Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

TEXAS RENEWABLE PORTFOLIO STANDARD SUMMARY

A. SUMMARY: In 1999, the Public Utility Commission of Texas (PUCT) issued the Renewable Energy Mandate Rule, implementing the statutory mandate in the Public Utilities Regulatory Act §39.904 to promote the development of renewable energy technologies. This rule establishes the state's renewable portfolio standard (RPS), a renewable energy credits trading program, and defines the renewable energy purchase requirements for competitive retailers in Texas. The original standard calls for 2,000 megawatts (MW) of new renewable energy capacity, in addition to the 880 MW of existing renewable energy capacity, to be installed in Texas by 2009. In August 2005, the Texas legislature passed SB 20, which increased the new capacity requirement to 5,000 MW (with a goal of 500 MW from non-wind resources) by 2015, and set a goal of 10,000 MW by 2025.

B. APPLICABLE AUTHORIZING LEGISLATION/REGULATION

1. **Part of Broader Energy Package?** The Texas legislature enacted a restructuring law in 1999, which included a renewable energy requirement. The PUCT adopted the RPS rule implementing a capacity-based program in 2000.

2. **Legislative/Regulatory Intent:** To ensure that an additional 5,000 MW of generating capacity from renewable energy technologies is installed in Texas by 2015 pursuant to the Public Utility Regulatory Act (PURA) §39.904, to establish a renewable energy credits trading program that would ensure that the new renewable energy capacity is built in the most efficient and economical manner, to encourage the development, construction, and operation of new renewable energy resources at those sites in this state that have the greatest economic potential for capture and development of this state's environmentally beneficial resources, to protect and enhance the quality of the environment in Texas through increased use of renewable resources, and to respond to customers' expressed preferences for renewable resources by ensuring that all customers have access to providers of energy generated by renewable energy resources pursuant to PURA §39.101(b)(3).

3. **Applicable Legislation/Regulation:**

   6/99 – Electric utility restructuring law (SB 7)

   8/05 – RPS Amended (SB 20)

   6/07 – RPS Amended (HB 1090)

   RPS encoded as Texas Utilities Code Annotated Chapter 39. Restructuring of Electric Utility Industry € 39.904. Goal for Renewable Energy

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4. Date Enacted: 6/99

5. Date Effective: 09/01/1999

C. RULEMAKING

1. Implementing/rulemaking Authority: Public Utility Commission of Texas (PUCT)

2. Rulemaking Completed to Date

12/99 – PUCT issues order implementing final RPS rule (§25.173)

2/03 – PUCT issues order amending RPS rule, Project No. 26848

1/04 – PUCT issues order amending RPS rule, Project No. 28407

12/07 – PUCT issues order amending RPS rule, Project No. 33492

The PUCT's RPS rules are encoded as Substantive Rules €25.173. Goal for Renewable Energy (effective date 8/26/07)

D. TARGETS AND TIMETABLES

1. Brief Overview: This is a capacity-based standard to ensure that 5,000 megawatts (MW) of new generating capacity from renewable energy technologies is installed in Texas by 2015. In addition, after 9/1/05, a goal has been set that at least 500 MW of the new renewable energy capacity come from non-wind resources. Despite being a capacity standard, in its rulemaking the PUCT changed compliance to be based on megawatt-hours (MWh) generated and the renewable energy credits (REC) earned from that generation. The conversion factor was set at 35 percent for 2002-2005, and can be readjusted every two years. The renewable energy capacity targets are for the compliance period beginning January 1, of each year indicated.

SB 20 also created a non-binding renewable energy target of 10,000 MW by 2025.

2. Schedule

Year	New Renewable Energy Capacity Requirement	Existing Renewable Energy Capacity Requirement
2002-2004	400 MW	880 MW
2005	850 MW	880 MW
2006-2007	1,400 MW	880 MW
2008-2009	2,392 MW	880 MW
2010-2011	3,384 MW	880 MW
2012-2013	4,376 MW	880 MW
2014, and thereafter	5,000 MW	880 MW

3. **Treatment of Existing Capacity:** 880 MW of existing capacity can count toward the overall requirement. New facilities are defined as being placed in service on or after September 1, 1999. Incremental capacity and associated energy from an existing renewable facility achieved through re-powering activities undertaken on or after September 1, 1999 are also eligible as new. However, the ability to earn RECs at a re-powered facility is limited to 150 MW. Renewable resources that are less than 10 MW in size and placed in service before September 1, 1999 are also eligible as new under the small producer definition.

4. **Sunset Clause:** None

E. DEFINITION AND CERTIFICATION OF ELIGIBLE RESOURCES AND TECHNOLOGIES

1. **Eligible Resources** – Any technology that exclusively relies on an energy source that is naturally regenerated over a short time and derived directly from the sun, indirectly from the sun, or from moving water or other natural movements and mechanisms of the environment. Renewable energy technologies include those that rely on energy derived directly from
   - Sun,
   - Wind,
   - Geothermal,
   - Hydroelectric,
   - Wave, or tidal energy, or
   - Biomass or biomass-based waste products, including landfill gas. For a municipally owned utility operating a gas distribution system, any production or acquisition of landfill gas that is directly supplied to the gas distribution system is eligible to produce RECs based upon the conversion of the thermal energy in BTUs to electric energy in kWh, using for the conversion factor the system-wide average heat rate of the gas-fired units of the combined utility's electric system as measured in BTUs per kWh.

   Co-firing: For a renewable energy technology that requires fossil fuel, the facility's use of fossil fuel must not exceed 25 percent of the total annual fuel input on a British thermal unit or equivalent basis. RECs can only be earned on the renewable portion of the production.

2. **Special Incentives:** In order to help achieve the non-binding target of at least 500 MW from non-wind resources, the PUCT has established a system for issuing compliance premiums. Compliance premiums are awarded to certified renewable energy facilities other than those powered by wind that were installed after September 1, 2005. For eligible non-wind renewable technologies, one compliance premium shall be awarded for each REC awarded for energy generated after December 31, 2007. A compliance premium may be used by any entity toward its RPS requirement. However, the statewide RPS requirement calculated for each compliance period will be increased by

the number of compliance premiums retired during the previous compliance period.

3. **Exclusions**: A renewable energy technology does not rely on energy resources derived from fossil fuels, waste products from fossil fuels, or waste products from inorganic sources. Also, a renewable energy capacity addition associated with an emissions reductions project described in Health and Safety Code §382.05193, that is used to satisfy the permit requirements in that code is not eligible. For industry-standard thermal technologies, RECs can be earned only on the renewable portion of energy production.

4. **Treatment of Self-Generation:** Generation-offset, off-grid, or on-site distributed renewable facilities are eligible for the REC system if they otherwise meets the requirements of the RPS. Generation offset technology is any renewable technology that reduces the demand for electricity at a site where a customer consumes electricity, such as solar water heating and ground-source geothermal heat pumps. A micro-generator is an eligible renewable energy facility with a rated capacity of less than 1 MW operating on the customer's side of the utility meter.

5. **Rules governing Location of Generating Facilities:** The output of the facility must be readily capable of being physically metered and verified in Texas by the program administrator. Energy from a renewable facility that is delivered into a transmission system where it is commingled with electricity from non-renewable resources cannot be verified as delivered to Texas customers. Thus, eligible out-of-state power requires a dedicated transmission line**.**

6. **Eligibility of Green Pricing Programs:** HB 1090 clarified this issue by stating that a renewable energy credit (REC) retired for purposes other than to meet the RPS may not affect the minimum annual renewable energy requirement for a retail electric provider, municipally owned utility, or electric cooperative.

   However, under the PUCT's program to provide an incentive to achieve the 500 MW non-wind target, non-wind renewable electricity facilities first operational on or after September 1, 2005, are granted both a REC and a compliance premium for each MWh generated after December 31, 2007. Compliance premiums can be bought by a load serving entity to satisfy its RPS requirement, leaving the REC to be bought by another party, who may be buying the REC under a voluntary green power program. In this event, a double claim occurs. In order to prevent double counting of renewable generation sold in Green-e Energy Certified products, the Center for Resource Solutions has instituted a new policy requiring that for facilities eligible to earn compliance premiums, both the RECs and an equal amount of compliance premiums from the same facility be retired.

F. COVERED UTILITIES

1. **Covered utilities:** The Texas RPS requirements apply to all competitive electricity retailers in Texas, including municipal and investor-owned utilities, rural electric

cooperatives, and retail suppliers. Municipally-owned utilities and distribution cooperatives that do not offer customer choice are not obligated to meet the RPS. In addition, the requirements shall not apply to an electric utility subject to PURA §39.102(c) until the expiration of the utility's rate freeze period. Regardless of whether the municipally-owned utility or distribution cooperative offers customer choice, a municipally-owned utility or distribution cooperative possessing renewable resources that meet the eligibility requirements may sell RECs generated by such a resource to competitive retailers.

2. **Share of state sales/capacity/delivered power covered:** ~ 75 percent of 2006 electric sales in Texas were covered by the RPS.

3. **Apportionment of obligation among utilities:** The program administrator shall apportion a renewable resource requirement among all competitive retailers as a percentage of the retail sales of each competitive retailer. Each competitive retailer's preliminary REC requirement is determined by dividing its total retail energy sales in Texas by the total retail sales in Texas of all competitive retailers, and multiplying that percentage by the total statewide REC requirement for that compliance period.

4. **Any exemptions by customer or other category?** Large industrial customers receiving electric service at transmission-level voltage from a load serving entity may—before any compliance year—notify the PUCT that they choose not to support the annual requirements for that year. In this event, the PUCT will exclude electric sales to the customer from the calculation of the load serving entity's requirement. However, the exemption of a large industrial customer does not alter the statewide renewable energy requirement, but rather re-distributes the responsibility for achieving the required generation across all load serving entities in the state.

F. COST PROVISIONS

1. **Cost Cap for Retailers:** The penalty provision serves as a de facto cost cap.

2. **Cost Cap for Consumers:** NA

3. **Cost Recovery Mechanisms:** For a generator to qualify, its above-market costs must not be included in the rates of any utility, municipally-owned utility, or distribution cooperative through base rates, a power cost recovery factor, stranded cost recovery mechanism, or any other fixed or variable rate element charged to end users. All other costs are included in the rate base.

4. **Supply Contract Requirements:** None specified

5. **Special Funds:** None

G. COMPLIANCE AND ENFORCEMENT

1. **Certification and Tracking Mechanism[s]:** Compliance is based on a certification program using tradable RECs, which began operation on July 1, 2001. A REC represents one MWh of renewable energy that is physically metered and verified in Texas meeting the RPS requirements. RECs may be traded, sold, or retired.

   A REC is owned by and awarded to the owner of a renewable resource facility when a MWh is metered at that facility.

   Though not explicitly specified in the PUCT rules, a REC appears to represent all the renewable energy attributes associated with its generation.

2. **Flexibility Mechanisms**: RECs can be banked up to 3 years. A 3-month "true-up" period is allowed, and credits from the 6-month early compliance period in 2001 can be used. A competitive retailer may incur a deficit allowance equal to 10 percent of its REC requirement in 2002 and 2003. All competitive retailers incurring a 10 percent deficit must make up the amount of RECs associated with the deficit in the next compliance period. This 10 percent deficit allowance shall not apply to entities that initiate customer choice after 2003.

   HB 1090 gives authority to the PUCT to establish an alternative compliance payment program as an option for complying with the RPS, but the PUCT has so far chosen not to do so.

3. **Treatment of Emissions Allowance or reduction credits:** A renewable energy capacity addition associated with an emissions reductions project that is used to satisfy the permit requirements in Health and Safety Code are not eligible to produce RECs.

4. **Penalties, Procedures, Powers, and Sanctions:** If the PUCT determines that a competitive retailer with an allocated REC purchase requirement has insufficient credits, the competitive retailer shall be subject to the administrative penalty provisions of PURA §15.023. A penalty of $50 per MWh will be assessed for that portion of the deficient credits.

5. **Escape Clauses:** In the event that the commission determines that events beyond the reasonable control of a competitive retailer prevented it from meeting its REC requirement there will be no penalty assessed. A party is responsible for conducting sufficient advance planning to acquire its allotment of RECs. Failure of the spot or short-term market to supply a party with the allocated number of RECs shall not constitute an event outside the competitive retailer's reasonable control. Events or circumstances that are outside of a party's reasonable control may include weather-related damage, mechanical failure, lack of transmission capacity or availability, strikes, lockouts, actions of a governmental authority that adversely effect the generation, transmission, or purchaser.

H. ADMINISTRATION

1. **Administering Entities, Duties, Powers, and Contact Information:** Program administration includes allocating the renewable responsibility to each competitive retailer and the implementation of the certification, tracking and trading system defined by the regulations. The Public Utility Commission of Texas implements and enforces the RPS program, and the Independent System Operator for the Electric Reliability Council of Texas (ERCOT) administers the REC trading system.

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   Phone: 512-936-7000
   Web site: http://www.puc.state.tx.us/

   Electric Reliability Council of Texas, Inc.
   2705 W. Lake Drive
   Taylor, TX 76574
   Phone: 512-248-3131
   Web site: http://www.texasrenewables.com

I. REPORTING REQUIREMENTS and PROGRAM STATUS

1. **Reporting Requirement:** The REC trading program administrator, ERCOT, must submit an annual report to the PUCT on or before April 15 of each calendar year. Annual reports are currently available for years 2006, 2005, 2004, 2003, 2002, and 2001.

   Program Review: The PUCT shall periodically assess the effectiveness of the energy-based credits trading program to maximize the energy output from the new capacity additions and ensure that the goal for renewable energy is achieved in the most economically efficient manner. If the energy-based trading program is not effective, performance standards will be designed to ensure that the RPS requirements are achieved.

   In addition, beginning in the fourth quarter of the second compliance year (2003), the capacity conversion factor (CCF) shall be readjusted by the PUCT to reflect actual generator performance data associated with all renewable resources in the trading program. The PUCT shall adjust the CCF every two years thereafter based on actual performance data of installed renewable energy facilities.

2. **Cost Information:** No comprehensive study on the actual costs of the RPS has been completed to date. However, Evolution Markets tracks the average price of RECs being transferred in the market, and their data shows that RECs have been generally selling at about 1–1.25 ¢/kWh.

   In addition, two cost-related reports have been completed on the Texas RPS, including: the Union of Concerned Scientists' "Increasing the Texas Renewable Energy Standard: Economic and Employment Benefits," (February 2005), and the Lawrence Berkeley National Laboratory's"The Renewables Portfolio Standard in Texas: An Early Assessment," LBNL-49107 (November 2001).