

REPORT OF STATE RENEWABLE PORTFOLIO STANDARD PROGRAMS

Updated September 1, 2010



A publication of the National Hydropower Association
www.hydro.org

EXECUTIVE SUMMARY

NHA staff has prepared this report on the programs and regulations adopted by the states regarding renewable portfolio standards (RPS). The report focuses on governmentally mandated state renewable energy purchase requirements. Not included are other less prescriptive programs utilizing market based incentives or financial based incentives, i.e. green power pricing or production tax credits.¹

The information contained in this report is listed alphabetically by state. The research was conducted for all 50 states. Each entry contains the following information: agency; title; overall summary; hydro-related provisions; status; state administrative rules citation; and agency contact. In some instances, additional information has been included to assist the reader, such as state register citations.

As of the publication of this report, 31 states and the District of Columbia have adopted renewable portfolio standards, and all include some category of hydropower resources. Seventeen states include hydrokinetic technologies, such as ocean, tidal, or instream.

NHA staff invites members to supplement this report with any additional information they have in their possession on state RPS programs.

¹ Information pertaining to hydropower is in bold.

ARIZONA

1. AGENCY: Corporation Commission

TITLE: Renewable Electricity Standard

HYDRO-RELATED PROVISIONS: **Hydropower is included in the environmental portfolio standard. A hydropower facility in existence prior to 1997 is eligible if (1) the facility increases capacity as a result of improved technological or operational efficiencies or (2) generation from pre-1997 utilities is used to firm or regulate the output of eligible, intermittent renewable resources.**

New Hydropower installed after January 1, 2006 that produces 10 MW or less is also considered an eligible energy resource. This new generator must be either (1) a low-head, micro run-of-the-river system that does not require any new damming, (2) an existing dam that adds power generation equipment without requiring a new dam, new diversion or change in water flow or (3) generation using canals or other irrigation systems.

OVERALL SUMMARY: On November 14, 2006 the Arizona Corporation Commission (ACC) adopted final rules to expand the state's Renewable Energy Standard (RES) to 15% by 2025, with 30% of the renewable energy to be derived from distributed energy technologies (~2,000 MW). Investor-owned utilities serving retail customers in Arizona, with the exception of distribution companies with more than half of their customers outside Arizona, are subject to the standard. The previous standard was 1.1% in 2007, with 60% generated from solar electric technologies.

The RES includes a set-aside that utilities must meet a portion of their renewable energy requirement by obtaining RECs from distributed renewable energy technologies – 5% of the standard by 2007, rising to 30% of the standard (4.5% of total retail sales) by 2012 and thereafter.

STATUS: Rule effective 8/14/2007

CITATION: AAC R14-2-1801 et seq.; ACC Decision 69127

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CALIFORNIA

AGENCY: Energy Commission; Public Utilities Commission

TITLE: Renewable Portfolio Standard

HYDRO-RELATED PROVISIONS:

Assembly Bill 809 (Chapter 684, Statutes of 2007) amended Section 399.12 of the Public Utilities Code and changed the definition of conduit hydroelectric facility, revised the RPS-eligibility requirements for small hydroelectric and conduit hydroelectric facilities, and added as RPS-eligible the incremental increase in electricity generation due to efficiency improvements, regardless of the electrical output of the facility.

Hydroelectric Facilities located Outside California

A new or repowered small hydroelectric facility, conduit hydroelectric facility, or incremental generation from eligible efficiency improvements to a hydroelectric facility located outside California may be eligible for the RPS if it can demonstrate that it may operate without adversely impacting the instream beneficial uses or causing a change in the volume or timing of streamflow. A facility may have an adverse impact on the instream beneficial uses if it causes an adverse change in the chemical, physical, or biological characteristics of water, including a change in the volume, rate, timing, temperature, turbidity, or dissolved oxygen content of the stream water.

Hydroelectric Facilities Located Within California

A new or repowered small hydroelectric facility, conduit hydroelectric facility or incremental generation from eligible efficiency improvements located within California, is NOT eligible for the RPS if it results in an adverse impact on instream beneficial uses or causes a change in the volume or timing of streamflow. A facility may have an adverse impact on the instream beneficial uses if it causes an adverse change in the chemical, physical, or biological characteristics of water, including a change in the volume, rate, timing, temperature, turbidity, or dissolved oxygen content of the stream water.

If a new or repowered small hydroelectric facility, conduit hydroelectric facility, or incremental generation from eligible efficiency improvements to a hydroelectric facility, can demonstrate that it can operate without adversely impacting the instream beneficial uses or causing a change in the volume or timing of streamflow, it may be eligible for the RPS.

Small Hydropower

With exceptions for eligible efficiency improvements, an RPS-eligible small hydroelectric facility or conduit hydroelectric facility must not exceed 30 MW. A small hydroelectric facility placed in service before January 1, 2006 meets eligibility criteria if:

- (1) The facility is 30 MW or less, with an exception for eligible efficiency improvements made after January 1, 2008.
- (2) The facility is located in-state or satisfies the out-of-state requirements.
- (3) The facility was under contract to, or owned by, a retail seller prior to January 1, 2006.

A small hydroelectric facility placed in service after January 1, 2006 meets eligibility criteria if:

- (1) The facility is 30 MW or less, with an exception for eligible efficiency improvements made after January 1, 2008.

(2) The facility is located in-state or satisfies the out-of-state requirements.

(3) The facility does not “cause an adverse impact on instream beneficial uses or cause a change in the volume or timing of streamflow.”

Eligible Efficiency Improvements: A small hydroelectric facility shall not lose its RPS eligibility if efficiency improvements undertaken after January 1, 2008, cause it to exceed 30 MW and “the efficiency improvements do not result in an adverse impact on instream beneficial uses or cause a change in the volume or timing of streamflow.” The entire generating capacity of the facility shall be RPS-eligible.

Conduit Power

To be eligible for the RPS, a conduit hydroelectric facility must use for its generation only the hydroelectric potential of an existing pipe, ditch, flume, siphon, tunnel, canal, or other manmade conduit that is operated to distribute water for a beneficial use. A conduit hydroelectric facility may be considered a separate project even though the facility itself is part of a larger hydroelectric facility. The RPS eligibility requirements for conduit hydroelectric facilities depend in part on whether the facility was operational before or after January 1, 2006, and whether eligible energy efficiency improvements were made after January 1, 2008.

Generation from a conduit hydroelectric facility that commenced commercial operations before January 1, 2006, is eligible for the RPS if the facility meets all of the following criteria:

- 1. The facility is 30 MW or less, with the exception of eligible efficiency improvements made after January 1, 2008, as discussed below.**
- 2. The facility is located in-state or satisfies the out-of-state requirements.**

Generation from a conduit hydroelectric facility that commences commercial operations or is repowered on or after January 1, 2006, is eligible for the California RPS if the facility meets all of the following criteria:

- 1. The facility is 30 MW or less, with the exception of eligible efficiency improvements made after January 1, 2008, as discussed below.**
- 2. The facility is located in-state or satisfies the out-of-state requirements.**
- 3. The facility does not cause an adverse impact on instream beneficial uses or cause a change in the volume or timing of streamflow.**

A conduit hydroelectric facility shall not lose its RPS eligibility if efficiency improvements undertaken after January 1, 2008, cause it to exceed 30 MW and do not result in an adverse impact on instream beneficial uses or cause a change in the volume or timing of streamflow. The entire generating capacity of the facility shall be RPS-eligible. A conduit hydroelectric facility may be associated with or part of a larger existing hydroelectric facility and separately certified as RPS eligible if the facility meets the following criteria:

- 1. The existing hydroelectric facility commenced commercial operations before January 1, 2006.**

2. The conduit hydroelectric facility commenced commercial operations on or after January 1, 2006.

3. The existing hydroelectric facility and conduit hydroelectric facility are separately metered to identify their respective generation.

Incremental Hydroelectric Generation from Efficiency Improvements Regardless of Facility Output

The incremental increase in generation that results from efficiency improvements to a hydroelectric facility, regardless of the electrical output of the facility, is eligible for the RPS if ALL of the following conditions are met:

1. The facility was operational before January 1, 2007.

2. The efficiency improvements are initiated on or after January 1, 2008, are not the result of routine maintenance activities, and were not included in any resource plan sponsored by the facility owner before January 1, 2008.

3. The facility has, within the immediately preceding 15 years from the date the efficiency improvements are initiated, received certification from the State Water Resources Control Board (SWRCB) pursuant to Section 401 of the Clean Water Act (33 U.S.C. Sec. 1341), or has received certification from a regional board to which the SWRCB has delegated authority to issue certification, unless the facility is exempt from certification because there is no potential discharge into waters of the United States.

4. The incremental increase is the result of efficiency improvements from a retrofit, and the efficiency improvements do not result in an adverse impact on instream beneficial uses or cause a change in the volume or timing of streamflow.

5. All of the incremental increase in electricity generation resulting from the efficiency improvements must be demonstrated to result from a long-term financial commitment by the retail seller.

Eligible Efficiency Improvements

Eligible efficiency improvements to hydroelectric facilities are limited to those improvements that make more efficient use of the existing water resource and equipment, rather than increase the storage capacity or head of an existing water reservoir. Efficiency improvements do NOT include regular or routine maintenance activities. Eligible efficiency improvements may include the following measures:

- Rewinding or replacing the existing turbine generator.
- Replacing turbines.
- Computerizing control of turbines and generators to optimize regulation of flows for generation.

The applicant is responsible for showing that its facility qualifies for the RPS. Additional information required of applicants for small hydroelectric, conduit hydroelectric facilities and incremental generation regardless of output is discussed in the section on certification.

Pumped storage

A pumped storage hydroelectric facility may qualify for the RPS if: 1) the facility meets

the eligibility requirements for small hydroelectric facilities, and 2) the electricity used to pump the water into the storage reservoir qualifies as RPS eligible. The amount of energy that may qualify for the RPS is the amount of electricity dispatched from the pumped storage facility.

Pumped storage facilities qualify for the RPS on the basis of the renewable electricity used for pumping water into the storage reservoir, but the storage facilities will not be certified for the RPS as separate or distinct renewable facilities. A facility certified as RPS-eligible may include an electricity storage device if it does not conflict with other RPS eligibility criteria.

New Technologies

Ocean Thermal, Ocean Wave and Tidal Current technologies are eligible renewable resources.

OVERALL SUMMARY: California's Renewables Portfolio Standard (RPS) was originally established by the legislature in 2002. Subsequent amendments to the law resulted in a requirement for California's investor-owned electric utilities to increase their sales of eligible renewable-energy resources by at least 1 percent of retail sales per year, so that 20% of their retail sales are derived from eligible renewable energy resources by 2010. On September 15, 2009, the Governor signed Executive Order S-21-09, which increased the requirement to 33% by 2020, and made the requirement apply to all utilities, including publicly-owned municipal utilities. Prior to the Executive Order the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) were responsible for implementing and overseeing the RPS. The Executive Order shifted that responsibility to the California Air Resources Board (CARB), requiring them to adopt regulations by July 31, 2010. CARB is required by current law, AB 32 of 2006, to regulate sources of green house gasses to meet a state goal of reducing greenhouse gas emissions to 1990 levels by 2020, and an 80% reduction of 1990 levels by 2050.

STATUS: Energy Commission proceeding initiated 3/14/03; PUC proceeding initiated 10/25/01; amended 2006.

CITATION: SB 1078 of 2002; Executive Order S-21-09

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COLORADO

AGENCY: Public Utilities Commission

TITLE: Renewable Energy Standards 4 CCR 723-3

HYDRO-RELATED PROVISIONS: **In 2005, the Colorado Public Utilities Commission adopted Amendment 37, which includes new hydroelectricity with a nameplate rating of 10 MW or less, and hydroelectricity in existence on January 1, 2005, with a nameplate rating of 30 MW or less in the definition of “eligible energy resources.” On May 21, Gov. Bill Ritter signed HB08-1222 into law. The bill allows the state to conduct a feasibility study to determine whether to expand the definition of hydropower to include low-impact hydropower and pumped storage technologies under the state’s renewable energy standard.**

OVERALL SUMMARY: Colorado became the first U.S. state to create a renewable portfolio standard (RPS) by ballot initiative when voters approved Amendment 37 in November 2004. In March 2007, the state legislature increased the RPS and extended the requirement to electric cooperatives, among other changes. Eligible energy resources include solar-electric energy, wind energy, geothermal-electric energy, biomass facilities that burn nontoxic plants, landfill gas, animal waste, hydropower, recycled energy, and fuel cells using hydrogen derived from an eligible energy resource.

The RPS was accelerated in March 2010 and the following numbers reflect the increase as the state pursues a stronger RPS.

Colorado’s RPS requires each investor-owned utility to use specific percentages of renewable energy and/or recycled energy according to the following schedule:

- 3% of its retail electricity sales in Colorado for the year 2007;
- 5% of its retail electricity sales in Colorado for the years 2008-2010;
- 12% of its retail electricity sales in Colorado for the years 2011-2014;
- 20% of its retail electricity sales in Colorado for the years 2015-2019; and
- 30% of its retail electricity sales in Colorado for the year 2020 and for each following year.

Colorado's RPS also requires all electric cooperatives and each municipal utility serving more than 40,000 customers to provide specific percentages of renewable energy and/or recycled energy according to the following schedule:

- 1% of its retail electricity sales in Colorado for the years 2008-2010;
- 3% of its retail electricity sales in Colorado for the years 2011-2014;
- 6% of its retail electricity sales in Colorado for the years 2015-2019; and
- 10% of its retail electricity sales in Colorado for the year 2020 and each following year.

Legislation enacted in 2007 has excluded publicly owned utilities from the solar set-asides; however, solar projects that come online before July 2015 will receive a triple-multiplier. Community owned projects in Colorado under 30MW will receive a 1.5x multiplier. The 2007 revisions also increase the retail-rate-cap for the RPS to 2%.

STATUS: Adopted 3/23/2005, mailed 3/29/2005 (This Order is effective upon its Mailed Date).
Increase: Adopted 3/22/10, Effective 8/11/10

CITATION: Amendment 37 § 40-2-124, C.R.S; HB 1001

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CONNECTICUT

AGENCY: Department of Public Utility

TITLE: Electric Restructuring Legislation

HYDRO-RELATED PROVISIONS: **Wave and tidal technologies are eligible under the RPS as “Class I renewable energy resources.” Run-of-the-river facilities are also eligible under the RPS, provided they produce not more than 5 MW and do not cause any appreciable change in river flow. If a run-of-the-river facility meets these requirements and began operation after July 1, 2003, then it is a “Class I renewable energy resource.” Run-of-the-river facilities that also meet these requirements but began operation before July 1, 2003 are eligible as “Class II renewable energy resources.”**

With the implementation of the Regional Greenhouse Gas Initiative (RGGI) in Connecticut, an auction of allowances will be held. Of the proceeds generated from the auction, 23.125 percent will go to the Connecticut Clean Energy Fund to support the development of Class I renewable energy resources.

OVERALL SUMMARY: Established in 1998 and subsequently revised several times, Connecticut's renewables portfolio standard (RPS) requires each electric supplier and each electric distribution company wholesale supplier to obtain at least 23% of its retail load by using renewable energy by January 1, 2020. The RPS also requires each electric supplier and each electric distribution company wholesale supplier to obtain at least 4% of its retail load by using combined heat and power (CHP) systems and energy efficiency by 2010.

Separate portfolio standards are required for energy resources classified as "Class I," "Class II," or "Class III." Class I sources include solar, wind, new sustainable biomass, landfill gas, fuel cells (using renewable or non-renewable fuels), ocean thermal power, wave or tidal power, low-emission advanced renewable energy conversion technologies, and new run-of-the-river hydropower facilities with a maximum capacity of five MW (MW). Air emissions limits regulations apply to electricity generated by biomass. Electricity produced by end-user distributed generation (DG) systems using Class I resources also qualifies. Class II renewable energy sources include trash-to-energy facilities, biomass facilities not included in Class I, and certain hydropower facilities.

Electric providers must meet the standard with at least 20% Class I and 3% Class I or II resources by January 1, 2020, and 4% Class III resources by 2010, and thereafter, according to the following schedule:

- **On and after 1/1/06:** 2.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 3.5% Class I + 3% Class I or II
- **On and after 1/1/06:** 5.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 6.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 7.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 8.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 9.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 10.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 11.0% Class I + 3% Class I or II
- **On and after 1/1/06:** 12.5% Class I + 3% Class I or II
- **On and after 1/1/16:** 14.0% Class I + 3% Class I or II + 4% Class
- **On and after 1/1/17:** 15.5% Class I + 3% Class I or II + 4% Class
- **On and after 1/1/18:** 17.0% Class I + 3% Class I or II + 4% Class III
- **On and after 1/1/19:** 18.5% Class I + 3% Class I or II + 4% Class
- **On and after 1/1/20:** 20.0% Class I + 3% Class I or II + 4% Class III

Renewables within the jurisdiction of New York, Pennsylvania, New Jersey, Maryland, and Delaware are also eligible, provided that the Connecticut Department of Public Utilities (DPUC) determines these states have an RPS comparable to Connecticut's.

Public Act 07-242 of 2007 required the Connecticut Municipal Electric Energy Cooperative (CMEEC) to develop portfolio standards for the municipal electric utilities in the state, and report standards annually to the group that manages Connecticut Innovations, Inc.

STATUS: Date enacted 4/29/1998, effective date 1/1/2000; amended 1999, 2003, effective date 6/29/99; 6/26/03. Effective: 10/1/2007

CITATION: 16-245-1 through 6; Public Act No. 03-135 (Substitute SB 733 of 2003); Public Act No. 07-242

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DELAWARE

AGENCY: Delaware Public Service Commission

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **Ocean tidal and ocean thermal technologies are eligible energy resources. Hydroelectric facilities with a maximum capacity of 30 MW are also defined as an eligible energy resource provided they meet the following criteria:**

- **Have a maximum design capacity of 30 MW or less from all generating units combined.**
- **Not diminish water quality and/or adversely impact watersheds.**
- **Provide an adequate water flow for protection of aquatic life and for safe and effective fish passage.**
- **Protect state federally-designated threatened and endangered species and their habitat.**
- **Protect cultural and historic resources.**
- **Preserve or improve public access and recreation opportunities.**
- **Meet the certification standards established by the Low Impact Hydropower Institute or their successors.**

OVERALL SUMMARY: Senate Bill 19 of 2007 increased the RPS target from 10% to 20% by 2019. Two percent of renewable energy generated must come from solar photovoltaics (PV). The RPS applies to the state's investor owned utilities, municipal utilities, and rural electric cooperatives. Municipal utilities and rural electric cooperatives were allowed to opt out of the RPS requirements if they established a voluntary green power program and created a green energy fund, and all cooperative and municipal utilities have opted out. Sales to industrial customers with a peak load of more than 1,500 kilowatts (kW) are exempt from the standard's requirements. In July 2010 the general renewables target was revised yet again by S.S. 1 for S.B. 119 to 25% by CY 2025-2026, with at least 3.5% from PV. The 2010 amendments did not significantly alter the existing annual renewable energy benchmarks for CY 2010 -2011 through CY 2019 -2020. The annual PV benchmarks were accelerated for CY 2011-2012 through CY 2018-2019, although the existing CY 2019-2020 requirement of 2.005% PV was only slightly modified to the current level of 2.0%.

The RPS compliance schedule is as follows. It should be noted that the PV target is not in addition to the main target, it is included within it:

- **On and after 6/1/07: 1%**
- **On and after 6/1/08: 1.5% (0.011% PV)**
- **On and after 6/1/09: 2.0% (0.014% PV)**
- **On and after 6/1/11: 7.0% (0.20% PV)**
- **On and after 6/1/12: 8.5% (0.40% PV)**
- **On and after 6/1/13: 10% (0.60% PV)**
- **On and after 6/1/14: 11.5% (0.80% PV)**
- **On and after 6/1/15: 13% (1% PV)**
- **On and after 6/1/16: 14.5% (1.25% PV)**
- **On and after 6/1/17: 16% (1.5% PV)**
- **On and after 6/1/18: 17.5% (1.75% PV)**
- **On and after 6/1/19: 19% (2.00% PV)**
- **On and after 6/1/20: 20% (2.25% PV)**
- **On and after 6/1/21: 21% (2.50% PV)**
- **On and after 6/1/22: 22% (2.75% PV)**
- **On and after 6/1/23: 23% (3.00% PV)**
- **On and after 6/1/24: 24% (3.25% PV)**
- **On and after 6/1/25: 25% (3.50% PV)**

Beginning in compliance year 2010, and in each year afterward, the PSC may review the schedule and recommend that the state legislature accelerate or decelerate the schedule as necessary. Beginning in compliance year 2014, and in each year afterward, the PSC itself may accelerate or decelerate the schedule given certain market conditions.

For all suppliers, no more than 1% of each year's total retail sales may be met by eligible renewable resources placed into service on or before December 31, 1997. In compliance year 2020 and each year afterward, all eligible renewable resources used to meet the standard must be placed into service after December 31, 1997.

CITATION: SB 74 (2005), SB 19 (2007)
26 Delaware Code §352 (6). 7 DE Admin. Code 106
S.S. 1 for S.B. 119

STATUS: Enacted 7/21/2005; Amended 6/1/2007; Amended 7/28/2010, not yet effective

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DISTRICT OF COLUMBIA

AGENCY: DC Public Service Commission

TITLE: Renewable Energy Portfolio Standard Act of 2004

HYDRO-RELATED PROVISIONS: **Mechanical and thermal ocean energy is considered a Tier 1 resource and hydropower other than pumped storage is considered a Tier 2 resource.**

OVERALL SUMMARY: In January 2005, the Council of the District of Columbia enacted a renewables portfolio standard (RPS) that will be implemented by the DC Public Service Commission. The RPS, which involves a two-tiered system, applies to all retail electricity sales in the District of Columbia. "Tier one" renewable resources include solar, wind, biomass, landfill gas, wastewater-treatment gas, geothermal, ocean (mechanical and thermal) and fuel cells fueled by "tier one" resources.

In October 2008 the RPS was amended by the Clean and Affordable Energy Act of 2008. Significantly, this legislation increased the percentage and number of benchmarks that utilities must meet, included solar water heating as an eligible technology, increased the alternative compliance payment and amended reporting requirements.

The new alternative compliance payment is five cents for each kilowatt-hour of shortfall required from Tier 1 renewable resources and fifty cents from 2009 until 2018 for each kilowatt-hour of shortfall from required solar energy sources.

Utilities must use renewable energy to generate a specific percentage of their electricity supply according to the following schedule:

- In 2007, 1.5% from "tier one" resources; 2.5% from "tier two" resources; and 0.005% from solar energy
- In 2012, 4.0% from "tier one" resources; 2.5% from "tier two" resources; and at least 0.066% from solar energy
- In 2017, 6.5% from "tier one" resources; 1.5% from "tier two" resources; and at least 0.192% from solar energy
- In 2022 and beyond, 11% from "tier one" resources; 0% from "tier two" resources; and at least 0.386% from solar energy

Energy from Tier 1 resources is eligible for inclusion in meeting the RPS regardless of when the generating system or facility was activated. Tier 1 energy may be applied to the percentage requirements of the standard for either Tier 1 or Tier 2 renewable resources. Electricity suppliers that fail to comply with the requirements must pay \$0.025 (2.5 cents) per kilowatt-hour (kWh) of shortfall from required Tier 1 resources, \$0.01 for each kWh of shortfall from Tier 2 resources and \$0.30 for each kWh of shortfall from required solar resources.

Certain renewable resources receive preferential treatment. Between January 1, 2007 and December 31, 2009, electricity suppliers will receive 110% credit for energy generated by wind or solar. Before January 1, 2010, electricity suppliers will receive 110% credit for energy generated by landfill methane or wastewater-treatment methane.

In October 2009, the Public Service Commission handed down a decision that amended the RPS's solar provisions, preventing electricity from outside DC from obtaining RECs from multiple jurisdictions and qualified energy stored from solar generation as solar.

STATUS: Date enacted 4/12/2005, effective date 4/12/2005

CITATION: A15-755 (2004), Council Bill 17-492 (2008); DC PSC Order No. 15561

The DC Public Service Commission is currently in the process of adopting regulations governing the application and transfer of renewable energy credits and implementation of the RPS.

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HAWAII

AGENCY: Public Utilities Commission

TITLE: State Renewable Portfolio Standard

HYDRO-RELATED PROVISIONS: **SB 3185 modified the original RPS definitions of renewable energy. Under SB 3185, energy produced or generated from “falling water” (streams, dams) and ocean water, currents and waves is defined as renewable energy.**

OVERALL SUMMARY: In January 2008, Hawaii signed a memorandum of understanding (MOU) with the Department of Energy to accelerate the state’s renewable and clean energy production to make renewable energy 70% of the state’s consumption by 2030. Although the agreement is not legally binding, it will help the transition to the exclusive use of renewable energy on the smaller islands.

On October 20, 2008, the Governor of Hawaii, the State Department of Business, Economic Development, and Tourism; the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs; and the Hawaiian Electric Companies signed an energy agreement to reduce the consumption of fossil fuels and accelerate the development of clean, renewable energy resources. The agreement includes a commitment to seek legislative changes that will increase the RPS schedule to require companies in the regulated electricity sector to purchase 25% (from 20%) of their electricity from renewable resources by 2020 and 40% by 2030.

In 2009, the state RPS was increased. The following numbers reflect the current state of the RPS.

After 2015, no more than one-third of the companies’ total RPS may come from imported biofuels used in utility-owned units. All grid-connected renewable energy generation, both central-station and distributed, shall count towards the RPS goal.

Under Hawaii’s existing RPS, 40% of electricity is to be generated from renewable resources by the end of 2030. The RPS was modified in 2006 to clarify the definition of renewable energy, authorize the PUC to assess penalties for noncompliance, extend the deadline for implementation a rate making structure to encourage cost-effective renewable energy development, and to prescribe standards for measuring renewable generation at facilities that generate both renewable and fossil energy.

Each electric utility is required to establish the following RPS percentages:

- 10% of its net electricity sales by December 31, 2010
- 15% of its net electricity sales by December 31, 2015
- 25% of its net electricity sales by December 31, 2020
- 40% of its net electricity sales by December 31, 2030

Existing renewables may be counted in the total. Furthermore, the Hawaii Natural Energy Institute will conduct a peer-reviewed study every five years to evaluate whether the RPS needs

to be revised. The 20% of net electricity sales by 2020 should not be viewed as limits.

STATUS: Approved June 2, 2004, Amended June 2, 2006; Increased 6/25/2009, effective 7/1/2009

CITATION: SB2474 SD3 HD2 (Act 95, Session Laws of Hawaii 2004), SB3185 (Act 162, Session Laws of Hawaii 2006); HB 1464

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ILLINOIS

AGENCY: Commerce Commission

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **Under Public Act 095-0481, hydropower that does not involve the construction of new dams or significant expansion of existing dams is defined as an eligible renewable resource.**

House Bill 5855 currently in the Illinois legislature would create the Illinois Renewable Energy Sources Act that requires an electric utility connect an eligible electric generator to the utility's distribution systems between 30 and 60 days after a request by the eligible electric generator. The bill also provides that electric utilities shall enter into power purchase agreements for a term of not less than 20 years to purchase all electricity from eligible electric generators in the State at specified rates set by the Commission for the following methods of generation: (1) hydroelectric power.

OVERALL SUMMARY: In August 2007, Illinois replaced its non-binding RPS program with a mandatory program that requires eligible utilities to purchase 25% of their energy from renewable resources by 2025. The RPS applies only to utilities serving over 100,000 Illinois customers and only to consumers taking fixed-price service. Seventy-five percent of the energy needed to meet each yearly target is to be generated by wind. The newly created Illinois Power Agency will develop the procurement plan and oversee compliance by Illinois' investor owned utilities' default service providers.

STATUS: Date Enacted: PA 095-0481- 8/28/2007, Effective: 8/28/2007; ICC Resolution 7/19/05, 7/19/05; 20 ILCS 6/22/2001; 7/1/2001

CITATION: Public Act 095-0481, ICC Resolution (Case 05-0436), 20 ILCS 688/5

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IOWA

AGENCY: Department of Commerce, Utilities Division

TITLE: Renewable Portfolio Standard and Alternate Energy Purchase Program

HYDRO-RELATED PROVISIONS: **The Alternate Energy Production (AEP) program requires MidAmerican Energy and Alliant Energy to own or purchase power from AEP production facilities or small hydro facilities.**

A small hydro facility is defined as:

a. A hydroelectric facility at a dam.

b. Land, systems, buildings, or improvements that are located at the project site and are necessary or convenient to the construction, completion, or operation of the facility.

c. Transmission or distribution facilities necessary to conduct the energy produced by the facility to users located at or near the project site.

A facility which is a qualifying facility under 18 C.F.R. part 292, subpart B is not precluded from being a small hydro facility under this division.

OVERALL SUMMARY: Iowa requires MidAmerican Energy and Alliant Energy Interstate Power and Light (IPL), the two biggest investor owned utilities in the state, to generate a combined 105 MW of renewable generating capacity and associated energy production. The 105 MW is based on each utility's percentage of their combined Iowa retail peak demand.

In 2001, Iowa's governor established a voluntary goal of generating 1,000 MW of wind energy.

Under Iowa Code § 476C, a state production tax credit of 1.5¢ per kWh is available for energy sold by eligible wind energy facilities and certain other renewable energy facilities. For wind energy facilities, the maximum total eligibility is 180 MW. For other renewable facilities, the maximum total eligibility is 20 MW. The tax credit is NOT available for facilities that generate energy for the owner's self-use. The tax credit may be applied toward the state's personal income tax, business income tax, financial institutions tax, or sales and use tax.

To qualify for the tax credits, wind and other renewable energy facilities must be approved as eligible by the Iowa Utilities Board (IUB). IUB rule 199 IAC 15.18 describes the 476B eligibility application process. IUB rule 199 IAC 15.19 describes the 476C eligibility application process.

Eligible facilities apply for 476B or 476C tax credit certificates based on the kWh they sell. The IUB will verify the number of kWh sold by the facility. The [Iowa Department of Revenue](#) will

review the tax credit application and IUB verification, and issue and track the tax credit certificates. Certificates may be transferred or sold one time to a third party.

STATUS: Rule proposed 4/21/03; Rule adopted 8/29/03.

CITATION: Iowa Code § 476.41 et seq.; Enacted 1983; Iowa Utilities Board Order, Docket No. AEP-07-1; Enacted 11/21/2007

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KANSAS

AGENCY: Kansas Corporation Commission, Energy Board

TITLE: Renewable Portfolio Standard

HYDRO-RELATED PROVISIONS: **Renewable Energy Resources are defined in the law to include existing hydropower and new hydropower that has a nameplate rating of 10 megawatts (MW) or less.**

OVERALL SUMMARY: House Bill 2369, enacted in May 2009, established a renewables portfolio standard (RPS) for Kansas which requires the state's investor owned utilities and certain cooperative utilities* to generate or purchase a certain amount of their electricity from eligible renewable resources. The Kansas Corporation Commission (KCC) will establish rules and regulations to administer the portfolio standard within 12 months, but the legislation has set the basic ground rules for the standard. While the portfolio standards of most other states are based on retail electric sales (kilowatt hours), Kansas' standard is based on generation capacity (kilowatts).

The required generation capacity can be produced by wind, solar thermal, photovoltaics (PV), dedicated crops grown for energy production, cellulosic agricultural residues, plant residues, methane from landfills or wastewater treatment, clean and untreated wood products such as pallets, existing hydropower, new hydropower that has a nameplate rating of 10 megawatts (MW) or less, fuel cells using hydrogen produced by an eligible renewable resource, and other sources of energy that become available in the future and are certified as renewable by the KCC.

The compliance schedule is as follows. Note that each year's requirement refers to each utility's peak capacity demand based on the average demand of the previous three years.

2011 - 2015: 10%
2016 - 2019: 15%
2020 onward: 20%

Each MW of eligible capacity installed in Kansas after January 1, 2000 will count as 1.1 MW for the purpose of compliance. Renewable Energy Credits (RECs) can be used to comply with the requirement by using the affected utility's actual capacity factor of its owned renewable

generation from the previous year. For compliance years 2011, 2016 and 2020 RECs can only be used to meet a portion of the utility's requirement. By the law's definition of a REC, the KCC will have to approve a program for the issuance of RECs used for compliance under the standard.

The KCC will develop reporting and enforcement mechanisms to ensure the utilities comply with the law. The KCC, however, is not required to assess penalties for compliance years 2011 and 2012 if the utility can demonstrate a good faith effort to comply with the requirement.

STATUS: Enacted 5/22/09, Effective 7/1/09

CITATION: Kansas Statutes 66-1256, et seq.

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MAINE

AGENCY: Public Utilities Commission

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **Hydropower with a maximum capacity of 100 MW is considered a new renewable energy resource. Hydropower facilities must meet all state and federal fish passage requirements.**

“New renewable energy resources” must also meet the following conditions:

1. Capacity limit. Except for wind power installation, a new renewable resource must not have a nameplate capacity that exceeds 100 MW.

2. Vintage. A new renewable resource is a generation facility that:

- a. **has an in-service date after September 1, 2005;**
- b. **has been added to an existing facility after September 1, 2005;**
- c. **has not operated for at least two consecutive years or was not recognized by the ISO-NE or NMISA as a capacity resource prior to September 1, 2005, and, after September 1, 2005, resumed operation or was recognized by the ISO-NE or NMISA or as a capacity resource; or**
- d. **has been refurbished after September 1, 2005 and is operating beyond its previous useful life or is employing an alternate technology that significantly increases the efficiency of the generation process.**

3. Commission certification. A generation facility may not be used to satisfy the portfolio requirement of this section unless the Commission certifies the generation facility as a new renewable resource.

Pumped Storage

For service in the ISO-NE control area, pumped storage hydroelectric facilities shall be treated in accordance with the GIS rules. For service in the NMISA area, energy from pumped-storage hydroelectric facilities must serve all of its pumping requirements using an eligible resource or a new renewable resource to satisfy the portfolio requirements of this Chapter.

OVERALL SUMMARY: In September 1999, Maine's Public Utilities Commission (PUC) adopted rules for the state's Renewable Resource Portfolio Requirement, pursuant to the state's 1997 electric-utility restructuring law. The rules require each competitive electricity provider, including standard offer providers, to supply at least 30% of their total retail electric sales in Maine using electricity generated by eligible renewable resources and certain efficient resources. In June 2006, Maine enacted legislation (L.D. 2041) creating a renewable portfolio goal to increase *new* renewable-energy capacity by 10% by 2017. Eligible new renewable-energy systems include those placed into service after September 1, 2005.

Public Law 403 of 2007 converted the 2006 goal into a mandatory standard. The schedule for the new capacity mandate is as follows:

- 1% by 2008
- 2% by 2009
- 3% by 2010
- 4% by 2011
- 5% by 2012
- 6% by 2013
- 7% by 2014
- 8% by 2015
- 9% by 2016
- 10% by 2017 and each year thereafter

Legislation enacted in April 2008 (L.D. 2283) established two goals for wind-energy development in Maine: (1) at least 2,000 MW of installed capacity by 2015; and (2) at least 3,000 MW of installed capacity by 2020, of which there is a potential to produce 300 MW from facilities located in coastal waters.

The PUC has approved the use of NEPOOL Generation Information System (GIS) certificates (which are similar to renewable-energy credits, or RECs) to satisfy the portfolio requirement. GIS certificates are awarded based on the number of kilowatt-hours of eligible electricity generated. GIS certificates used to satisfy Maine's new capacity requirement may not also be used to satisfy the state's 30% portfolio requirement.

STATUS: Public Law, Chapter 403 Enacted 6/22/2007

CITATION: 65-407-311

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MARYLAND

AGENCY: Maryland Legislation/Public Service Commission

TITLE: Renewable Portfolio Standard

HYDRO-RELATED PROVISIONS: **The definition of tier 1 renewable source includes a small hydroelectric power plant of less than 30 MW of capacity that is licensed or exempt from licensing by the Federal Energy Regulatory Commission and that is in operation as of Jan. 1, 2004. Tier 1 also covers ocean, including energy from waves, tides, currents, and thermal differences. The definition of tier 2 renewable source includes hydropower other than pump storage generation.**

OVERALL SUMMARY: Maryland's Renewable Energy Portfolio Standard, enacted in May 2004 and revised in 2007 and 2008, requires electricity suppliers (all utilities and competitive retail suppliers) to use renewable energy sources to generate a minimum portion of their retail sales. Beginning in 2006, electricity suppliers are to provide 1% of retail electricity sales in the state from Tier 1 renewables and 2.5% from Tier 2 renewables. The renewables requirement increases gradually, ultimately reaching a level of 20% from Tier 1 resources in 2022 and beyond, and 2.5% from Tier 2 resources from 2006 through 2018. The Tier 2 requirement sunsets, dropping to 0% in 2019 and beyond.

Legislation enacted in April 2007 added a provision requiring electricity suppliers to derive 2% of electricity sales from solar energy in addition to the 7.5% renewables derived from other Tier 1 resources as outlined in the initial RPS law. H.B. 375, enacted in April 2008, more than doubled the overall Tier 1 requirement and accelerated the compliance schedule. The Tier 2 and solar requirements were left unchanged.

Energy from Tier 1 resources is eligible for RPS compliance regardless of when the system or facility was placed in service and may be applied to either Tier 1 or Tier 2 obligations. However, electricity suppliers may begin to receive or accumulate RECs on or after January 1, 2004.

Percentage Renewables Required by Year

Year	Solar	Other Tier 1	Tier 2
2006	0	1.0	2.5
2007	0	1.0	2.5
2008	0.005	2.0	2.5
2009	0.01	2.0	2.5
2010	0.025	3.0	2.5

2011	0.04	4.96	2.5
2012	0.06	6.44	2.5
2013	0.1	8.1	2.5
2014	0.15	10.15	2.5
2015	0.25	10.25	2.5
2016	0.35	12.35	2.5
2017	0.55	12.55	2.5
2018	0.9	14.9	2.5
2019	1.2	16.2	0
2020	1.5	16.5	0
2021	1.85	16.85	0
2022+	2.0	18.0	0

STATUS: Signed by Governor 5/26/2004. SB 595 effective 7/1/2007. HB 375 effective 01/01/2011.

CITATION: HB 869 of 2004 (Chapter 487); SB 595; HB 375

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MASSACHUSETTS

AGENCY: Office of Consumer Affairs and Business Regulation/Division of Energy Resources

TITLE: Renewable Portfolio Standard

HYRDO-RELATED PROVISIONS: **Only “Class I” renewables are eligible to meet the RPS. A “Class I” generating source is one that began commercial operation after December 31, 1997, or represents the net increase from incremental new generating capacity after December 31, 1997 at an existing facility.**

Ocean thermal, tidal or wave energy, and marine or hydrokinetic energy are defined as “Class I” renewables.

The definition of “Class I” renewables also includes energy generated from certain hydropower facilities or certain new incremental energy from increased capacity or efficiency improvements at existing hydropower facilities.

A qualifying hydropower facility must meet the following criteria:

1) Only energy from new facilities having a capacity up to 25 MW or attributable to improvements that incrementally increase capacity or efficiency by up to 25 megawatts at an existing hydroelectric facility shall qualify;

2) No facility can involve pumped storage or construction of any new dam or water diversion structure constructed later than January 1, 1998

3) The Unit meets appropriate and site-specific standards that address adequate and healthy river flows, water quality standards, fish passage and protection measures and mitigation and enhancement opportunities in the impacted watershed, as determined by the Department in consultation with Relevant Hydroelectric Agencies. The Unit shall demonstrate compliance with such standards by submitting the documentation required in either 225 CMR 14.05(1)(a)6.d.i or ii.

i. LIHI Certification of the Unit; except that in either of the two circumstances provided in 225 CMR 14.05(1)(a)6.d.i, the Department may request further information from the applicant and the Relevant Hydroelectric Agencies as part of its review of the applicant’s SQ Application. The Department shall notify the applicant of any such input from a Relevant Hydroelectric Agency not later than 30 days after receiving such input and shall provide the applicant an opportunity to respond to the Department not later than 30 days after the applicant’s receipt of such notice from the Department.

A. If a Relevant Hydroelectric Agency identified an environmental concern and a proposed remedy to LIHI during the LIHI certification process, and such concern was not addressed in the LIHI certification to the satisfaction of the Agency, and the Agency consulted with the Owner or Operator of the Unit; or

B. If, between issuance of the LIHI certification and the Department’s determination of the Unit’s eligibility, a Relevant Hydroelectric Agency submits to the Department evidence of a significant environmental problem not previously known by such Agency, after consulting with the Owner or Operator of the Unit.

ii. A denial of certification from LIHI specifying the reasons the certification was denied and the applicant’s proposed rationale for why the project should nevertheless receive a Statement of Qualification. In this instance, the Department shall notify and seek input from the Relevant Hydroelectric Agencies, which shall have 30 days from the date of their receipt of such notification to provide feedback to the Department. The Owner or Operator of the Unit

shall be notified of any such input and shall have 30 days from receipt of such notice to respond to the satisfaction of the Department as to why its Application should be approved. The Department thereafter shall make finding of whether the Unit meets appropriate environmental safeguards despite the lack of LIHI certification.

E. The Owner or Operator of the Unit must serve notice to all Relevant Hydroelectric Agencies of its application for LIHI certification and its submission of a Statement of Qualification Application and must provide notice of such service to the Department.

F. If LIHI fails to act to certify or deny certification within 180 days from the date of submission of the Unit's application to LIHI, the Owner or Operator shall file notice of such event with Department. The Department shall review the federal, state or provincial permits for the Unit and any submissions to LIHI by Relevant Hydroelectric Agencies, and shall make a final determination as to whether the Unit meets environmental standards specified in 225 CMR 14.05(1)(a)6.d.

G. If LIHI is unable to review for certification a Unit that is located in a Control Area adjacent to the ISO-NE Control Area and outside the United States of America, the Owner or Operator of such Unit may petition the Department for certification using the LIHI standards by an independent third party acceptable to the Department.

A separate "Class II" standard requires all retail electricity suppliers to provide annually a minimum percentage – to be determined by the DOER – of kWh sales to end-use customers in Massachusetts from "Class II" renewables.

A Class II renewable energy generating source is one that began commercial operation before December 31, 1997.

"Class II" renewables include ocean thermal, tidal or wave energy, and marine or hydrokinetic energy.

Certain hydroelectric facilities are also considered "Class II" renewables provided they meet the following criteria:

Only energy from existing facilities up to 5 megawatts is considered renewable energy and no facility can involve pumped storage of water nor construction of any new dam or water diversion structure constructed later than January 1, 1998.

An existing facility is required to meet appropriate and site-specific standards that address adequate and healthy river flows, water quality standards, fish passage and protection measures and mitigation and enhancement opportunities in the impacted watershed as

determined by the department in consultation with relevant state and federal agencies having oversight and jurisdiction over hydropower facilities. The Unit shall demonstrate compliance with such standards by submitting the documentation required in either 225 CMR 14.05(1)(a)6.d.i or ii.

- iii. **LIHI Certification of the Unit; except that in either of the two circumstances provided in 225 CMR 14.05(1)(a)6.d.i, the Department may request further information from the applicant and the Relevant Hydroelectric Agencies as part of its review of the applicant's SQ Application. The Department shall notify the applicant of any such input from a Relevant Hydroelectric Agency not later than 30 days after receiving such input and shall provide the applicant an opportunity to respond to the Department not later than 30 days after the applicant's receipt of such notice from the Department.**
 - A. **If a Relevant Hydroelectric Agency identified an environmental concern and a proposed remedy to LIHI during the LIHI certification process, and such concern was not addressed in the LIHI certification to the satisfaction of the Agency, and the Agency consulted with the Owner or Operator of the Unit; or**
 - B. **If, between issuance of the LIHI certification and the Department's determination of the Unit's eligibility, a Relevant Hydroelectric Agency submits to the Department evidence of a significant environmental problem not previously known by such Agency, after consulting with the Owner or Operator of the Unit.**
- iv. **A denial of certification from LIHI specifying the reasons the certification was denied and the applicant's proposed rationale for why the project should nevertheless receive a Statement of Qualification. In this instance, the Department shall notify and seek input from the Relevant Hydroelectric Agencies, which shall have 30 days from the date of their receipt of such notification to provide feedback to the Department. The Owner or Operator of the Unit shall be notified of any such input and shall have 30 days from receipt of such notice to respond to the satisfaction of the Department as to why its Application should be approved. The Department thereafter shall make finding of whether the Unit meets appropriate environmental safeguards despite the lack of LIHI certification.**
 - E. **The Owner or Operator of the Unit must serve notice to all Relevant Hydroelectric Agencies of its application for LIHI certification and its submission of a Statement of Qualification Application and must provide notice of such service to the Department.**
 - F. **If LIHI fails to act to certify or deny certification within 180 days from the date of submission of the Unit's application to LIHI, the Owner or Operator shall file notice of such event with**

Department. The Department shall review the federal, state or provincial permits for the Unit and any submissions to LIHI by Relevant Hydroelectric Agencies, and shall make a final determination as to whether the Unit meets environmental standards specified in 225 CMR 14.05(1)(a)6.d.

G. If LIHI is unable to review for certification a Unit that is located in a Control Area adjacent to the ISO-NE Control Area and outside the United States of America, the Owner or Operator of such Unit may petition the Department for certification using the LIHI standards by an independent third party acceptable to the Department.

S.B. 2768, enacted in July 2008, creates an Alternative Energy Portfolio Standard (APS) that requires all retail electricity suppliers to provide annually a minimum percentage of kWh sales to end-use customers in Massachusetts from “alternative energy generating sources.” In 2009 the goal is 1% and increases to 5% by 2020 (DOER provides the yearly schedule of increments).

All technologies that are classified as Class I or Class II renewable energy resources is eligible for the APS.

OVERALL SUMMARY: Enacted in July 2008, S.B. 2768 builds on Massachusetts existing renewable portfolio standard by setting two overarching goals: (1) meeting at least 25% of the state's electric load, including both capacity and energy, by 2020 with demand-side resources including energy efficiency, load management, demand response and generation located behind a customer's meter; and (2) meeting at least 20% of the state's electric load by 2020 through new renewable and alternative energy generation.

As part of its 1997 electric utility restructuring legislation, Massachusetts created the outlines for a renewable portfolio standard (RPS). In April 2002, the Massachusetts Division of Energy Resources (DOER) adopted RPS regulations that require all retail electricity providers in the state to utilize new renewable-energy sources for at least 1% of their power supply in 2003, increasing to 4% by 2009 (see schedule below). The DOER proposed revised RPS regulations and draft biomass-eligibility guidelines in November 2006. After 2009, the minimum percentage shall continue to increase by one percent per year until the annual increase is suspended. At no time shall the minimum percentage decrease below the percentage in effect at the time the suspension is implemented.

S.B. 2768 mandates that only “Class I” renewable resources are eligible to meet the RPS. In meeting the “Class I” standard, retail suppliers must provide a portion – to be determined by the DOER – of the required renewable energy from new, in-state, on-site systems of not more than two megawatts (MW) in capacity which began commercial operation after December 31, 2007.

A separate “Class II” standard requires all retail electricity suppliers to provide annually a minimum percentage – to be determined by the DOER – of kWh sales to end-use customers in Massachusetts from “Class II” renewables.

Finally, S.B. 2768 establishes an Alternative Energy Portfolio Standard (APS) that requires all retail electricity suppliers to provide annually a minimum percentage of kWh sales to end-use customers in Massachusetts from “alternative energy generating sources.” In 2009 the goal is 1% and increases to 5% by 2020 (DOER provides the yearly schedule of increments).

STATUS: Rule proposed 10/12/01; Final rule adopted 4/16/02; Effective date 4/16/02.

CITATION: 225 CMR 14.00; S.B. 2768 (Enacted 7/2/2008); [225 CMR 14.00 et seq.](#) (Enacted 3/31/2009; Expiration Date 7/01/2009)

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MICHIGAN

AGENCY: Public Service Commission, Operations & Wholesale Markets Division

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **Water released through a dam and kinetic energy of moving water including waves, tides, and currents are considered renewable energy resources.**

Upgrades that increase the efficiency dams in existence on the effective date of the RPS legislation are also deemed renewable energy resources.

A pumped storage facility is not considered a renewable energy system; however, off-peak renewable electricity generation stored using advanced electric storage technology or hydroelectric pumped storage and used during peak demand times receives an additional 1/5 credit per MWh. The credit is calculated based on the initial amount of electricity used to charge the storage device, not the amount that is discharged.

OVERALL SUMMARY: In October 2008, Michigan enacted Public Act 295, requiring the state's investor-owned utilities, alternative retail suppliers, electric cooperatives and municipal electric utilities to generate 10% of their retail electricity sales from renewable energy resources by 2015. The standard allows utilities to use energy optimization and advanced cleaner energy systems to meet a limited portion of the requirement. Energy optimization is also subject to a separate requirement, but credits achieved under one standard may be exchanged for credits under the other standard subject to certain limitations. The state's two largest investor-owned utilities -- Detroit Edison and Consumers Energy -- have additional obligations beyond those of other utilities.

The compliance period for the standard begins in 2012. Each utility has a unique annual obligation based on its existing renewable energy portfolio, the amount of energy that would be required to meet the ultimate 10% target during a compliance year, and the applicable percentage obligation for that year. The annual benchmarks are as follows:

- 20% of total 2015 obligation in 2012
- 33% of total 2015 obligation in 2013
- 50% of total 2015 obligation in 2014
- 100% of total obligation in 2015

In effect, a utility's existing renewable energy baseline does not change from year to year, but it is obligated to meet an increasing percentage (e.g., 20% in 2012) of the ultimate 10% goal each year from 2012-2015.

The existing renewable energy portfolio is determined by the amount of qualifying electricity produced or obtained by an electric provider during the one-year period preceding the effective date of the act (October 6, 2008). The existing portfolio also includes certain renewable electricity production associated with PURPA qualifying facilities (QFs) during the same time period. For the purpose of determining the 10% target for a given year, a utility may estimate total retail sales using average retail sales during the previous three years or using weather-normalized sales from the previous year.

The Michigan Public Service Commission (PSC) was tasked with establishing a REC certification and tracking program, which was unveiled in August 2009. Generally, RECs may be obtained from in state facilities or from out of state facilities located within the retail electric service territory of a utility (or subsequent expansions) as recognized by the PSC. Alternative electric suppliers are generally not permitted to meet the standard using out of state resources. However, a variety of exceptions exist to these general eligibility criteria, relating primarily to existing power purchase agreements with out of state facilities. A REC has a lifetime of three years from the end of the month it was generated. RECs generated within 120 days of the start of a calendar year may be used to satisfy the previous year's obligation.

STATUS: Enacted 10/06/2008, Effective 10/06/2008

CITATION: Public Act 295 (2008)

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MINNESOTA

AGENCY: Public Utilities Commission

TITLE: Renewable Energy Objectives

HYDRO-RELATED PROVISIONS: **Hydroelectric facilities with less than 100 MW are eligible for the RPS standard and the non-mandated renewable-energy objective.**

OVERALL SUMMARY: Minnesota enacted legislation in February 2007 that created a renewable portfolio standard (RPS) for Xcel Energy, created a separate RPS for other electric utilities, and modified the state's existing non-mandated renewable-energy objective.

The standard for Xcel Energy requires that eligible renewable electricity account for 30% of total retail electricity sales (including sales to retail customers of a distribution utility to which Xcel Energy provides wholesale service) in Minnesota by 2020. Of the 30% renewables required of Xcel Energy in 2020, "at least" 25% must be generated by wind-energy systems, and "the remaining" 5% by other eligible technologies. Wind energy and biomass energy contracted for or purchased by Xcel Energy pursuant to Minn. Stat. § 216B.2423 *et seq.* is eligible under the RPS. The RPS schedule for Xcel Energy is as follows:

- 15% by 12/31/2010
- 18% by 12/31/2012
- 25% by 12/31/2016
- 30% by 12/31/2020

The standard for other Minnesota utilities requires that eligible renewable electricity account for 25% of retail electricity sales to retail customers (and to retail customers of a distribution utility to which the one or more of the utilities provides wholesale service) in Minnesota by 2025. Other electric utilities that must comply with Minnesota's RPS are: public utilities providing electric service, generation and transmission cooperative electric associations, municipal power agencies, and power districts operating in the state.

The RPS schedule for other Minnesota utilities is as follows:

- 12% by 12/31/2012
- 17% by 12/31/2016
- 20% by 12/31/2020
- 25% by 12/31/2025

The February 2007 amendments also modified Minnesota's non-mandated, "good faith" renewable-energy objective. The revised objective, which applies to all utilities, calls for eligible renewables to account for 1% of all retail electricity sales in 2005 and 7% of all retail sales by 2010. The Minnesota Public Utilities Commission (PUC) measures utilities' efforts to meet the objective to determine whether utilities are making the required "good faith" effort.

STATUS: Presentment date 05/27/03; Governor's action approval 05/29/03; effective date 5/30/03. S.B. 4 effective 2/22/2007

CITATION: 216B.1691; 2007 MN S.B. 4

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MISSOURI

AGENCY: Department of Natural Resources

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **Eligible hydropower facilities must have a capacity of 10 MW or less and not require new water diversions or impoundments. Pumped storage is specifically identified as ineligible.**

OVERALL SUMMARY: In November 2008 voters in Missouri enacted Proposition C, a ballot initiative that repealed the state's existing voluntary renewable energy and energy efficiency objective and replaced it with an expanded, mandatory renewable electricity standard of 15% by 2021. The standard also contains a solar electricity carve-out of 2% of each interim portfolio requirement meaning that by 2021, 0.3% of retail electricity sales must be derived from solar electricity.

Like the prior voluntary objective, the new standard applies only to the state's investor-owned utilities and does not place any requirements on municipal utilities or electric cooperatives. Energy efficiency measures are no longer eligible to be counted towards compliance with the standard, although sections directing state policy to "encourage" energy consumption reduction remain in effect.

The standard sets the following minimum benchmarks for electric utilities based on their annual electricity sales:

- 2% from 2011 to 2013 (0.04% solar)
- 5% from 2014 to 2017 (0.1% solar)
- 10% from 2018 to 2020 (0.2% solar)
- 15% for 2021 and thereafter (0.3% solar)

Compliance with the objective can be achieved through the procurement of renewable energy or renewable energy credits (RECs). RECs will have a lifetime of 3 years. In-state renewable energy generation receives a multiplier of 1.25 compared to out-of-state generation (i.e., in-state generation is worth 25% more for compliance purposes). The Missouri Public Service Commission (PSC), in consultation with the DNR, is required to select an REC tracking and verification program within one year of the standard's enactment. Owners of net-metered systems retain title to RECs derived from energy produced by the system.

STATUS: Enacted 6/27/2007; Effective 1/1/2008

CITATION: SB 54 (2007): Modifies provisions relating to renewable energy, alternative fuel, and environmental regulation; Proposition C (Enacted 11/04/2008)

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MONTANA

AGENCY: Public Service Commission

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **Eligible renewable "resource" means a facility either located within Montana or delivering electricity from another state into Montana that commences commercial operation after January 1, 2005, and that produces electricity from sources including water power in the case of a hydroelectric project that does not require a new appropriation, diversion, or impoundment of water and that has a nameplate rating of 10 MW or less.**

OVERALL SUMMARY: Montana's renewables portfolio standard (RPS), enacted in April 2005 through the Montana Renewable Power Production and Rural Economic Development Act, requires public utilities to procure a percentage of their retail electricity sales from renewable sources according to the following schedule:

- 5% in 2008 through 2009;
- 10% in 2010 through 2014; and
- 15% in 2015 and thereafter.

Eligible renewable resources include wind, solar, geothermal, existing hydroelectric projects (nameplate rating of 10 MW or less), landfill or farm-based methane gas, wastewater-treatment gas, low-emission, nontoxic biomass, and fuel cells where hydrogen is produced with renewable fuels. Facilities must be either (1) located within Montana; or (2) must be a new facility (beginning operation after 1/1/2005) in another state delivering electricity into Montana.

While cooperative utilities and municipal utilities are generally exempt from these requirements, cooperative and municipal utilities with 5,000 or more customers must implement a renewable-energy standard that recognizes the "intent of the legislature to encourage new renewable-energy production and rural economic development, while taking into consideration the effect of the standard on rates, reliability and financial resources."

Legislation (HB 681) enacted in April 2007 made competitive electricity suppliers subject to the RPS. The original law applied only to public utilities.

A competitive electricity supplier is any person, corporation, or governmental entity that is selling electricity to small customers at retail rates in the state of Montana and that is not a public utility or cooperative.

STATUS: Date enacted 4/28/2005, effective date 4/28/2005

CITATION: SB 415 (2005): Montana Renewable Power Production and Rural Economic Development Act; HB 681

AGENCY CONTACT:

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NEVADA

AGENCY: Public Utilities Commission

TITLE: Renewable Portfolio Standard

HYDRO-RELATED PROVISIONS: **The final rule adopts the statutory definition of renewable energy, which includes waterpower.**

Waterpower is defined as the power derived from standing, running or falling water which is used for any plant, facility, equipment or system to generate electricity if the generating capacity of the plant, facility, equipment or system is not more than 30 MW. Except as otherwise provided, the term waterpower includes, without limitation, power derived from water that has been pumped from a lower to a higher elevation if the generating capacity of the plant, facility, equipment or system for which the water is used is not more than 30 MW.

The term waterpower does not include power: (a) Derived from water stored in a reservoir by a dam or similar device, unless: (1) The water is used exclusively for irrigation; (2) The dam or similar device was in existence on January 1, 2003; and (3) The generating capacity of the plant, facility, equipment or system for which the water is used is not more than 30 MW; (b) That requires a new or increased appropriation or diversion of water for its creation; or (c) That requires the use of any fossil fuel for its creation, unless: (1) The primary purpose of the use of the fossil fuel is not the creation of the power; and (2) The generating capacity of the plant, facility, equipment or system for which the water is used is not more than 30 MW.

OVERALL SUMMARY: Nevada enacted a renewable portfolio standard (RPS) as part of its 1997 restructuring legislation. Under the standard, the state's two investor-owned utilities -- Nevada Power and Sierra Pacific Power -- must use eligible renewable energy resources to supply a minimum percentage of the total electricity they sell. In Assembly Bill (AB) 3 of the 2005 special session, the portfolio requirement was further revised to increase by 3% every two years, to achieve 20% of retail sales by 2015. The 2005 revisions included a significant change allowing utilities to meet the standard through renewable energy generation (or credits) *and* energy savings from efficiency measures. At least 5% of the standard must be generated, acquired, or saved from solar energy systems.

% Renewables/Efficiency -- Date

- 2005 and 2006: 6%

- 2007 and 2008: 9%
- 2009 and 2010: 12%
- 2011 and 2012: 15%
- 2013 and 2014: 18%
- 2015: 20%
- 2020: 22%
- 2025: 25%

STATUS: Docket opened in 7/01; Final rule adopted 5/02. Effective 2/23/2006

CITATION: NAC 704.8831 through NAC 704.8893. LCB File R-167-05

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NEW HAMPSHIRE

AGENCY: New Hampshire Department of Environmental Services

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: Class I includes ocean thermal, wave, current, or tidal energy as well as incremental new production electricity from a hydroelectric generating facility of any capacity, over its historical generation baseline.

Historical generation baseline means the average annual production, in megawatt-hours, from the later of January 1, 1986 or the date of first commercial operation through December 31, 2005, adjusted as if any upgrade or expansion completed during the period had been in place over the entire period

The Class I definition also allows Class IV projects – existing small hydro facilities – to become eligible resources provided they have been upgraded or repowered through significant capital investment.

Class IV includes electricity from existing an hydroelectric facility, provided the source began operation prior to January 1, 2006, has a gross nameplate capacity of 5 MWs or less, has installed FERC-required and approved upstream and downstream diadromous fish

passages and has obtained all necessary state water quality certifications, to the extent the source is not used to satisfy certificate purchase obligations pursuant to RSA 362-F:4, I(j).

OVERALL SUMMARY: New Hampshire's Electric Renewable Portfolio Standard, enacted in May 2007 (HB 873), requires electricity providers to acquire renewable energy certificates (RECs) equivalent to 23.8% of retail electricity sold to end-use customers by 2025. Of the 23.8% target, 16.3% is to be derived from sources installed after January 1, 2006, whereas the remainder is to be derived from existing resources.

Amendments enacted in June 2008 (HB 295) exclude municipal suppliers from the RPS requirements.

Separate portfolio standards are required for energy resources classified as "Class I," "Class II," "Class III," or "Class IV."

- 2008: Class I: 0.0% Class II: 0.0% Class III: 3.5% Class IV: 0.5%
- 2009: Class I: 0.5% Class II: 0.0% Class III: 4.5% Class IV: 1%
- 2010: Class I: 1% Class II: 0.04% Class III: 5.5% Class IV: 1%
- 2011: Class I: 2% Class II: 0.08% Class III: 6.5% Class IV: 1%
- 2012: Class I: 3% Class II: 0.15% Class III: 6.5% Class IV: 1%
- 2013: Class I: 4% Class II: 0.2% Class III: 6.5% Class IV: 1%
- 2014: Class I: 5% Class II: 0.3% Class III: 6.5% Class IV: 1%
- 2015: Class I: 6% Class II: 0.3% Class III: 6.5% Class IV: 1%
- 2025: Class I: 16%* Class II: 0.3% Class III: 6.5% Class IV: 1

* Class I increases an additional one percent per year from 2015 through 2025. Classes II-IV remain at the same percentages from 2015 through 2025.

To be eligible for RPS compliance, renewable energy generators must be within the New England control area, unless the source is located in a control area adjacent to the New England control area and the energy produced by the source is actually delivered into the New England control area for consumption by New England customers.

The PUC may accelerate or delay by up to one year, any given year's incremental increase in Class I or II RPS requirement for good cause, and after notice and hearing. In addition, after notice and hearing, the commission may modify the Class III and IV requirements for calendar years beginning January 1, 2012, such that the requirements are equal to an amount between 85% and 95% of the reasonably expected potential annual output of available eligible sources after taking into account demand from similar programs in other states.

The PUC must conduct a review of the RPS program and report of its findings to the legislature in 2011, 2018 and 2025, including any recommendations for changes to the class requirements or other aspects of the electric renewable portfolio standard program. In addition, the New Hampshire Office of Energy and Planning, in consultation with the state Energy Planning Advisory Board, is directed to study, evaluate, and make recommendations including potential legislation related to a thermal renewable portfolio standard and other incentives or mechanisms to promote thermal renewable energy use.

STATUS: Enacted May 11, 2007; Effective July 10, 2007

CITATION: New Hampshire HB 873

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NEW JERSEY

AGENCY: Board of Public Utilities

TITLE: Renewable Energy Portfolio Standards

HYDRO-RELATED PROVISIONS: **The legislation qualifies “electricity generated by a hydroelectric facility that has a maximum design capacity of 30 MW or less from all generating units combined” as a “Class II Renewable.” As a “Class II Renewable,” hydropower projects must receive approval from the Commissioner of Environmental Protection that facilities meet the highest environmental standards and minimize impacts to the environment and local communities. Hydropower projects must also be located where retail competition is permitted. Hydropower is also included in the definition of “Renewable Fuel.”**

Wave or tidal action is also classified as a “Class I Renewable.”

OVERALL SUMMARY: New Jersey's renewable portfolio standard (RPS) -- one of the most aggressive in the United States -- requires each supplier/provider serving retail customers in the state to include in the electricity it sells 20% qualifying renewables by 2020. The New Jersey Board of Public Utilities (BPU) made extensive revisions to the RPS in April 2006, significantly increasing the required percentages of "Class I" and "Class II" renewable energy, as well as the required separate percentage of solar electricity. By reporting year 2021, 2.12% solar electricity is required.

In 2007, New Jersey modified its solar set aside program to move to a system that is based on the sale and purchase of solar renewable energy credits (RECs). To smooth the transition to REC exchanges, the state has increased the level and predictability of alternate compliance penalties and introduced an 8 year rolling price schedule for these payments.

The New Jersey BPU Clean Energy Office is presently restructuring its solar energy programs and incentives with the goal of developing a more efficient strategy for reaching the state's RPS targets. This restructuring requires significant changes to the state RPS and net metering rules that have not yet been finalized.

- 6/1/04 – 5/31/05: Solar – 0.01%; Class I – 0.74%; Class II – 2.5%; Total – 3.25%
- 6/1/05 – 5/31/06: Solar – 0.017%; Class I – 0.983%; Class II – 2.5%; Total – 3.5%
- 6/1/06 – 5/31/07: Solar – 0.0393%; Class I – 2.037%; Class II – 2.5%; Total – 4.5763%
- 6/1/07 – 5/31/08: Solar – 0.0817%; Class I – 2.924%; Class II – 2.5%; Total – 5.5057%
- 6/1/08 – 5/31/09: Solar – 0.1600%; Class I – 3.840%; Class II – 2.5%; Total – 6.500%

- 6/1/09 – 5/31/10: Solar – 0.2210%; Class I – 4.685%; Class II – 2.5%; Total – 7.406%
- 6/1/10 – 5/31/11: Solar – 0.3050%; Class I – 5.492%; Class II – 2.5%; Total – 8.297%
- 6/1/11 – 5/31/12: Solar – 0.3940%; Class I – 6.320%; Class II – 2.5%; Total – 9.214%
- 6/1/12 – 5/31/13: Solar – 0.4970%; Class I – 7.143%; Class II – 2.5%; Total – 10.14%
- 6/1/13 – 5/31/14: Solar – 0.6210%; Class I – 7.977%; Class II – 2.5%; Total – 11.098%
- 6/1/13 – 5/31/14: Solar – 0.6210%; Class I – 7.977%; Class II – 2.5%; Total – 11.098%
- 6/1/14 – 5/31/15: Solar – 0.7650%; Class I – 8.807%; Class II – 2.5%; Total – 12.072%
- 6/1/14 – 5/31/15: Solar – 0.7650%; Class I – 8.807%; Class II – 2.5%; Total – 12.072%
- 6/1/15 – 5/31/16: Solar – 0.9280%; Class I – 9.649%; Class II – 2.5%; Total – 13.077%
- 6/1/16 – 5/31/17: Solar – 1.1180%; Class I – 10.485%; Class II – 2.5%; Total – 14.103%
- 6/1/17 – 5/31/18: Solar – 1.3330%; Class I – 12.325%; Class II – 2.5%; Total – 16.158%
- 6/1/18 – 5/31/19: Solar – 1.5720%; Class I – 14.175%; Class II – 2.5%; Total – 18.247%
- 6/1/19 – 5/31/20: Solar – 1.8360%; Class I – 16.029%; Class II – 2.5%; Total – 20.365%
- 6/1/20 – 5/31/21: Solar – 2.1200%; Class I – 17.880%; Class II – 2.5%; Total – 22.5%

STATUS: Adopted 3/5/2004; amendments adopted 2004, 2006

CITATION: N.J.A.C. 14:4-8

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NEW MEXICO

AGENCY: Public Regulation Commission/Utility Division

TITLE: Renewable Energy as a Source of Electricity

HYDRO-RELATED PROVISIONS: SB 418 includes hydropower in its definition of renewable energy. However, only hydropower projects brought into service after July 1, 2007 are included in the renewable energy definition.

OVERALL SUMMARY: In March 2007, New Mexico passed SB 418, which directs investor-owned utilities to generate 20% of total retail sales to New Mexico customers from renewable energy resources by 2020, with interim standards of 10% by 2011 and 15% by 2015. Investor-owned utilities must also meet specific resource standards within the RPS. By 2020, 20% of the RPS energy must be derived from solar, another 20% must come from wind, 10% from geothermal and biomass and 3% from distributed renewables.

PRC Case No. 04-00253-UT established a two-prong "Reasonable Cost Threshold" (RCT). One component is a cap on the price of resources by technology type, while the second is an overall retail customer rate impact threshold. The technology cost caps were set at \$0.049 per kilowatt-hour (kWh) for wind and hydroelectric resources; The overall retail customer rate impact is capped at one percent (1%) of all customers' aggregated overall annual electric charges for 2006,

increasing by one-fifth percent (0.2%) per year until January 1, 2011, at which time it will be two percent (2%).

The bill also establishes a separate renewables portfolio standard for rural electric distribution cooperatives: 5% of retail sales by 2015, increasing 1% per year to reach 10% renewables by 2020. Cooperatives are not required to incur RPS compliance costs that exceed the “reasonable cost threshold,” which is set at 1% of the distribution cooperative’s gross receipts from business transacted in New Mexico for the preceding calendar year.

In addition to the RPS, SB 418 established a “renewable energy and conservation fee” to support programs or projects to promote the use of renewable energy, load management or energy efficiency. Distribution cooperatives may collect from its customers a fee of no more than 1% of the customer’s bill, not to exceed \$75,000 annually from any single customer.

Distribution cooperatives must report to the PRC by March 1 of each year on its purchases and generation of renewable energy during the preceding calendar year.

STATUS: Rule proposed 10/15/02; Comments were due 10/23/02; Final rule adopted 6/30/03; Effective date 7/1/03. SB 418 of 2007: Enacted, March 5, 2007; Effective July 1, 2007

CITATION: Title 17 Chapter 9 Rules 572, 573, 591; New Mexico SB 418 of 2007

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NEW YORK

AGENCY: Public Service Commission

TITLE: Renewable Sources of Electricity

NEW YORK PSC CASE NUMBER: 03-E-0188

HYDRO-SPECIFIC PROVISIONS: **The RPS program identifies two tiers of eligible resources, a Main Tier and a Customer-Sited Tier. Hydropower and ocean/tidal power are eligible for the Main Tier.**

While the program seeks to foster the development of additional renewable resources in New York, existing renewable facilities will also be eligible if they began operation on or after January 1, 2003, except that certain existing hydroelectric, wind turbine, and biomass direct combustion facilities built prior to that date may also be eligible if they can demonstrate a need for financial support.

In the main tier, hydropower is defined as (1) incremental production through upgrades that do not require new storage impoundments or (2) new low-impact run-of-river facilities having 30 MW of power or less and no new storage impoundment.

The main tier also includes ocean wave turbines, tidal turbines, ocean current wave turbines, ocean thermal energy, and pumped storage powered by tidal energy.

In the customer-sited tier, small hydropower projects of 5MW or less are eligible for financial assistance under the RPS on a case-by-case basis.

OVERALL SUMMARY: The New York Public Service Commission (PSC) adopted a renewable portfolio standard (RPS) in an Order issued and effective September 24, 2004. As originally designed, New York's RPS had a target of 25% by 2013, but was expanded in January 2010 to 30% by 2015 by order of the PSC. Of this 30%, approximately 19.3% of the target will be derived from existing (2004) renewable energy facilities and one percent (1%) of the target is expected to be met through voluntary green power sales. The remainder will derive from new, eligible resources centrally procured by the New York State Energy Research and Development Authority (NYSERDA). NYSERDA manages an RPS fund gathered through a surcharge on each kilowatt-hour sold by the state's investor-owned utilities. The RPS surcharge is separate from and in addition to the state system benefits charge (SBC). Customers exempt from contributing to the SBC are also exempt from the RPS charge. Municipal utilities, the New York Power Authority and the Long Island Power Authority do not fall under the jurisdiction of this program, but have been encouraged by the PSC to adopt similar programs.

STATUS: Issued and Effective September 24, 2004;

CITATION: CASE 03-E-0188 - State of NY PSC Order Regarding a Retail Renewable Portfolio Standard.

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NORTH CAROLINA

AGENCY: Environmental Management Commission

TITLE: Renewable Energy Portfolio Standard (REPS)

HYDRO-RELATED PROVISIONS: Conventional hydropower facilities with a maximum capacity of 10 MW, ocean current and wave energy are considered eligible resources.

Hydroelectric power facilities with a generation capacity of 10 MW that are located outside the state are eligible to provide 25% of a North Carolina utility's portfolio standard. Power from out of state facilities must be purchased with renewable energy credits (RECs).

Municipal utilities and electric cooperatives may use large hydropower to meet up to 30% of their renewable energy target.

OVERALL SUMMARY:

North Carolina's Renewable Energy and Energy Efficiency Portfolio Standard requires all investor-owned utilities in the state to supply 12.5% of 2020 retail electricity sales in the state from eligible energy resources by 2021. Municipal utilities and electric cooperatives must meet a target of 10% renewables by 2018 and are subject to slightly different rules. In February 2008, the North Carolina Utilities Commission (NCUC) adopted final rules implementing the REPS.

The overall target for renewable energy includes technology-specific targets of 0.2% solar by 2018 (which includes photovoltaics, solar water heating, solar absorption cooling, solar dehumidification, solar thermally driven refrigeration, and solar industrial process heat), 0.2% energy recovery from swine waste by 2018, and 900,000 megawatt-hours (MWh) of electricity derived from poultry waste by 2014. The NCUC has required that each electric power supplier submit its first annual REPS compliance plan by September 1, 2008.

Beginning in 2009, each power supplier will be required to file a compliance report, detailing the actions it has taken to fulfill the requirements of the REPS.

The compliance schedule for investor-owned utilities appears below. Note that each year's percentage requirement refers to the previous year's electricity sales (i.e. the 2021 goal is 12.5% of 2020 retail sales).

- 2010: 0.02% from solar
- 2012: 3% (including 0.07% from solar + 0.07% from swine waste + 170,000 MWh from poultry waste)
- 2013: 3% (including 0.07% from solar + 0.07% from swine waste + 700,000 MWh from poultry waste)
- 2014: 3% (including 0.07% from solar + 0.07% from swine waste + 900,000 MWh from poultry waste)
- 2015: 6% (including 0.14% from solar + 0.14% from swine waste + 900,000 MWh from poultry waste)
- 2018: 10% (including 0.20% from solar + 0.20% from swine waste + 900,000 MWh from poultry waste)
- 2021: 12.5% (including 0.20% from solar + 0.20% from swine waste + 900,000 MWh from poultry waste)

STATUS: Enacted 8/20/07; Effective 1/1/2008

CITATION: North Carolina Senate Bill 3

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NORTH DAKOTA

AGENCY: Department of Commerce, Division of Community Services

TITLE: Renewable and Recycled Energy Objective

HYDRO-RELATED PROVISIONS: **Hydropower is renewable electricity. Hydropower facilities qualify for RECs if they are placed in service after January 1, 2007. Incremental hydropower is eligible for RECs if repowering or efficiency improvements take place after August 1, 2007.**

Hydropower from facilities placed in service prior to January 1, 2007 is excluded from a retailer provider's baseline sales.

OVERALL SUMMARY: In March 2007, the North Dakota enacted legislation (H.B. 1506) establishing an *objective* that 10% of all retail electricity sold in the state be obtained from renewable energy and recycled energy by 2015. The objective must be measured by qualifying megawatt-hours (MWh) delivered at retail or by credits purchased and retired to offset non qualifying retail sales. This objective is voluntary; there is no penalty or sanction for a retail provider of electricity that fails to meet the objective. Municipal utilities and electric cooperatives that receive wholesale electricity through a municipal power agency or generation and transmission cooperative may aggregate their renewable and recycled energy objective resources to meet the objective.

In order to qualify for renewable electricity and recycled energy objective credits, a generating source must meet the requirements of North Dakota Public Service Commission's (PSC) rules for racking, recording and verifying renewable energy certificates (RECs). RECs do not need to be acquired from an in-state facility. The PSC has selected the Midwest Renewable Energy Tracking System (M-RETS) for this purpose.

STATUS: Enacted 3/23/07 ; Effective 08/01/07

CITATION: ND Century Code 49-02-24 et seq.; N.D. Admin. Code 69-09-08; ND PSC Order Case No. PU-07-318

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OHIO

AGENCY: Public Utilities Commission of Ohio (PUCO)

TITLE: Alternative Energy Resource Standard

HYDRO-RELATED PROVISIONS: **Qualified hydropower is defined as an eligible renewable resource.**

PUCO is authorized to select an existing REC registry for certification purposes, but the registry must allow for the generation of RECs by hydroelectric facilities.

In order to be considered a renewable resource for the purposes of the renewable resource standard, a hydroelectric facility must meet a series of requirements regarding its environmental impact. However, these requirements do not include a size limitation (e.g., 30 MW) of the type frequently found in state RPS laws.

"Hydroelectric facility" means a hydroelectric generating facility that is located at a dam on a river, or on any water discharged to a river, that is within or bordering this state or within or bordering an adjoining state and meets all of the following standards:

- (a) The facility provides for river flows that are not detrimental for fish, wildlife, and water quality, including seasonal flow fluctuations as defined by the applicable licensing agency for the facility.**
- (b) The facility demonstrates that it complies with the water quality standards of this state, which compliance may consist of certification under Section 401 of the "Clean Water Act of 1977," 91 Stat. 1598, 1599, 33 U.S.C. 1341, and demonstrates that it has not contributed to a finding by this state that the river has impaired water quality under Section 303(d) of the "Clean Water Act of 1977," 114 Stat. 870, 33 U.S.C. 1313.**
- (c) The facility complies with mandatory prescriptions regarding fish passage as required by the federal energy regulatory commission license issued for the project, regarding fish protection for riverine, anadromous, and catadromus fish.**
- (d) The facility complies with the recommendations of the Ohio environmental protection agency and with the terms of its federal energy regulatory commission license regarding watershed protection, mitigation, or enhancement, to the extent of each agency's respective jurisdiction over the facility.**
- (e) The facility complies with provisions of the "Endangered Species Act of 1973," 87 Stat. 884, 16 U.S.C. 1531 to 1544, as amended.**
- f) The facility does not harm cultural resources of the area. This can be shown through compliance with the terms of its federal energy regulatory commission license or, if the facility is not regulated by that commission, through development of a plan approved by the Ohio historic preservation office, to the extent it has jurisdiction over the facility.**
- (g) The facility complies with the terms of its federal energy regulatory commission license or exemption that are related to recreational access, accommodation, and facilities or, if the facility is not regulated by that commission, the facility complies with similar requirements as are recommended by resource agencies, to the extent they have jurisdiction over the facility; and the facility provides access to water to the public without fee or charge.**
- (h) The facility is not recommended for removal by any federal agency or agency of any state, to the extent the particular agency has jurisdiction over the facility.**

The definition of renewable energy also includes a storage facility that will "promote the better utilization of a renewable energy resource that primarily generates off peak.

OVERALL SUMMARY: In May 2008 Ohio enacted S.B. 221, a broad electric industry restructuring bill containing alternative energy and renewable energy generation and procurement requirements for the state's electric distribution utilities and electric service companies, hereafter referred to as *utilities*. This definition encompasses all retail electricity providers except municipal utilities and electric cooperatives.

Under the standard, utilities must provide 25% of the retail electricity supply from alternative energy sources by 2025. Alternative energy resources include all "advanced energy resources," which are defined as any process or technology that increases the generation output of an electric generating facility without additional carbon dioxide emissions. The definition also explicitly includes clean coal; generation III advanced nuclear power; distributed combined heat and power (CHP); fuel cells that generate electricity; certain solid waste conversion technologies; and demand side management or efficiency improvements. In order to qualify under the standard, all alternative energy and renewable energy facilities must have a placed in service date of January 1, 1998, or later.

The renewable requirement increases annually towards an eventual target of 12.5% of retail electricity sales in 2024 and thereafter. The requirement also contains a carve-out for solar energy resources with an ultimate solar target of 0.5% of the total electricity supply in 2024 and thereafter. The total renewable percentage requirement *includes* the solar specific portion.

STATUS: Enacted 5/1/2008; Effective 1/1/2009

CITATION: S.B. 221

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OKLAHOMA

TITLE: Renewable Energy Goal

HYDRO-RELATED PROVISIONS: **The definition of renewable energy resources as defined in the bill includes “hydropower”, without any clarification. Presumably, all hydropower resources would qualify.**

OVERALL SUMMARY: In May 2010, Oklahoma established a renewable energy goal for electric utilities operating in the state. The goal calls for 15% of the total installed generation capacity in Oklahoma to be derived from renewable sources by 2015. There are no interim targets, and the goal does not extend past 2015. Eligible renewable energy resources include wind, solar, hydropower, hydrogen, geothermal, biomass, and other renewable energy resources approved by the Oklahoma Corporation Commission (OCC). Energy efficiency may be used to meet up to 25% of the goal.

Unlike the renewables portfolio standards adopted by other states, which require utilities to retire

renewable energy credits (RECs) to demonstrate compliance, Oklahoma's law does not require utilities to purchase and retire RECs. Instead, each utility in Oklahoma that owns or operates electricity generation facilities must file a report with the OCC each year by March 1. The report must document the total installed capacity of all generation facilities, the number of kilowatt-hours (kWh) generated by each facility and the energy source for each facility. The law also requires utilities to file a report with the OCC each year by March 1 detailing and quantifying the energy efficiency programs they have administered.

STATUS: Enacted 5/27/2010
Effective 11/1/2010

CITATION: House Bill 3028

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OREGON

AGENCY: Oregon Department of Energy

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: **The definition of eligible renewable energy resources includes hydropower, ocean thermal, tidal and wave as renewable resources. Eligible resources must be located within Western Electricity Coordinating Council (WECC) territory or must be designated environmentally preferable by the Bonneville Power Administration (BPA).**

Electricity generated by a hydroelectric facility may be used to comply with a renewable portfolio standard only if: (1) The facility is located outside any protected area designated by the Pacific Northwest Electric Power and Conservation Planning Council as of July 23, 1999, or any area protected under the federal Wild and Scenic Rivers Act, or the Oregon Scenic Waterways Act; or (2) The electricity is attributable to efficiency upgrades made to the facility on or after January 1, 1995. If an efficiency upgrade is made to a Bonneville Power Administration facility, only that portion of the electricity generation attributable to Oregon's share of the electricity may be used to comply with a renewable portfolio standard.

Up to 50 average megawatts of electricity per year generated by an electric utility from certified low-impact hydroelectric facilities may be used to comply with a renewable portfolio standard, without regard to the number of certified facilities operated by the

electric utility or the generating capacity of those facilities. A hydroelectric facility described in this paragraph is not subject to the requirements listed above.

Utilities are also exempt from RPS compliance requirements if the purchase of electricity from eligible sources would require the utility to substitute eligible renewable electricity from existing large hydropower located on the Columbia River; or reduce a consumer-owned utility's purchase of the lowest price electricity from the BPA.

OVERALL SUMMARY: The Oregon Renewable Energy Act of 2007 established a renewables portfolio standard (RPS) for electric utilities and retail electricity suppliers. Electricity service suppliers must meet the requirements applicable to the electric utilities that serve the territories in which the electricity service supplier sells electricity to retail consumers.

Large utilities -- those with 3% or more of the state's load -- must ensure that a percentage of the electricity sold to retail customers in-state be derived from eligible renewable energy resources according to the following schedule:

- 5% by 2011
- 15% by 2015
- 20% by 2020
- 25% by 2025

Smaller utilities – those with less than 1.5% of state load -- must meet a 5% RPS by 2025. Utilities with more than 1.5%, but less than 3% of state load must meet a 10% RPS by 2025. However, utilities that buy into a new coal plant or sign a new contract specifically for new coal power and publicly-owned utilities that annex investor-owned utility territory without consent are subject to the “large utility” standards.

The legislation also established a goal that at least 8% of Oregon's retail electrical load comes from small-scale renewable energy projects with a capacity of 20 MW or less by 2025. In fact, the legislation modified Oregon's public purpose charge for renewables to focus on smaller projects of 20 MW or less and extended the sunset date on the public purpose charge through 2025.

RECs cannot be counted toward compliance with both Oregon's RPS and an RPS of another state or use in voluntary “green power” programs. However, RECs can be counted toward both Oregon's RPS and a federal RPS should one be enacted.

STATUS: Enacted 6/6/2007; Effective 6/6/2007

CITATION: SB 838 (2007)

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PENNSYLVANIA

AGENCY: Public Utility Commission

TITLE: Alternative Energy Portfolio Standard

HYDRO-RELATED PROVISIONS: **Tier I includes low-impact hydro and Tier II includes new and existing large-scale hydro. Large-scale hydropower is defined as the production of electric power by harnessing the hydroelectric potential of moving water impoundments, including pumped storage that does not meet the requirements of low-impact hydropower. Low-impact power is defined as consisting of any technology that produces less than 50 MW of electric power and that harnesses the hydroelectric potential of moving water impoundments, provided such incremental hydroelectric development: (i) does not adversely change existing impacts to aquatic systems; (ii) meets the certification standards established by the Low Impact Hydropower Institute and American Rivers, Inc., or their successors; (iii) provides an adequate water flow for protection of aquatic life and for safe and effective fish passage; (iv) protects against erosion; and (v) protects cultural and historic resources.**

Low-impact hydroelectric or other technologies that (i) harness the incremental hydroelectric potential of water impoundments provided it does not adversely change existing impacts to an aquatic system; (ii) meet the certification standards established by the Low Impact Hydropower Institute and American Rivers, Inc, or their successors; (iii) provide an adequate water flow for protection of aquatic life, provide for safe and effective fish passage, protect against erosion and protect cultural and historic resources.

Hydroelectric power technologies that use wave, current, tidal and thermal systems are also eligible resources.

OVERALL SUMMARY: Pennsylvania's Alternative Energy Portfolio Standard, enacted on November 30, 2004, requires all load-serving energy companies in Pennsylvania to provide 18% of their electricity using alternative sources by the year 2020. The law established two categories of energy sources. The standard calls for 8% of Pennsylvania's electricity to be generated by Tier I energy sources and 10% by Tier II sources by the end of 15 years -- May 2021.

Pennsylvania's standard provides for a solar set-aside, mandating a certain percentage of electricity generated by photovoltaics (PV). Pennsylvania's AEPS also includes demand-side management, waste coal, coal-mine methane and coal gasification as eligible technologies.

Eligible resources may originate within Pennsylvania or within the PJM (Pennsylvania-New Jersey-Maryland) regional transmission organization.

The AEPS contains a force majeure clause under which the Commission can make a determination as to whether there are sufficient alternative energy resources in the market for utilities to meet their targets. If the Commission determines that utilities are unable to comply with the standard despite good faith efforts, the Commission may alter the obligation for a given year. The Commission may then require higher obligations in subsequent years to compensate for shortfalls.

STATUS: date enacted 11/30/2004, effective date 2/28/2005

CITATION: Alternative Energy Portfolio Standards Act (SB 1030 of 2004)

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RHODE ISLAND

AGENCY: Public Utilities Commission

TITLE: Renewable Energy Portfolio Standard

HYDRO-SPECIFIC PROVISIONS: Small hydro facilities are included in the list of eligible renewable energy resources. A small hydro facility is defined as a facility employing one or more hydroelectric turbine generators and with an aggregate capacity not exceeding 30 MW. For a small hydro facility to be eligible as a new renewable energy resource, it must in no case involve any new impoundment or diversion of water with an average salinity of twenty (20) parts per thousand or less.

Ocean thermal energy is also considered an eligible renewable energy resource,

OVERALL SUMMARY: Rhode Island's Renewable Energy Standard (RES), enacted in June 2004, requires the state's retail electricity providers -- including nonregulated power producers and distribution companies -- to supply 16% of their retail electricity sales from renewable resources by the end of 2019. The requirement begins at 3% by the end of 2007, escalates by 0.5% per year through 2010, then by 1% per year from 2011 through 2014, and finally by an additional 1.5% per year from 2015 through 2019. In 2020, and each year thereafter, the minimum renewable energy standard established in 2019 must be maintained unless the Rhode Island Public Utilities Commission (PUC) determines that the standard is no longer necessary.

STATUS: H.B. 7375 passed the legislature on June 23, 2004. The bill was signed by Governor by Donald Carcieri (R) June 29.

CITATION: Senate Bill 2082A/House Bill 7375Aaa

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SOUTH DAKOTA

AGENCY: Public Utilities Corporation

TITLE: Renewables Portfolio Standard

HYDRO-SPECIFIC PROVISIONS: **Hydropower from facilities with a placed-in-service date prior to July 1, 2008 is excluded from the retail provider's baseline sales.**

Hydropower is considered renewable electricity and eligible for RECs.

OVERALL SUMMARY: South Dakota's renewables portfolio standard establishes an *objective* that 10% of all retail electricity sales in the state be obtained from renewable and recycled energy by 2015. Utilities are allowed to use "conserved energy" to meet the objective. The objective applies to all retail providers of electricity in the state. As a voluntary objective, there are no penalties or sanctions for retail providers that fail to meet the goal.

Both in-state and out-of-state facilities are eligible to produce qualifying RECs so long as they comply with the state PUC's rules for tracking, recording and verifying RECs.

Beginning July 1, 2009, retail providers must report annually to the PUC on their attainment status, steps taken to meet the objective, and any challenges or barriers they have encountered. This report must include (1) information regarding qualifying electricity delivered and renewable and recycled energy certificates purchased and retired as a percentage of annual retail sales, (2) the amount of conserved energy as a percentage of annual retail sales, and (3) a brief narrative report that describes steps taken to meet the state renewable, recycled, and conserved energy objective over time and identifies any challenges or barriers encountered in meeting the objective.

STATUS: Enacted 02/21/2008 ; Effective 02/21/2008

CITATION: SDCL § 49-34A-101 et seq.

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UTAH

AGENCY: State Energy Program

TITLE: Renewables Portfolio Goal

HYDRO-SPECIFIC PROVISIONS: **Hydropower is a renewable energy resource if upgrades become operational on or after January 1, 1995.**

Each utility is allowed to count 50MW from Low-impact certified hydro facilities if they are certified by a national organization on or after January 1, 1995.

Hydropower located in Utah is eligible regardless of when it came online.

A municipal utility may count out-of-state hydropower toward the goal if the facilities became operational after December 31, 2007 and the facility is in a state where the municipal utility provides electric service.

Wave, tidal, or ocean thermal energy is also considered a renewable energy resource.

OVERALL SUMMARY: Utah's renewables portfolio goal requires utilities to obtain 20% of their energy from renewable resources by 2025 if they find it cost effective to do so. Utilities can remove nuclear energy, demand side management, and thermal facilities that sequester their carbon emission from their baseline sales. Renewable energy can be obtained through in-state facilities or facilities within the geographic boundary of the Western Electricity Coordinating Council (WECC).

Utah's renewable portfolio goal has no interim targets between 2008 and 2025. Utilities, however, must submit progress reports outlining the projected amount of qualifying electricity they have acquired, the source of the electricity, a cost estimate to achieve their target and any recommendations for a legislative or program change.

STATUS: Enacted 3/18/2008

CITATION: SB 202

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TEXAS

AGENCY: Public Utility Commission

TITLE: Renewable Energy Resources

HYDRO-SPECIFIC PROVISIONS: **Hydroelectric, wave, or tidal energy are deemed qualified renewable energy sources. Qualifying systems are those installed after September 1999. The RPS applies to all investor-owned utilities and to municipal and cooperative utilities that voluntarily elect to offer customer choice.**

For a renewable facility to be eligible to produce RECs and compliance premiums in the trading program, it must be either a new facility, a small producer, or a repowered facility.

A new facility is defined as a renewable energy generator placed in service on or after September 1, 1999. A new facility includes the incremental capacity and associated energy from an existing renewable facility achieved through repowering activities undertaken on or after September 1, 1999.

A repowered facility is defined as an existing facility that has been modernized or upgraded to use renewable energy technology to produce electricity consistent with this rule. For repowered facilities, a facility is eligible to earn RECs on all renewable energy produced up to a capacity of 150 MW. A repowered facility with a capacity greater than 150 MW may earn RECs for the energy produced in proportion to 150 divided by nameplate capacity.

A small producer is defined as a renewable resource that is less than ten MW in size.

OVERALL SUMMARY: In 1999 the Public Utility Commission of Texas (PUCT) adopted rules for the state's Renewable Energy Mandate, establishing a renewable portfolio standard (RPS), a renewable-energy credit (REC) trading program, and renewable-energy purchase requirements for competitive retailers in Texas. The 1999 standard called for 2,000 MW of new renewables to be installed in Texas by 2009, in addition to the 880 MW of existing renewables generation at the time. In August 2005, Senate Bill 20 increased the renewable-energy mandate to 5,880 MW by 2015 (about 5% of the state's electricity demand), including a target of 500 MW of renewable-energy capacity from resources other than wind. Wind accounts for nearly all of the current renewable-energy generation in Texas. The 2005 legislation also set a target of reaching 10,000 MW in renewable energy capacity by 2025.

To address concerns about the adequacy of the state's transmission systems, the new law instructs the PUCT to require utilities to add to their transmission systems as necessary to meet the renewable energy goal, and to allow utilities to recover the cost of such projects in their electric rates.

The schedule of renewable energy capacity required and the corresponding compliance dates are as follows:

- 2,280 MW by 1/1/2007
- 3,272 MW by 1/1/2009
- 4,264 MW by 1/1/2011
- 5,256 MW by 1/1/2013
- 5,880 MW by 1/1/2015

Enacted in 2007, HB 1090 clarified that RECs retired for other purposes (e.g. sold through a voluntary green power program) could not be counted toward the RPS requirements. HB 1090 also permits large utility customers served by transmission voltage to opt out of the RPS requirements. Finally, HB 1090 empowers the PUCT to establish alternative compliance payments (ACP) for the RPS and for the non-wind target. Until an ACP is set, compliance with the non-wind target is effectively voluntary.

STATUS: Enacted 8/1/2005; Effective 9/1/2005; HB 1090 effective 9/1/2007

CITATION: SB 20 of 2005, HB 1090

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VERMONT

AGENCY: Public Service Board

TITLE: Renewables Portfolio Standard

HYDRO-RELATED PROVISIONS: Energy produced by a hydroelectric facility with a generating capacity of 200 MW or less is considered “renewable energy.”

Renewable energy facilities placed into service after December 31, 2004, count toward Vermont’s goal. Furthermore, additional energy from existing renewable energy facilities retrofitted with advanced technologies, or otherwise modified or expanded to increase electrical output, also may be eligible.

The Vermont Natural Resource Board was required to convene a public stakeholder process by June 1, 2008 to amend the conservation flow standards for the water quality review of proposed hydroelectric facilities. The Natural Resources Board is considering whether the flow standards can be used for measuring the water quality impact of new hydroelectric generation projects in the state. After the stakeholder group issues its recommendations, the Natural Resources Board may adopt rules amending the conservation flow standards used by the agency of natural resources to conduct water quality review of proposed hydroelectric facilities

The stakeholder process is still underway.

OVERALL SUMMARY: Each retail electricity provider in Vermont shall supply an amount of energy equal to its total incremental energy growth between January 1, 2005 and January 1, 2012 through the use of electricity generated by new renewable resources. The retail electricity provider may meet this requirement through eligible new renewable energy credits, new renewable energy resources with renewable energy credits still attached, or a combination of those credits and resources. No retail electricity provider shall be required to provide in excess of a total of 10 percent of its calendar year 2005 retail electric sales with electricity generated by new renewable resources.

In March 2008, Vermont enacted legislation (S.B. 209) establishing a separate state goal of assuring that 20% of total statewide electric retail sales before July 1, 2017, are generated by qualifying renewables. A renewable portfolio *goal* generally is not legally binding, as opposed to a renewable portfolio *standard*, which is legally binding. In addition, S.B. 209 established another separate goal of producing 25% of the energy consumed within the state through the use of renewable energy sources, with an emphasis on farms and forests.

The renewable portfolio goal applies to all retail electricity providers, unless the PSB determines that compliance with the standard would impair a utility's ability to meet the public's need for energy services after safety concerns have been addressed, at the lowest present value life-cycle cost, including environmental and economic costs.

If the PSB determines that the amount of qualifying renewables placed in service or having been issued a certificate of public good after January 1, 2005, and before July 1, 2012, exceeds total statewide growth in retail sales during that time, and in addition, at least 5% of the 2005 total statewide electric retail sales is provided by qualified renewables or would be provided by qualified renewables that have been issued a certificate of public good, or if the board determines that the amount of these resources exceeds 10% of total statewide retail sales for 2005, then the mandatory RPS will not come into force. Otherwise, the goal will become mandatory. The PSB will make this determination by January 1, 2013, and if necessary, a mandatory RPS would take effect.

STATUS: Signed by Governor 06/14/2005; SB 2009 – Enacted 3/19/2008; Effective 3/19/2008

CITATION: S.0052; SB 209

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VIRGINIA

AGENCY: Division of Energy

TITLE: Voluntary Renewable Energy Portfolio Goal

HYDROPOWER RELATED PROVISIONS: **Hydropower, wave, and tidal energy are considered eligible resources and is included in the portfolio. Electricity must be generated or purchased in Virginia or in the interconnection region of the regional transmission entity. Existing renewable energy generators are eligible for RPS compliance.**

Hydropower includes run-of-river generation from a combined pumped-storage and run-of-river facility.

OVERALL SUMMARY: As part of legislation to re-regulate the state's electricity industry, Virginia enacted a voluntary renewable energy portfolio goal in 2007. Legislation passed in 2009 (HB 1994) expanded the goal. Under the goal, investor-owned utilities are encouraged to procure a percentage of the power sold in Virginia from eligible renewable energy sources. In addition to allowing for RPS program cost recovery to participating utilities, the Virginia State Corporation Commission (SCC) will provide a performance incentive in the form of an increased rate of return (profit) for each “RPS Goal” attained.

The RPS targets are defined as percentages of the amount of electricity sold in 2007 (the “base year”), minus the average annual percentage of power supplied from nuclear generators between

2004 and 2006.

The RPS schedule is as follows:

- **RPS Goal I:** 4% of base year sales in 2010
- **RPS Goal II:** Average of 4% of base year sales in 2011 through 2015, and 7% of base year sales in 2016
- **RPS Goal III:** Average of 7% of base year sales in 2017 through 2021, and 12% of base year sales in 2022
- **RPS Goal IV:** Average of 12% of base year sales in 2023 and 2024, and 15% of base year sales in 2025

Investor-owned incumbent electric utilities can gain approval to participate in the voluntary RPS program from the SCC if the utility demonstrates that it has a reasonable expectation of achieving the 12% target in 2022.

STATUS: Enacted 4/11/2007; SB 718 Enacted 3/21/2008; Effective 3/21/2008

CITATION: SB 1416, SB 718

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WASHINGTON

AGENCY: Ballot Initiative No. 937

TITLE: Renewable Energy Standard

HYDRO-RELATED PROVISIONS: **"Renewable resource" includes water and wave, ocean, or tidal power. Electricity from renewable resources other than fresh water is eligible for compliance if the generation facility begins operation after March 31, 1999. The facility must be located in the Pacific Northwest or the electricity from the facility must be delivered into Washington State on a real-time basis.**

Hydroelectric generation projects are eligible if incremental electricity produced as a result of efficiency improvements completed after March 31, 1999 are made to:

- hydroelectric projects owned by a utility subject to this standard and located in the Pacific Northwest; or to
- hydroelectric generation in irrigation pipes and canals located in the Pacific Northwest, where the additional generation in either case does not result in new water diversions or impoundments.

OVERALL SUMMARY: On November 7, 2006 Washington became the second state to pass a renewable energy standard by ballot initiative. Initiative 937 calls for electric utilities that serve more than 25,000 customers in the state of Washington to obtain 15% of their electricity from new renewable resources by 2020 *and* to undertake cost-effective energy conservation. Of Washington's 62 utilities, 17 are considered qualifying utilities, representing about 84% of Washington's load.

Utilities subject to the standard must use eligible renewable resources or acquire equivalent renewable energy credits, or a combination of both, to meet the following annual targets:

- At least 3% percent of its load by 1/1/2012, and each year thereafter through 12/31/2015;
- At least 9% of its load by 1/1/2016, and each year thereafter through 12/31/2019; and
- At least 15% of its load by 1/1/2020, and each year thereafter.

Distributed generation may be counted as double the facility's electrical output if the utility owns the facility, has contracted for the distributed generation and the associated RECs, or has contracted to purchase only the associated RECs. Eligible renewables from a facility that began operation after December 31, 2005 where the developer used an approved apprenticeship program during facility construction may count 1.2 times its base value.

Utilities subject to the standard must also pursue all available conservation that is cost-effective, reliable, and feasible. Specifically, by January 1, 2010, utilities must (1) identify achievable cost-effective conservation potential through 2019, with reviews and updates every two years for the subsequent 10-years; and (2) establish and meet biennial targets for conservation. High-efficiency cogeneration owned and used by a retail electric customer to meet its own needs may be counted toward conservation targets.

Although some exemptions apply, a utility's failure to meet the energy conservation or renewable energy targets will result in an \$50/MWh administrative penalty (adjusted annually for inflation) paid to the state of Washington. The funds will be deposited in a special account for the purchase of renewable energy credits or for energy conservation projects at public facilities, local government facilities, community colleges, or state universities.

STATUS: Enacted 11/7/2006

CITATION: Washington Initiative 937 (2006)

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WISCONSIN

AGENCY: Public Service Commission

TITLE: Renewable Portfolio Standard and Renewable Resource Credit Program

HYDRO-RELATED PROVISIONS: **Hydropower is included in the statutory definition of “renewable resources.” The definition states that it includes “a resource with a capacity of less than 60 MW that derives electricity from hydroelectric power.**

Utilities receive credit for the sum of (1) all hydropower purchased in a reporting year, (2) the average of the amounts of hydropower generated by facilities owned or operated by the utility for 2001, 2002 and 2003, adjusted to reflect the permanent removal from service of any of those facilities and adjusted to reflect any capacity increases from improvements made after January 1, 2004; and (3) the amount of hydropower generated in the reporting year by facilities owned or operated by the electric provider that are initially placed in service on or after January 1, 2004.

Wave energy and tidal energy are also considered eligible renewable energy sources in the renewable portfolio standard.

OVERALL SUMMARY: Legislation (SB 459) enacted in March 2006 established an overall statewide renewable-energy goal of 10% by December 31, 2015. The requirements are as follows:

- For the years 2006, 2007, 2008 and 2009, each utility may not decrease its renewable-energy percentage below the utility's average renewable-energy percentage for 2001, 2002 and 2003.
- For the year 2010, each utility must increase its renewable-energy percentage by at least two points above the utility's average renewable-energy percentage for 2001, 2002 and 2003.
- For the years 2011, 2012, 2013 and 2014, each utility may not decrease its renewable-energy percentage below the utility's renewable-energy percentage for 2010.
- For the year 2015, each utility must increase its renewable-energy percentage by at least six points above the utility's average renewable-energy percentage for 2001, 2002 and 2003.
- For each year after 2015, each utility may not decrease its renewable-energy percentage below the utility's renewable-energy percentage for 2015.

Electric providers, wholesale suppliers and customers of electric providers may petition the PSC for a one-year extension of a compliance deadline. By June 1, 2016, the Wisconsin Public Service Commission (PSC) must determine if the state has met a renewable-energy goal of 10% by December 31, 2015. If the goal has not been achieved, the PSC must indicate why the goal was not achieved and must determine how it may be achieved.

A Renewable Resource Credit Program enables utilities to buy and sell "renewable resource credits" (RRCs) from one another for any electricity generated in excess of the percentage specified for a given year. Credits also may be used in subsequent years. The credit-trading system is administered by the PSC; the rules are outlined in Chapter 118 of the Wisconsin Administrative Code.

STATUS: Rule adopted and effective 4/07/01; additional legislation (SB 459 of 2005) enacted 3/17/06, effective 4/106.

CITATION: Chapter PSC 118

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