 8,335,706 MWh. The 2007 minimum obligation, across all Obligated Entities<sup>2</sup>, to be satisfied by New Renewable Energy Resources was 83,361 MWh (1% of obligated retail sales), and the obligation to be satisfied either by Existing or any remaining New Renewable Energy Resources was 166,718 MWh (2% of obligated retail sales). GIS Certificates from eligible "New" renewable energy supply totaled 79,828 MWh – representing an approximate 4% shortage compared to the minimum New RES demand. GIS Certificates from eligible "Existing" renewable energy supply totaled 173,488 MWh – representing an approximate 4% surplus above Existing RES demand. The composition of 2007 RES compliance, both by technology and by generators' geographic location, is discussed in Section III.

Eight load-serving entities had Rhode Island RES obligations for compliance year 2007.<sup>3</sup> Two entities – Narragansett Electric and one competitive retail electric provider – met 100% of their RES obligations with GIS Certificates. An additional four entities successfully met their individual RES obligations *either* through the purchase of GIS Certificates<sup>4</sup> *or* through the provision of Alternative Compliance Credits, obtained by making Alternative Compliance Payments (ACPs) to the Rhode Island Economic Development Corporation (RIEDC). The remaining two entities have not yet made ACPs sufficient to fulfill their respective RES obligations. The Commission is working with these entities to ensure RES compliance.

With respect to the minimum New RES Obligation, 96% of compliance was realized through the retirement of GIS Certificates, and the remaining 4% of compliance was (or will be) comprised of ACPs. The relative use of GIS Certificates and ACPs varied among Obligated Entities. While reliance on ACPs was relatively small (4%) in aggregate, competitive retail electric providers relied on ACPs for meeting approximately 30% of their collective New RES Obligation. Due to the market's lack of experience with implementing the RES regulations, this result is not uncommon for an RES or RPS program in its first compliance year. For the Existing RES Obligation, nearly 100% of compliance was realized through the retirement of GIS Certificates. One entity submitted ACPs for 227 MWhs of Existing RES Obligation. No Obligated Entity banked RES compliance in 2006 in order to make use of the Early Compliance provision. However, Narragansett Electric (25 MWhs) and one competitive supplier (5 MWhs) banked a combined 30 MWhs of New RES compliance for use against their New RES Obligation in either the 2008 or 2009 Compliance Year.

---

<sup>2</sup> The RES applies only to Investor Owned Utilities. Therefore, Pascoag Utility District and Block Island Power Company are not Obligated Entities under the RES.

<sup>3</sup> See Table 4 for a complete list of load-serving entities.

<sup>4</sup> The terms GIS Certificate and Renewable Energy Certificate, or REC, are often used interchangeably in the marketplace. While REC is the more general term used to denote a generator's descriptive characteristics (i.e. fuel type, vintage and geographic location) it is the settlement of GIS Certificates within the Obligated Entity's NEPOOL GIS account that substantiates RES compliance.

The Rules allow the Commission to authorize rate recovery by electric distribution companies of all prudent incremental costs arising from the implementation of the RES. The Commission approved for effect January 1, 2007 a Renewable Energy Charge of \$0.00062 per kWh. For a typical residential ratepayer consuming 500 kWh per month the result was a bill increase of \$0.31 per month or \$3.72 per year. The only electric distribution company that qualified as an obligated entity for 2007 was Narragansett Electric. The total annual Renewable Energy Charge billings by Narragansett to all its customers for 2007 were approximately \$4,450,000.

Overall, the PUC's review and analyses reveal success in the RES program's first compliance year. The dramatic increase in the number of new renewable energy projects proposed throughout the region and in adjacent control areas during the past several years leaves the PUC optimistic that both the Rhode Island RES and RPS programs throughout New England will continue to spur renewable energy development and allow these programs to meet their objectives.

## I. Introduction to the Renewable Energy Standard

The Rhode Island Renewable Energy Standard (RES) was enacted in 2004 via Rhode Island General Laws §39-26-1 *et seq* and requires the state’s retail electricity providers, excluding Pascoag Utility District and Block Island Power Company, to supply 16% of their retail electricity sales from eligible renewable energy resources by 2019. The RES remains in effect (at 2019 levels) in 2020 and each year thereafter, unless and until the Rhode Island Public Utilities Commission (Commission or PUC) determines the standard is no longer necessary. The RES required all Obligated Entities to obtain at least three percent (3%) of electricity sold to Rhode Island end-use customers (inclusive of losses) from Eligible Renewable Energy Resources for the 2007 Compliance Year (January to December 2007). No more than two percent (2%) may be from Existing Renewable Energy Resources, and a minimum of one percent (1%) must be from New Renewable Energy Resources. Table 3 provides the target percentages for each category, by year.

**Table 3: RES targets, by compliance year, for both new and existing resources**

<b>Compliance Year</b>	<b>Total Target Percentage</b>	<b>Minimum Percentage from New Renewable Energy Resources</b>	<b>Percentage from either Existing or New Renewable Energy Resources</b>
2007	3.0%	1.0%	2.0%
2008	3.5%	1.5%	2.0%
2009	4.0%	2.0%	2.0%
2010	4.5%	2.5%	2.0%
2011*	5.5%	3.5%	2.0%
2012*	6.5%	4.5%	2.0%
2013*	7.5%	5.5%	2.0%
2014*	8.5%	6.5%	2.0%
2015*	10.0%	8.0%	2.0%
2016*	11.5%	9.5%	2.0%
2017*	13.0%	11.0%	2.0%
2018*	14.5%	12.5%	2.0%
2019*	16.0%	14.0%	2.0%
2020 and thereafter**	16.0%	14.0%	2.0%
* If the Commission determines in either 2010 or 2014 that supply is inadequate, then all subsequent annual increases may be delayed by one year, beginning in either 2011 or 2015 as applicable.			
** Duration of continuation subject to Commission determination.			

Additional design elements of the RES were developed through a stakeholder process and adopted via the Rules and Regulations Governing the Implementation of a Renewable Energy Standard (RES Regulations), which first became effective on December 7, 2005. Revised RES Regulations became effective July 25, 2007. The RES Regulations require, among other provisions, that all Obligated Entities submit annual compliance filings to the PUC. This Annual Report is based on an aggregated summary of these compliance filings. This Annual Report is also intended to satisfy the reporting requirements related to the enabling legislation at Section 39-26-6 Duties of the Commission, at subsection (f) which requires that the Commission:

*Report, by February 15, 2006, and by February 15 each year thereafter, to the governor, the speaker of the house and the president of the senate on the status of the implementation of the renewable energy standards in Rhode Island and other states, and which report shall include in 2009, and each year thereafter, the level of use of renewable energy certificates by eligible renewable energy resources and the portion of renewable energy standards met through alternative compliance payment.*

The RES statute defines eligible New and Existing Renewable Energy Resources at §39-26-5. All Renewable Energy Resources must be certified by the PUC (and maintain this certification) in order to participate in the RES program. Lists of New and Existing Renewable Energy Resources currently certified by the PUC are provided as Appendices 1 and 2, respectively. An up-to-date status of all approved and pending eligibility applications can be found on the PUC website at <http://www.ripuc.org/utilityinfo/res.html>. All Renewable Energy Resources must also establish and maintain an account with the NEPOOL Generation Information System (NEPOOL GIS). NEPOOL GIS maintains a record of each generator's monthly production, as well as the generator's descriptive characteristics – including generator location, fuel type and actual emissions. One GIS Certificate is created for each MWh of production. The GIS Certificate is the currency used to demonstrate compliance with the RES, as well as both mandatory renewable energy requirements in other states and voluntary renewable energy transactions. Through the use of GIS Certificates, which are created and transferred exclusively within the NEPOOL GIS, and the annual submission of RES compliance reports, the PUC ensures that a GIS Certificate used for RES compliance has not also been used to satisfy another obligation in Rhode Island or any other jurisdiction. For example, National Grid hosts voluntary renewable energy programs in both Rhode Island and Massachusetts. The use of GIS Certificates and the annual review of RES Compliance Reports ensure that each MWh of renewable energy production is used to meet only one obligation.

## II. Compliance Year 2007: Obligation and Sources of Compliance

Compliance Year 2007 (from January 1, 2007 through December 31, 2007) was the first compliance year for Rhode Island’s RES. Each Obligated Entity was required to obtain at least three percent (3%) of electricity (including retail losses) sold to Rhode Island end-use customers from Eligible Renewable Energy Resources, with no less than one percent (1%) from New Renewable Energy Resources.

Rhode Island’s actual 2007 RES-obligated retail sales totaled 8,335,706 MWh. As a result, the aggregate minimum New RES Obligation (1%) was 83,361 MWh, and the aggregate Existing RES Obligation (2%) was 166,718 MWh. Obligated Entities were required to meet the RES either through the purchase and retirement of GIS Certificates or through the provision of Alternative Compliance Credits, obtained by making ACPs to the RIEDC. In total, eight entities submitted RES Compliance Filings to the PUC for 2007 – Narragansett Electric and seven competitive electricity providers. Table 4 provides a list of these eight Obligated Entities.

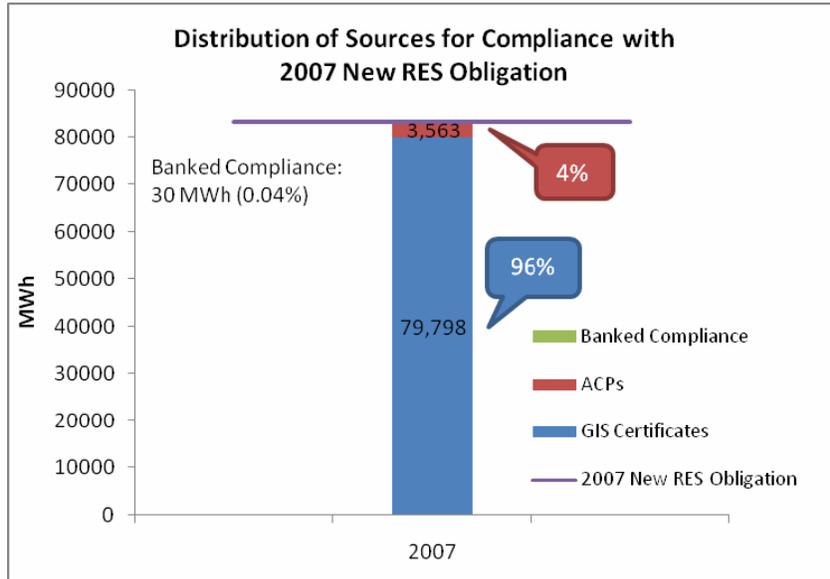
*Table 4: Obligated Entities submitting 2007 RES Compliance Filings to the PUC*

<b>Distribution Utilities</b>	
The Narragansett Electric Company d/b/a National Grid	
<b>Competitive Retail Providers</b>	
TransCanada Power Marketing Ltd.	Integritys Energy Services, Inc.
Constellation NewEnergy, Inc.	SJH Energy LLC
Direct Energy Services, LLC	Westerly Hospital Energy Company LLC
Hess Corporation	

Two entities met 100% of their RES obligation with GIS Certificates. An additional four entities met their RES obligation with a combination of GIS Certificates and ACPs. The remaining two entities have so far failed to make ACPs to the RIEDC sufficient to meet their shortfall in GIS Certificates. The PUC is working with these companies to ensure both comprehension of and compliance with the RES program. Appendix 3 lists all entities from whom Compliance Filings were received and provides a detailed summary of RES compliance for Narragansett Electric Company along with a more limited summary for each competitive retail electric provider.

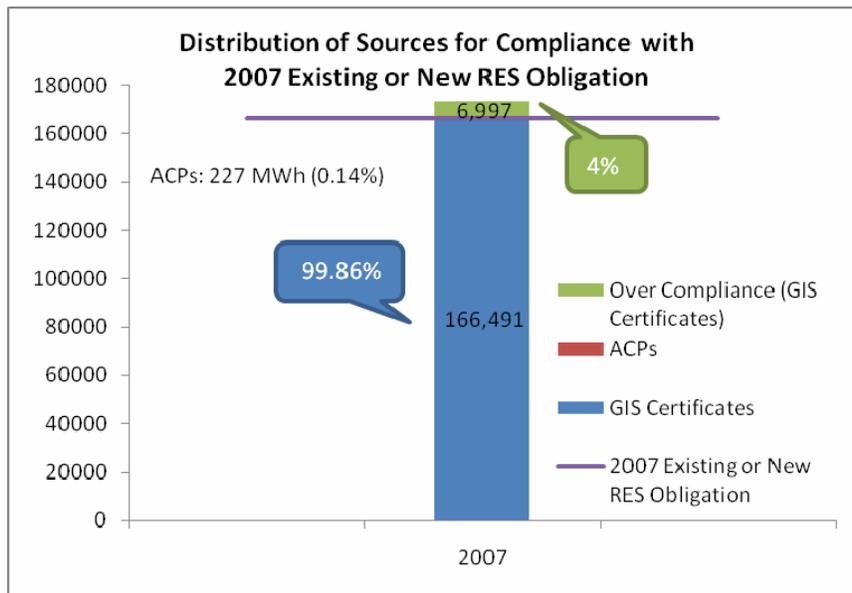
As shown in Figure 1, for the minimum New RES Obligation, 96% of compliance was realized through the retirement of GIS Certificates, and the remaining 4% of compliance was (or will be) comprised of ACPs – resulting in total expected payments of \$203,500 to the RIEDC (of which \$185,000 have already been received). While reliance on ACPs was relatively small in aggregate, competitive retail electric providers relied on ACPs for meeting approximately 30% of their collective New RES Obligation.

**Figure 1: 2007 Compliance with the New Renewable Energy Standard Requirement**



For the Existing RES Obligation, nearly 100% of compliance was realized through the retirement of GIS Certificates. One entity submitted ACPs for 227 MWhs of Existing RES obligation (0.14%). See Figure 2. Also, as shown in this figure, 4% more GIS certificates from Existing resources were obtained than required (resulting in a slight over-compliance for 2007).

**Figure 2: 2007 Compliance with the Existing Renewable Energy Standard Requirement**



RES Regulations allowed banking of early compliance from 2006 GIS Certificates. However, no Obligated Entity banked RES compliance in 2006 in order to make use of the Early Compliance provision. However, two Obligated Entities banked RES compliance – totaling 30 MWh<sup>5</sup> and 0.04% (30% is the maximum bankable quantity for each Obligated Entity) of the total 2007 New RES obligation – for use against their New Renewable Energy Resource requirement in either the 2008 or 2009 Compliance Year. Note that only compliance with the New RES Obligation may be banked. A summary of 2007 RES Compliance, including banked certificates for 2008 or 2009, is presented below in Table 5.

**Table 5: Summary of 2007 RES Compliance**

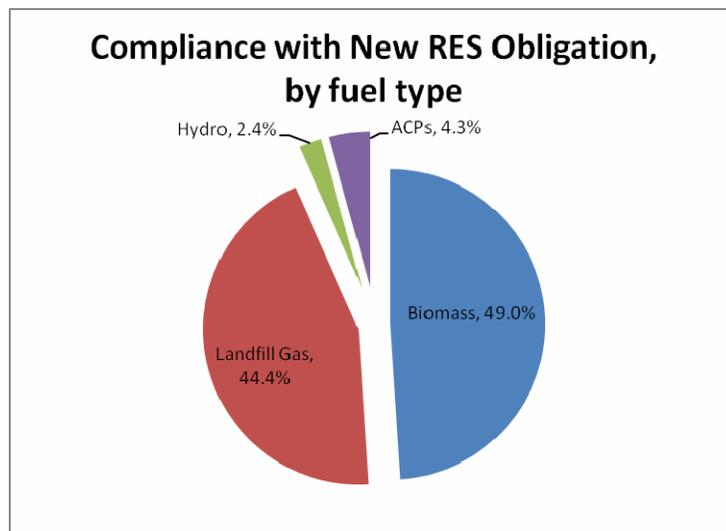
	<b>Results for 2007 Compliance Year</b>	<b>(MWh)</b>
A	2007 RES-Obligated Retail Sales	8,335,706
<b>New RES Obligation</b>		
B	New RES Obligation (1% of “A”)	83,361
C	Early Compliance (from Compliance Year 2006)	0
D	New GIS Certificates from Current Compliance Year	79,828
E	<b>New RES Surplus/(Shortfall) Based on GIS Certificates (“C” + “D” – “B”)</b>	(3,533)
F	Total from Alternative Compliance Payments/Credits	3,563
G	Total from GIS Certificates + ACPs (“C” + “D” + “F”)	83,391
H	Total New RES Obligation Banked for Compliance in either 2008 or 2009 (or for use against Existing RES) (“G” – “B”)	30
<b>Existing RES Obligation</b>		
I	Existing RES Obligation (2% of “A”)	166,718
J	Existing or Remaining New GIS Certificates from Current Compliance Year	173,488
K	<b>Existing RES Surplus/(Shortfall) Based on GIS Certificates (“J” – “I”)</b>	6,770
L	Total from Alternative Compliance Payments/Credits	227
M	Total from GIS Certificates + ACPs (“J” + “L”)	173,715
N	<b>Existing RES Surplus/(Shortfall) (“M” – “I”)</b>	6,997

<sup>5</sup> Narragansett Electric banked 25 MWh of compliance; the remaining 5 MWh was banked by one of the competitive retail electric providers.

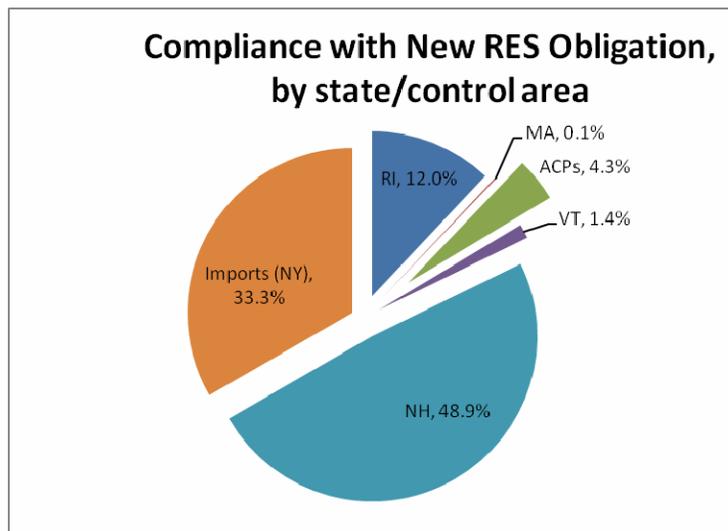
### III. 2007 RES Compliance by Fuel Type and Geographic Location

In 2007, RES compliance was fulfilled by three types of renewable energy generators – biomass, landfill gas and hydroelectric. As shown in Figure 3, the New RES Obligation was met almost entirely by biomass facilities including wood-fired power plants (49%) and landfill gas (44.4%), with a small fraction from hydroelectric (2.4%). The remaining 4.3% was fulfilled with ACPs. Half of all GIS Certificates used to meet the RES were attributable to biomass generating facilities located in New Hampshire. Another third of the GIS Certificates represent landfill gas production, a large portion of which was imported from New York. Twelve percent of New RES compliance came from new renewable energy facilities located in Rhode Island (Figure 4).

*Figure 3: Compliance with New RES Obligation by renewable fuel type*

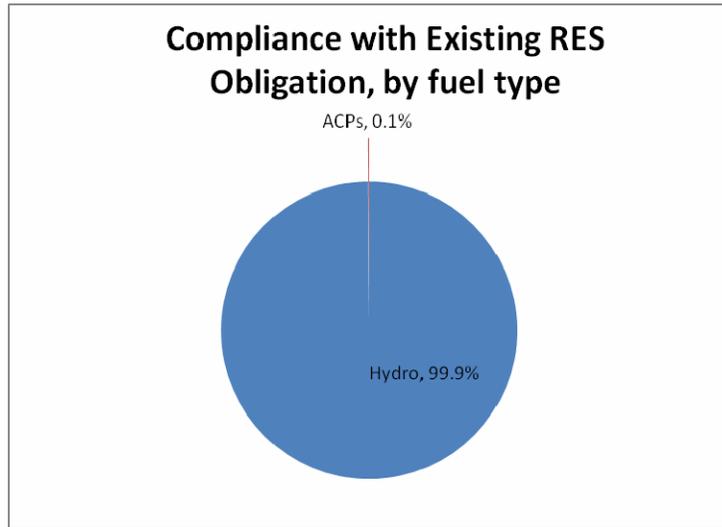


*Figure 4: Compliance with New RES Obligation by geographic location*

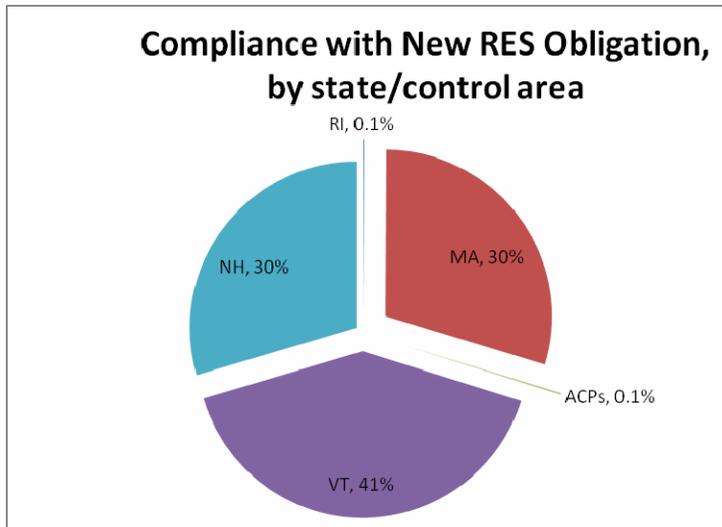


The Existing RES Obligation was met almost entirely by hydroelectric generators, as shown in Figure 5. Production from these generators was distributed more or less evenly between New Hampshire, Massachusetts and Vermont. Rhode Island hydroelectric generators comprised 0.1% of compliance with the Existing RES obligation (Figure 6).

**Figure 5: Compliance with New RES Obligation by renewable fuel type**



**Figure 6: Compliance with Existing RES Obligation by geographic location**



#### **IV. Renewable Energy Standard –Future Obligations**

RES enabling legislation at Section 39-26-4 establishes annual targets for both the New and Existing RI RES Obligations through 2019. At Section 39-26-4(3) the enabling legislation provides for “*An additional one percent (1%) of retail electricity sales in each of the following compliance years 2011, 2012, 2013, 2014, provided that the commission has determined the adequacy, or potential adequacy, of renewable energy supplies to meet these percentage requirements;*” and at Section 39-26-4(4) the legislation provides for an additional 1.5% per year through 2019 with the same Commission requirement to determine the adequacy of supply. The manner in which the Commission will fulfill the requirement to determine supply adequacy, as well as the timing and implications of the Commission’s decision-making authority is clearly articulated in the RES Regulations. Section 4.4 describes the Commission’s directive to open a docket in each of 2010 and 2014 in order to determine the adequacy of renewable energy supplies to meet the increase in the RES targets scheduled for 2011 and 2015, respectively. The Commission will make its determination of adequacy based not only on the historic availability of GIS Certificates, historic prices for GIS Certificates and passed quantities of ACPs, but also on the future potential availability of GIS Certificates based on the status of projects under development in the region, the magnitude and timing of other states’ RPS requirements, cost trends for renewable energy technologies and the benefits to Rhode Island and the region.

At Section 39-26-4(5) the enabling legislation states that “*In 2020 and each year thereafter, the minimum renewable energy standard established in 2019 shall be maintained unless the commission shall determine that such maintenance is no longer necessary for either amortization of investments in new renewable energy resources or for maintaining targets and objectives for renewable energy.*” The percentage targets shown in Table 3 earlier in this Report, and the calculated future RES obligations in Table 6 below, assume the PUC’s determination of continued adequacy of renewable energy supply. The quantity (in MWhs) of future years’ RES obligations are estimated in Table 6 by multiplying the forecasted value of total obligated retail sales in Rhode Island by the RES target for each year. The forecast of Rhode Island’s obligated retail sales is based on ISO-NE’s 2008 CELT Report (adjusted for losses) and the exemption of both Pascoag Utility District and Block Island Power Company from the RES.<sup>6</sup> Actual 2007 retail sales and RES obligation are provided in italics.

---

<sup>6</sup> Due to the current recession, 2008 load fell relative to the 2008 CELT, and load for 2009 and thereafter is also expected to be lower than the 2009 CELT forecast.

**Table 6: Forecast of RES MWh, by compliance year, for both new and existing resources**

<b>Compliance Year</b>	<b>Actual/Forecasted RES-Obligated Retail Sales (MWhs)</b>	<b>Minimum MWhs from New Renewable Energy Resources (per Table One targets)</b>	<b>MWhs from either New or Existing Renewable Energy Resources (2%)</b>
2007 ( <i>Actual</i> )	8,335,706	83,357	166,715
2008	8,346,675	125,200	166,934
2009	8,419,466	168,389	168,389
2010	8,482,552	212,064	169,651
2011*	8,545,637	299,097	170,913
2012*	8,603,870	387,174	172,077
2013*	8,662,102	476,416	173,242
2014*	8,720,335	566,822	174,407
2015*	8,768,862	701,509	175,377
2016*	8,822,242	838,113	176,445
2017*	8,875,622	976,318	177,512
2018*	8,931,469	1,116,434	178,629
2019*	8,987,668	1,258,274	179,753
2020 and thereafter**	9,044,220	1,266,191	180,884
* Increases in 2011 and 2015 subject to Commission determination, as described in Section IV.			
** Duration of continuation subject to Commission determination.			

## V. Authorized Rate Increases

Section 39-26-6 (f) of the RES enabling legislation specifies that the annual report shall include “*the amount of rate increases authorized pursuant to subsection (b),*” where subsection (b) reads that the Commission shall “[a]uthorize rate recovery by electric distribution companies of all prudent incremental costs arising from the implementation of this chapter, including, without limitation, the purchase of NE-GIS certificates, the payment of alternative compliance payments, required payments to support the NE-GIS, assessments made pursuant to § 39-26-7(c) and the incremental costs of complying with energy source disclosure requirements.” This section provides an update on the authorized rate increases made for 2007.

The Commission approved for effect January 1, 2007 a Renewable Energy Charge of \$0.00062 per kWh. For a typical residential ratepayer consuming 500 kWh per month the result was a bill increase of \$0.31 per month or \$3.72 per year. The only electric distribution company that qualified as an Obligated Entity for 2007 was Narragansett Electric. The definition of “Obligated Entity” in Section 3.25 of the Rules specifically notes that neither Block Island Power Company nor Pascoag Utility District is to be considered an Obligated Entity. The definition in 3.25 also explicitly notes that Narragansett Electric is to be considered an Obligated Entity.

The total annual Renewable Energy Charge billings by Narragansett to all its customers for 2007 were \$4,450,073.56. This is calculated by multiplying Narragansett’s total retail sales of 7,177,538 MWh, by the Renewable Energy Charge of \$0.00062 per kWh. According to Narragansett’s filing, their actual cost of complying with the RES in 2007 totaled \$3,976,389.50, or \$0.0005540 per kWh of retail sales. Therefore, the approved 2007 Renewable Energy Charge of \$0.00062 per kWh was more than sufficient to cover Narragansett’s costs of compliance with the RES.<sup>7</sup>

---

<sup>7</sup> Through a PUC-approved reconciliation mechanism, any over-collections are being refunded directly to ratepayers.

## **VI. Status of Implementation of Renewable Energy Standards in Other States**

Section 39-26-6 of the RES enabling legislation requests a report on “*the status of the implementation of the renewable energy standards in Rhode Island and other states.*” [emphasis added]. This section provides a status update on Renewable Portfolio Standards (RPS) implementation in states other than Rhode Island.

Five of the six New England states have active Renewable Energy Standards.<sup>8</sup> Vermont does not have a binding RES. However, the state legislature has set non-binding renewable energy goals for 2012 and beyond.<sup>9</sup> Following recent legislation, as of 2009, each state has multiple classes within its RES requirement. Class I or “New” requirements focus on supply that was either constructed after a date-certain or supply which meets maximum emissions thresholds, as well as other eligibility criteria. “Existing” requirements<sup>10</sup> generally focus on supply that was in operation prior to the creation of the applicable state’s RES. In addition, Connecticut has a Class III requirement for conservation and load management resources, and combined heat and power (CHP) resources. New Hampshire also has a Class II requirement for new solar. This status update focuses exclusively on the New (or Class I) portion of each state’s RES requirement.

Massachusetts has the longest-running RPS; the first compliance year was 2003. In aggregate, MA RPS supply exceeded RPS demand in 2003, fell short of demand in each of 2004 through 2006, and then once again exceeded RPS demand in the 2007 Compliance Year (which, like Rhode Island, is January to December). Since compliance is not evenly distributed, however, several suppliers made ACPs in years when the market was in overall surplus. ACPs in Massachusetts totaled approximately \$9,000 in 2003,<sup>11</sup> \$13.6 Million in 2004, \$19.6 Million in 2005, \$17.8 Million in 2006 and only \$620,000 in 2007. The Department of Energy Resources (DOER) – the Massachusetts agency responsible for managing the RPS program – expects this recent downward trend in the magnitude of ACPs to persist into the 2008 RPS Compliance Year.

Connecticut had its first RPS compliance year in 2004. Due to variations in its RPS eligibility standards compared to the rest of the region, Connecticut has historically had access to a larger pool of eligible supply. As a result, no penalty payments (Connecticut did not formally adopt the term ACP) were required in either the 2004 or 2005 compliance years. In 2006, both investor-owned utilities plus one competitive supplier made penalty payments totaling nearly \$3.5 Million to compensate for an overall shortfall of renewable energy supply compared to RPS demand. Connecticut’s report for the 2007 compliance year is currently under development.

---

<sup>8</sup> These mandates are referred to as Renewable Portfolio Standards (RPS) in all states except Rhode Island.

<sup>9</sup> Retirement of GIS Certificates is not required to meet the Vermont goals.

<sup>10</sup> Including Class II in MA, CT and ME; Class III in NH; and Class IV in NH.

<sup>11</sup> An Early Compliance provision qualifying renewable energy produced in 2002 for the 2003 RPS requirement almost entirely alleviated the need for ACPs.

Maine and New Hampshire also have RPS legislation and regulations in place. Maine’s first compliance year for its New<sup>12</sup> RPS requirement is 2008; the first compliance year for New Hampshire Class I is 2009. As a result, there are no compliance statistics yet available.

Table 7 provides a summary of the percentage targets and Table 8 provides an estimate of the corresponding GWh RPS obligations for each of the five New England states with RPS requirements for the period 2007 through 2015. The forecasted Massachusetts RPS obligation is based on the assumption that MA retail sales remain constant beginning in 2008. This is the assumption made by the MA DOER in its official Annual RPS Report for Compliance Year 2007. That assumption is maintained in this report for consistency. The forecasted RES obligations for the remaining states are based on the base case load growth forecast in ISO-NE’s April 2008 CELT Report.

*Table 7: Summary of New England States’ New Renewable RPS Targets (%)*

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
MA Class I	3.0%	3.5%	4.0%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%
CT Class I	3.5%	5.0%	6.0%	7.0%	8.0%	9.0%	10.0%	11.0%	12.5%
RI-New	1.0%	1.5%	2.0%	2.5%	3.5%	4.5%	5.5%	6.5%	8.0%
ME Class I	0.0%	1.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%
NH Class I	0.0%	0.0%	0.5%	1.0%	2.0%	3.0%	4.0%	5.0%	6.0%

*Table 8: Projection of New England States’ New Renewable RPS Demand (GWh)*

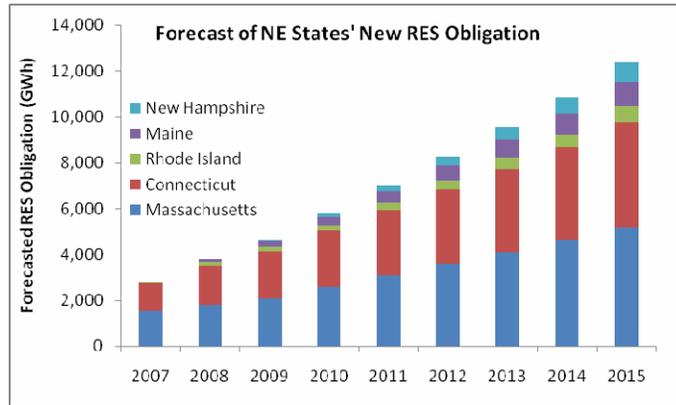
Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
MA Class I	1,529	1,798	2,055	2,569	3,082	3,596	4,110	4,623	5,137
CT Class I	1,206	1,728	2,095	2,469	2,851	3,238	3,629	4,022	4,603
RI-New	83	125	168	212	299	387	476	567	702
ME Class I	0	124	251	380	511	646	782	919	1,058
NH Class I	0	0	66	135	274	418	567	719	875
<b>Total</b>	<b>2,818</b>	<b>3,775</b>	<b>4,636</b>	<b>5,765</b>	<b>7,019</b>	<b>8,285</b>	<b>9,563</b>	<b>10,850</b>	<b>12,374</b>

These summaries are also shown graphically in Figure 7, Figure 8, and Figure 9. As can be seen in these figures, Massachusetts and Connecticut represent a majority of the demand for New Renewable Resources over the entire period 2007 through 2015, 54% and 43% respectively, in

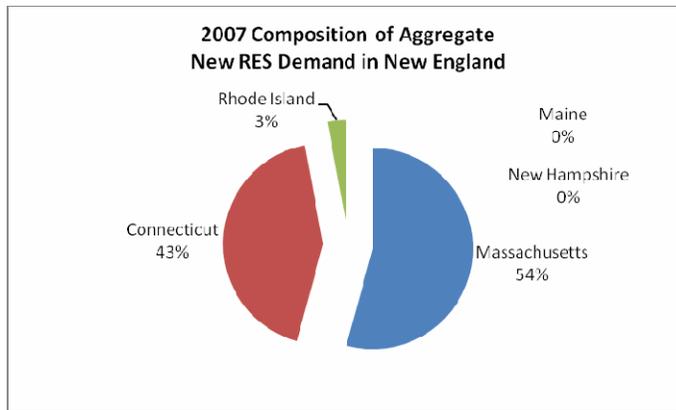
<sup>12</sup> Maine has had an “Existing” RPS requirement since 2000. An abundance of qualifying in-state supply enable’s the state to easily meet this requirement each year.

2007. Rhode Island represents 3% of the 2007 New Renewable RES demand. By 2015, the allocation of New Renewable RES demand across the region is 41% Massachusetts, 37% Connecticut, 9% Maine, 7% New Hampshire and 6% Rhode Island, as shown in Figure 9.

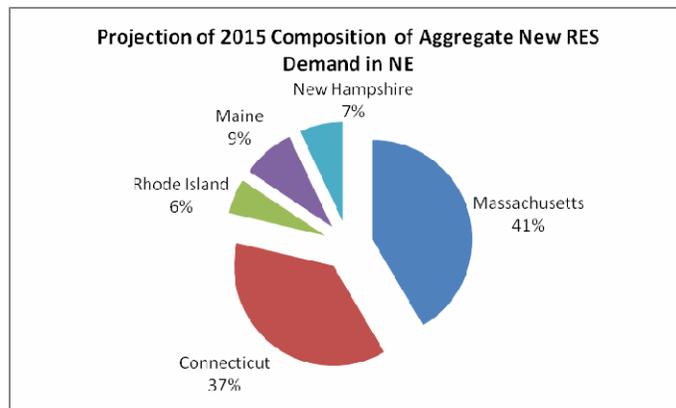
**Figure 7: Projection of New England States' New Renewable RES Demand**



**Figure 8: Composition of 2007 Aggregate New RES Demand in New England**



**Figure 9: Projection of 2015 Composition of Aggregate New RES Demand in NE**



## **VII. Conclusion**

Overall, the PUC's review and analyses reveal success in the RES program's first compliance year. Approximately 96% of the New RES Obligation was met with GIS Certificates, and the majority of the small amount (4%) of ACPs required were made to the RIEDC on time and in the proper amounts. GIS Certificates from existing renewable energy supply exceeded the Existing RES Obligation. Two thirds of the New RES Obligation was met by ISO-NE supply, with the remainder imported from NYISO. The entire Existing RES was met by generation within ISO-NE.

Finally, the dramatic increase in the number of new renewable energy projects proposed throughout the region, and in adjacent control areas, during the past several years leaves the PUC optimistic that both the Rhode Island RES and RPS programs throughout New England will continue to spur renewable energy development and allow these programs to meet their objectives.

## Appendix 1: New Renewable Energy Resources certified by the PUC

The following generating units have been *approved* by the Rhode Island PUC, either in whole or in part, as New Renewable Energy Resources:

Unit Name	Location: City, State	Fuel Type	Nameplate Capacity (MW)	% of output approved as New
<b>The following generators are located within ISO-NE:</b>				
Johnston Landfill Expansion Phase 1	Johnston, RI	LFG	2.4	100%
Johnston Landfill Expansion Phase 2	Johnston, RI	LFG	6	100%
Pawtucket Hydro	Pawtucket, RI	Hydro	1.35	47%
Portsmouth Abbey	Portsmouth, RI	Wind	0.67	100%
North Hartland Hydro	Hartland, VT	Hydro	4.664	25.6%
Schiller Station Unit 5	Portsmouth, NH	Biomass	50	100%
Pioneer Hydro	Ware, MA	Hydro	1.6	50.4%
Coventry Landfill Units 1 - 3	Coventry, VT	LFG	4.8	100%
Coventry Landfill Unit 4	Coventry, VT	LFG	1.6	100%
Attleboro Landfill	Attleboro, MA	LFG	1.5	100%
Pepperell Hydro	Pepperell, MA	Hydro	2.7	53.2%
Woronoco Hydro	Russell, MA	Hydro	2.7	37.4%
Quarry Energy <sup>1</sup>	Quincy, MA	LFG	0.6	100%
<b>The following generators are located in control areas adjacent to ISO-NE:</b>				
Higley Hydro	Colton, NY	Hydro	6.2	100% <sup>2</sup>
Colonie	Cohoes, NY	LFG	4.8	100%
Model City	Youngstown, NY	LFG	5.6	100%
Modern	Youngstown, NY	LFG	6.4	100%
DANC	Rodman, NY	LFG	4.8	100%
Ontario	Stanley, NY	LFG	5.6	100%
Mill Seat Landfill	Bergen, NY	LFG	4.8	100%
Chaffee Landfill	Chaffee, NY	LFG	4.8	100%
Hyland Landfill	Angelica, NY	LFG	4.8	100%
Clinton Landfill	Morrisonville, NY	LFG	4.8	100%
Munnsville Wind Farm	Bouckville, NY	Wind	34.5	100%
<sup>1</sup> Conditionally approved. <sup>2</sup> Subject to PUC review; portion of unit may be classified as an Existing Resource.				

## Appendix 2: Existing Renewable Energy Resources certified by the PUC

The following generating units have been *approved* by the Rhode Island PUC, either in whole or in part, as Existing Renewable Energy Resources:

Unit Name	Location: City, State	Fuel Type	Nameplate Capacity (MW)	% of output approved as Existing
<b>The following generators are located within ISO-NE:</b>				
Hosiery Mills	Hillsboro, NH	Hydro	1.2	100%
Kelley's Falls	Manchester, NH	Hydro	0.45	100%
Mascoma	West Lebanon, NH	Hydro	1.5	100%
Salmon Falls	South Berwick, ME	Hydro	1.2	100%
Pontook Hydro	Dummer, NH	Hydro	10.8	100%
Fife Brook	Florida, MA	Hydro	10	100%
Pawtucket Hydro	Pawtucket, RI	Hydro	1.35	53%
North Hartland Hydro	Hartland, VT	Hydro	4.664	74.4%
Blackstone Hydro <sup>1</sup>	Central Falls, RI	Hydro	0.818	100%
McIndoes Station	McIndoe Falls, VT	Hydro	10.63	100%
Lower Deerfield Stations	Conway, Shelburne Falls, Buckland, MA	Hydro	19.5	100%
Deerfield Unit 5	Florida, MA	Hydro	13.99	100%
Sherman Station	Rowe, MA	Hydro	6.237	100%
Searsburg Station	Wilmington, VT	Hydro	4.96	100%
Pioneer Hydro	Ware, MA	Hydro	1.6	49.6%
Wells River	Boltonville, VT	Hydro	1.318	100%
Penacook Upper Falls	Boscawen, NH	Hydro	3.67	100%
Dodge Falls	Bath, NH	Hydro	5.76	100%
Nashua Hydro	Nashua, NH	Hydro	1.1	100%
Briar Hydro	Penacook, NH	Hydro	5.58	100%
Penacook Lower Falls	Boscawen, NH	Hydro	4.69	100%
Benton Falls	Benton, ME	Hydro	4.468	100%
Springfield Power	Springfield, NH	Biomass	16	100%
Lower Lamoille Composite Hydro	Milton, VT	Hydro	16.85	100%
Middlebury Composite Hydro	Leicester, VT	Hydro	6.4	100%
North Rutland Composite Hydro	Rutland, VT	Hydro	5.6	100%
Putnam Hydro	Putnam, CT	Hydro	0.575	100%
Pepperell Hydro	Pepperell, MA	Hydro	2.7	46.8%
Woronoco Hydro	Russell, MA	Hydro	2.7	62.6%
<sup>1</sup> Conditionally approved.				

### Appendix 3: RI RES Compliance Summary

Rhode Island RES Compliance Summary Compliance Year: 2007													
	Retail Sales (from filing)	RES Obligation (calculated)		GIS Certificates (from GIS)		"New" Renewable Energy Resources (from filing)			"Existing" Resources (from filing)		Banking		
Retail Electricity Provider	Load	1% "New" Obligation	2% "Existing" Obligation	"New" RECs	"Existing" RECs	Applied Banked Attributes ("New")	Alternative Compliance Credits ("New")	Total "New" RES Attributes	Total "Existing" RES Attributes	Alternative Compliance Credits ("Existing")	Excess "New" Attributes	Banking Limit (30%) 30%	Banked Attributes
Distribution Company	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)	(MWh)
Narragansett Electric Company / National Grid	7,177,538	71,775	143,551	71,800	143,600	0	0	71,800	143,600	0	25	21,533	25
Competitive Providers													
Transcanada Power Marketing													
Constellation													
NewEnergy													
Direct Energy Services													
Hess Corporation													
Integrys Energy Services													
SJH Energy													
Westerley Hospital Energy Company													
<b>Sub Total</b>	<b>1,158,168</b>	<b>11,586</b>	<b>23,167</b>	<b>8,028</b>	<b>29,888</b>	<b>0</b>	<b>3,563</b>	<b>11,591</b>	<b>29,888</b>	<b>227</b>	<b>5</b>	<b>3,476</b>	<b>5</b>
<b>Totals</b>	<b>8,335,706</b>	<b>83,361</b>	<b>166,718</b>	<b>79,828</b>	<b>173,488</b>	<b>0</b>	<b>3,563</b>	<b>83,391</b>	<b>173,488</b>	<b>227</b>	<b>30</b>	<b>25,008</b>	<b>30</b>