Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

DELAWARE RENEWABLE ENERGY PORTFOLIO STANDARD SUMMARY

A. SUMMARY: Originally passed in July 2005 (Senate Bill 74) and amended in July 2007, Delaware's renewable energy portfolio standard (RPS) begins in 2007 with one percent of total retail sales to be derived from renewable energy, and increases gradually each year reaching 20 percent by 2019. Of each year's requirement, only one percent can come from existing (prior to 1/1/98) sources until 2020, when existing resources become ineligible. In addition to increasing the overall target from 10 percent to 20 percent by 2019, the July 2007 amendments also created a 2.005 percent set-aside for solar technologies. Purchasing and trading of renewable generation certificates is available through the PJM Generation Attributes Tracking System. Suppliers may also fulfill their obligation by making alternative compliance payments to the Delaware Green Energy Fund, which will then support new renewable energy development.

B. AUTHORIZING LEGISLATION/REGULATION

1. **Part of Broader Energy Package?** No

2. **Legislative/Regulatory Intent:** The RPS legislation states "the benefits of electricity from renewable energy resources accrue to the public at large, and that electric suppliers and consumers share an obligation to develop a minimum level of these resources in the electricity supply portfolio of the state. These benefits include improved regional and local air quality, improved public health, increased electric supply diversity, increased protection against price volatility and supply disruption, improved transmission and distribution performance, and new economic development opportunities. It is therefore the purpose and intent of the General Assembly in enacting the Renewable Energy Portfolio Standards Act to establish a market for electricity from these resources in Delaware, and to lower the cost to consumers of electricity from these resources.

3. **Applicable Legislation/Regulation:**
   7/05 – Senate Bill No. 74

   7/07 – Senate Bill No. 19, House Amendment No. 1

   Delaware RPS codified as 26 Del. C., § 351 – 363

4. **Date Enacted:** July 21, 2005

5. **Date Effective:** July 21, 2005

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C. RULEMAKING

1. **Implementing/rulemaking Authority:** The Delaware Public Service Commission (PSC) has jurisdiction for developing rules and regulations for retail electricity providers and rural electric cooperatives. The Delaware Department of Natural Resources & Environmental Control (DNREC) is responsible for determining environmental standards for hydroelectric facilities and biomass feed stocks. Municipal utilities are responsible for developing their own RPS implementation, but must report to the Delaware Energy Office and Controller General.

2. **Rulemaking Completed to Date:**
   12/05 – DE PSC issues Docket #56 - Order 6793, draft RPS rules and regulations

   4/06 – DE PSC issues "Findings and Recommendations of the Hearing Examiner," and Docket #56 – Order 6885, revised draft RPS rules and regulations

   6/06 – DE PSC issues Docket #56 – Order 6931, Rules and Procedures to Implement the Renewable Energy Portfolio Standard

   7/06 – DE DNREC issues Secretary's Order No.: 2006-A-0035, Encoded as Title 7 DNREC 106, Environmental Standards for Eligible Energy Resources

   9/07 – DE PSC issues Docket #56 – Order 7276, Revised Proposed Rules to Implement the Renewable Energy Portfolio Standard

D. TARGETS AND TIMETABLES

1. **Brief Overview:** Delaware's RPS begins in 2007 requiring that 2 percent of the total retail sales of each retail electricity product sold to end-use customers by a retail electricity supplier come from renewable energy, and gradually increases to 20 percent by 2019. A portion of the minimum percentage from eligible energy sources in a compliance must come from solar photovoltaic resources. The solar requirement begins at 0.011 percent in 2008, and increases to 2.005 percent by 2019. In 2020, and each year thereafter, the PSC will determine the annual requirements at a level equal to or greater than the compliance year 2019 levels. Each PSC rule determining annual percentage requirements after 2019 must be adopted at least two years prior to the respective compliance year.

   Any portion of a retail electricity supplier's renewable energy supply for compliance years 2007-2009 that is acquired under wholesale renewable energy supply entered into pursuant to the 2005 or 2006 Delaware Standard Offer Service (SOS) auctions are subject to a revised Schedule I through 2010 (see below).

2. **Schedule I:**

Compliance Year	Minimum Cumulative Percentage from Solar Photovoltaic	Minimum Cumulative Percentage from Eligible Energy Resources*
2007	0 %	2 %
2008	0.011 %	3 %
2009	0.014 %	4 %
2010	0.018 %	5.5 %
2011	0.048 %	7 %
2012	0.099 %	8.5 %
2013	0.201 %	10.0 %
2014	0.354 %	11.5 %
2015	0.559 %	13.0 %
2016	0.803 %	14.5 %
2017	1.112 %	16.0 %
2018	1.547 %	18.0 %
2019 and thereafter[1]	2.005 %	20.0 %

[1] Percentage requirement subject to PSC determination, but must be no lower than 20 percent.
* Minimum Percentage from Eligible Energy Resources Includes the Minimum Percentage from Solar Photovoltaics.

Schedule I (Revised)

Compliance Year	Minimum Cumulative Percentage from Solar Photovoltaic	Minimum Cumulative Percentage from Eligible Energy Resources*
2007	0 %	1 %
2008	0.011 %	1.5 %
2009	0.014 %	2 %
2010	0.018 %	5 %
2011-2019 and thereafter	Same as Schedule I	Same as Schedule I

3. **Treatment of Existing Capacity:** New renewable generation resources are defined as having first gone into commercial operation after 12/31/97. Renewable generation units that entered service before that date may not account for more than 1 percent of total retail electricity sales in any compliance year. In compliance year 2020, and each year thereafter, existing renewable generation resources are not RPS eligible.

4. **Sunset Clause:** None

E. DEFINITION OF ELIGIBLE RESOURCES AND TECHNOLOGIES

1. Eligible Resources

• Solar photovoltaic or solar thermal energy technologies that employ solar radiation to produce electricity or to displace electricity use

• Wind

• Ocean thermal, tides, currents or waves

• Geothermal technologies that generate electricity with a steam turbine, driven by hot water or steam extracted from geothermal reservoirs in the earth's crust

• Fuel cells powered by renewable fuels (i.e. derived from eligible renewable energy resources)

• Hydroelectric facilities equal to or less than 30 MW capacity (from all generating units combined) that meet the following environmental standards as determined by the Delaware Department of Natural Resources and Environmental Control (DNREC):

- 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.

• Combustion of gas derived from anaerobic digestion of organic material

• Combustion of biomass that has been cultivated and harvested in a sustainable manner as determined by the DNREC, and is not combusted to produce energy in a waste-to-energy facility or in an incinerator. DNREC sustainability criteria include the following:

- Meet all federal, state, and local government laws and regulations for land use, air emissions, use of cooling water, and ash management.
- For dedicated energy crops and agricultural food and feed crop residues they shall meet the standards of the United States Department of Agriculture's National Organic Program, or take all of the following actions:
  1. Follow all best management practices of local conservation districts and state and local cooperative extension services.
  2. Develop and implement all voluntary and mandatory state and local government nutrient management plans.
  3. Develop and follow comprehensive plans to utilize land and water resources in accordance with state and local non-point source pollution management programs to prevent erosion, control flood water, and conserve soil.
  4. Follow state and local Integrated Pest Management guidelines and plans.
  5. Minimize herbicide usage in conventional and no-till plantings in accordance with state and local cooperative extension services guidelines and plans.

- For timber, forestry and timber residues, and non-cultivated wild plants, develop and implement a conservation and management plan that includes all the following elements:
  1. A non-point source pollution management program to prevent erosion, control flood water, and conserve soil for harvesting, road construction, and all other mechanical disturbances.
  2. Best Management Practices as identified by the state and local forestry services.
  3. Minimization of waste associated with harvesting and on-site processing operations.
  4. Rates of harvest that do not exceed levels which can be permanently sustained.
  5. Safeguards that identify and protect rare and state and federally-designated threatened and endangered species and their habitats (e.g., nesting and feeding areas).
  6. Forest regeneration that enhances ecosystem diversity.
  7. Use of environmentally friendly non-chemical methods of pest management and limited use of pesticides.
  8. Use of environmentally friendly non-chemical methods of weed management and limited use of herbicides.
  9. Use of exotic species that is carefully controlled and actively monitored to avoid adverse ecological impacts.
  10. Avoidance of forest conversion to plantations or non-forest land uses, except circumstances where: a very limited portion of the forest management unit will be impacted; forest lands are of low ecological value; and conversion will improve ecological value.
  11. Protection of cultural and historic resources.
  12. Preservation or improvement of public access and recreation opportunities.
  13. Exclusion of old-growth timber (from a tree that is 150 years old or older).

• Combustion of methane gas captured from a landfill gas (LFG) recovery system; provided, that (1) increased production of LFG from production facilities in operation prior to 1/1/04 demonstrates a net reduction in total air emissions compared to flaring and leakage; (2) increased utilization of LFG at electric generating facilities in operation prior to 1/1/04 (i) is used to offset the consumption of coal, oil, or natural gas at those facilities, (ii) does not result in a reduction in the percentage of LFG in the facility's average annual fuel mix when calculated using fuel mix measurements for 12 out of any continuous 15 month period during which the electricity is generated, and (iii) causes no net increase in air emissions from the facility; and (3) facilities installed on or after 1/1/04 meet or exceed 2004 Federal and State air emission standards, or the Federal and State air emission standards in place on the day the facilities are first put into operation, whichever is higher.

Eligible LFG and biogas fuels may be co-fired with other fuels, provided that only the renewable energy fraction of production from multi-fuel facilities shall be considered eligible.

2. **Special Incentives:** The RPS includes a solar photovoltaic set-aside that ramps up to 2.005 percent by 2019. In addition, extra-credit multipliers toward RPS compliance is permitted for generation from certain resources, including 300 percent credit for customer-sited solar photovoltaic installations physically located in Delaware electric and fuel cells (powered by renewable fuels) that come online through December 31, 2014, and 150 percent credit for wind energy facilities sited in Delaware through December 31, 2012.

3. **Exclusions:** Waste-to-energy facilities or incinerators are explicitly excluded. In addition, fossil fuels or waste products from a fossil fuel source are explicitly excluded from the definition of "renewable fuel".

4. **Treatment of Self-Generation:** Energy production from customer-sited eligible renewable resources may be used to demonstrate RPS compliance, provided that the facilities are physically located in Delaware. In addition, generation from small eligible energy sources (100 kilowatts of capacity or less) may be aggregated to meet the RPS, provided that the generators or their agents document the level of generation, as recorded by appropriate metering and power sales, on an annual basis.

5. **Rules governing Location of Generating Facilities:** Eligible renewable resources must be located with the PJM region or be imported into PJM region and tracked through the PJM Market Settlement System. Customer-sited eligible renewable resource facilities must be physically located in Delaware.

6. **Eligibility of Green Pricing Programs:** The PSC has determined that renewable energy credits used in the voluntary green power market are not eligible for RPS compliance.

F. COVERED UTILITIES

1. **Classes of Retailers Covered:** The RPS applies to all retail electricity suppliers, including municipal electric companies (munis) and rural electric cooperatives (coops). However, munis and coops may elect to be exempt from the RPS provided that, on or before June 1, 2006, they: "(1) submit a written notice to the General Assembly; (2) alert their end-use customers with notices inserted in two consecutive electricity bills; (3) offer their retail customers a voluntary program for purchasing renewable energy under competitive rates; and (4) either contribute to the Delaware Green Energy Fund at levels commensurate with other retail electricity suppliers or create an independent, self-administered fund separate from the Green Energy Fund to be used in support of energy efficiency technologies, renewable energy technologies, or demand side management programs, into which they make payments of $0.178 for each megawatt-

hour they sell, transmit, or distribute in this State." All of the munis and coops in the state opted to exempt themselves from the RPS by the June 1, 2006 deadline.

2. **Share of State Sales/Delivered Power Covered:** According to the RPS legislation, nearly 100 percent (see large industrial class exemption) of total state electric sales are covered by the RPS. However, with the munis and coops electing to exempt themselves from the annual requirements, the share of state electric sales covered by the RPS is reduced to 75 percent (based on 2005 data).

3. **Apportionment of obligation among utilities:** The annual RPS requirements are apportioned among the retail electricity suppliers and municipal electric companies on the basis of the total retail sales of each retail electricity product sold to end-use customers.

4. **Exemption by Customer Class:** An industrial customer with peak demand in excess of 1,500 kilowatts may elect to have their load exempt from the RPS provided that they submit written notice to and receive acknowledgement from the PSC's staff. For an end-use customer with multiple accounts totaling in excess of 1,500 kilowatts within an applicable utility's service territory and served by a single retail electricity supplier, to have their load exempt, the aggregate of their accounts with an NAICS Manufacturing Sector Code must have a peak demand of at least 751 kilowatts.

G. COST PROVISIONS

1. **Cost Cap for Retailers:** To the extent that the alternative compliance payment (ACP) or solar alternative compliance payment (SACP) is the least cost measure of compliance (as determined by the PSC), it serves as a de facto cap.

2. **Cost Cap for Consumers:** None specified.

3. **Cost Recovery Mechanisms:** A retail electricity supplier or muni may recover, through a non-bypassable surcharge, actual dollar for dollar costs incurred in complying with the RPS, except that any alternative compliance payment shall be recoverable only if (1) the ACP is the least cost measure to ratepayers as compared to the purchase of renewable energy credits to comply with the RPS; or (2) there are insufficient renewable energy credits available for the electric supplier to comply with the RPS. Any cost recovered shall be disclosed to customers at least annually on inserts accompanying customer bills.

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

5. **Special Funds:** The state levies a system benefits charge (SBC) dedicated to supporting energy efficiency and customer-sited renewable energy. Administered by the Sustainable Energy Utility, the Green Energy Fund collects about $3 million each year from the customers of Delmarva Power. In addition, any funds collected from

retail electric suppliers and municipal utilities for ACPs or SACPs are allocated to the Green Energy Fund. Renewable energy projects supported by the Green Energy Fund are eligible to meet the RPS.

H. COMPLIANCE AND ENFORCEMENT

1. **Certification, tracking, and trading mechanism[s]:** The PSC has established a system of tradable renewable energy credits (REC) that must be used by a retail electric supplier to comply with the RPS. The PJM Interconnection's Generation Attributes Tracking System (GATS) will serve as the primary tracking and verification system for the RPS. Eligible renewable resources must have RECs issued by the GATS. RPS eligible RECs may be traded or sold, and begin accruing on 6/1/06. RECs used to comply with another state's RPS may not be used for compliance under the Delaware RPS.

   A REC is defined under PSC regulations as a tradable instrument comprised of all the generation attributes equal to 1 megawatt-hour of electricity derived from eligible energy resources and that is used to track and verify RPS compliance. A REC does not include emission reduction credits and/or allowances encumbered or used by a generation unit for compliance with local, state, or federal operating and/or air quality permits associated with the 1 megawatt-hour of electricity." The term "generation attribute" is defined under the PSC regulations as "a non-price characteristic of the electrical energy output of a generation unit including, but not limited to, the unit's fuel type, geographic location, emissions, vintage, and RPS eligibility."

   According to the PSC rules, REC ownership will be conveyed to the owner of the generation unit that receives designation as an eligible energy resource. RECs from small eligible energy sources (100 kilowatts of capacity or less) may be aggregated to meet the RPS, provided that the generators or their agents document the level of generation, as recorded by appropriate metering and power sales, on an annual basis.

2. **Flexibility Mechanisms:**
   a. **Banked Compliance:** Unused RECs shall exist for three years from the date created.

   b. **Alternative Compliance Payments:** Retail electric suppliers and munis may pay into the Green Energy Fund an alternative compliance payment (ACP) of $25 for each megawatt-hour deficiency between the RECs available and used by a supplier in a given compliance year and the credits necessary for the supplier to meet that year's minimum percentage requirement from eligible resources. A muni may pay the ACP into a fund established by its municipal members. In subsequent years, the ACPs for any supplier or muni shall increase as follows: (1) If a supplier has paid an ACP of $25 for each megawatt-hour in any previous year, then the ACP shall be $50 for each megawatt-hour; (2) If a supplier has paid an ACP of $50 for each megawatt-

hour in any previous year, then the ACP shall be $80 for each megawatt-hour; (4) ACPs shall not be more than $80 for each megawatt-hour.

The State Energy Coordinator of the Delaware Energy Office has the authority to review the ACPs on an as needed or annual basis to determine reasonableness compared to market REC prices. The State Energy Coordinator also has the authority to lower the ACP by 10 percent in order to achieve reasonableness.

Retail electric suppliers may also pay into the Green Energy Fund solar alternative compliance payments of $250 for each megawatt-hour deficiency between the solar RECs available and used by a supplier in a given compliance year and the credits necessary to meet that year's minimum solar photovoltaic percentage requirement. A muni may pay the SACP into a fund established by its municipal members. In subsequent years, the SACPs for any supplier or muni shall increase as follows: (1) If a supplier has paid an SACP of $250 for each megawatt-hour in any previous year, then the SACP shall be $300 for each megawatt-hour; (2) If a supplier has paid an SACP of $300 for each megawatt-hour in any previous year, then the SACP shall be $350 for each megawatt-hour.

The Delaware Energy Office may set the SACP at an amount higher than, but not more than 20 percent higher than, the estimated competitive market cost of an SREC, determined by the quarterly weighted average cost of meeting the requirement through purchase of an SREC.

A supplier may only recover ACPs or SACPs from rate payers if (1) the ACP is the least cost measure to ratepayers as compared to the purchase of RECs to comply with the RPS; or (2) there are insufficient RECs available for the electric supplier to comply with the RPS.

3. **Penalties, Procedures, Powers, and Sanctions:** The PSC staff shall notify any retail electricity supplier of any compliance deficiencies within 165 days of the close of the current compliance year. If the supplier is found to be deficient by the PSC staff, the supplier shall be required to pay the appropriate ACP. All such payments shall be due within 30 days of notification by the PSC staff.

   The failure to comply with the PSC's RPS regulations may result in penalties, including monetary assessments, suspension or revocation of eligibility as an eligible energy resource, or other sanction as determined by the PSC.

4. **Escape Clauses:** Beginning in 2010 and thereafter, the PSC may review the status of the annual requirements, and recommend to the Delaware General Assembly whether the RPS schedule needs to be accelerated or slowed. In 2014, and thereafter, the PSC may, after conducting hearings, accelerate or slow the RPS schedule via rulemaking

procedure. The RPS schedule may only be slowed if, despite adequate planning by obligated retail electricity suppliers, at least 30 percent of RPS compliance is being met through ACPs for three consecutive years. The RPS schedule may only be accelerated if the average price for RPS-eligible renewable energy credits has been below a PSC-determined (in consultation with the Delaware Energy Office) market price threshold for two consecutive years. Any rule that would alter the RPS schedule must be finalized at least two years prior to the schedule change, and the PSC may not reduce the annual requirements below levels that have already been achieved.

For municipal utilities, any changes to the RPS annual requirements must be enacted through the General Assembly.

I. ADMINISTRATION

1. **Administering Entities, Duties, Powers, and Contact Information:** The PSC administers the RPS for retail electricity suppliers and rural electric cooperatives, and must consult with the Delaware Energy Office in determining the REC market price threshold. The DNREC is responsible for determining environmental standards for hydroelectric facilities and biomass feed stocks. Municipal utilities are responsible for developing their own RPS implementation, but must report to the Delaware Energy Office and Controller General. The Delaware Energy Office also administers the Green Energy Fund. The PJM-EIS is responsible for administering GATS. Contact information is:

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   Cannon Building, Suite 100
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   Web site: http://www.state.de.us/delpsc/

   Delaware Energy Office
   1203 College Park Drive, Suite 101
   Dover, DE 19904
   Phone: (302) 739-1530
   Web site: http://www.delaware-energy.com/

   Delaware Department of Natural Resources & Environmental Control
   89 Kings Highway
   Dover, DE 19901
   Telephone: (302) 739-9000
   Web site: http://www.dnrec.delaware.gov

2. **Source and Amount of Administrative Funding:** The PSC may impose an administrative fee on a supplier with respect to a REC transaction, but the amount of

the fee may not exceed the PSC's actual direct cost of processing the transaction.

J. REPORTING REQUIREMENTS

1. **Reporting Requirements for Retailers:** Beginning 6/1/07, each retail electricity supplier shall submit an annual report to the PSC that demonstrates that the retail electricity supplier has complied with the RPS and includes the submission of the required amount of RECs; or demonstrates the amount of electricity sales for the compliance year by which the supplier failed to meet the RPS. Beginning 6/1/07, each municipal electric company must submit a similar annual report to the Delaware Energy Office and the Controller General.

2. **Reporting Requirements for Administrative Entities:** Beginning in 2010 and thereafter, the PSC may review the status of the annual requirements, and recommend to the Delaware General Assembly whether the RPS schedule needs to be accelerated or slowed.

3. **Cost Information:** No actual cost data is currently available.