

# Proposed Changes to Puc 2500 Electric Renewable Portfolio Standard

1

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NH PUBLIC UTILITIES COMMISSION**

# AGENDA

2

- Summarize Proposed Changes to Puc 2500
- ❖ Solicit Comments on Puc 2500 Revisions
- Explain Rulemaking Process

# BACKGROUND

3

- NH RPS law enacted in July 2007. RSA 362-F
- Puc 2500 interim rules effective November 27, 2007.
- Puc 2500 final rules effective June 3, 2008.
- SB218 effective June 19, 2012
  - Requires NHPUC to adopt procedures for the metering, verification, and reporting of useful thermal energy output.  
RSA 362-F:13 VI-a

# SELECTED RULE CHANGES

4

- RSA 362-F:11, IV allows for alternative plan for PM emission reductions for eligible Class III sources.
- Class III source restoring generation or increasing capacity and eligible as Class I can opt to be Class III.
- Class IV requirements for small-scale hydro plants were amended by loosening fish-ladder requirements for facilities of 1 MW or less.

# RENEWABLE PORTFOLIO STANDARD OBLIGATION (%)

5

Calendar Year	Total Class I	Class I from Useful Thermal Energy	Class II	Class III	Class IV
2008	0.0%	0.0%	0.0%	3.5%	0.5%
2009	0.5%	0.0%	0.0%	4.5%	1.0%
2010	1.0%	0.0%	0.04%	5.5%	1.0%
2011	2.0%	0.0%	0.08%	6.5%	1.0%
2012	3.0%	0.0%	0.15%	6.5%	1.0%
2013	4.0%	0.2%	0.2%	6.5%	<del>1.0%</del> 1.3%
2014	5.0%	0.4%	0.3%	<del>6.5%</del> 7.0%	<del>1.0%</del> 1.4%
2015	6.0%	0.6%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2016	<del>7.0%</del> 6.9%	0.8%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2017	<del>8.0%</del> 7.8%	1.0%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2018	<del>9.0%</del> 8.7%	1.2%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2019	<del>10.0%</del> 9.6%	1.4%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2020	<del>11.0%</del> 10.5%	1.6%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2021	<del>12.0%</del> 11.4%	1.8%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2022	<del>13.0%</del> 12.3%	2.0%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2023	<del>14.0%</del> 13.2%	2.2%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2024	<del>15.0%</del> 14.1%	2.4%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%
2025	<del>16.0%</del> 15.0%	2.6%	0.3%	<del>6.5%</del> 8.0%	<del>1.0%</del> 1.5%

# ALTERNATIVE COMPLIANCE PAYMENTS

6

- References RSA 362-F:10, II where ACPs changed
- Class I - ~~\$57.12~~ \$55, except for useful thermal energy which is \$25
- Class II - ~~\$150~~ \$55
- Class III - ~~\$28~~ \$31.50
- Class IV - ~~\$28~~ \$26.50
- Adjustments changed
  - Consumer Price Index for Class III and Class IV; and
  - 1/2 of percentage change of CPI for Class I and Class II.

## CREDIT FOR NET-METERED CUSTOMER-SITED PROJECTS

7

- Utilities must submit a list of Class I and Class II eligible sources not obtaining RECs and the nameplate capacity.
- PUC uses 20 percent capacity factor to develop % credit for all providers of electricity based on total annual electricity produced.

# CO-FIRED GENERATING FACILITIES

8

- Fossil-fired facility commenced operation prior to January 1, 2006 and co-fired with eligible biomass fuel after January 1, 2012.
- Emission requirements
  - 0.075 lb NO<sub>x</sub> /MMBtu or alternative plan
  - 0.02 lb PM/MMBtu or alternative plan
- ❖ Application Requirements
  - List of fuels, relative portions of fuels based on the high heat value (Btu/lb), and calculation methodology for relative portion of electrical output for RECs.
- Puc 2506.03 Monitoring of Co-Fired Generating Facilities – Incorrectly listed as Renewable Energy Sources Producing Useful Thermal Energy
- Only electric RECs from co-fired facilities.

# USEFUL THERMAL ENERGY

9

- **New Class I sources producing useful thermal energy (commenced operation after January 1, 2013)**
  - Geothermal - Ground Source Heat Pump
  - Solar
  - Thermal Biomass Renewable Energy Technologies
  - Biomass Combined Heat and Power Facilities
- **Emission requirements for Thermal Biomass Energy Technology**
  - Unit rated between 3 and 30 MMBtu/hr, PM  $\leq 0.10$  lbs/MMBtu verified with one stack test;
  - Unit rated at equal to or greater than 30 MMBtu/hr, PM  $\leq 0.02$  lb/MMBtu verified with annual stack tests;
  - Unit rated at less than 100 MMBtu/hr must implement best management practices; and
  - Unit rated at equal to or greater than 100 MMBtu/hr, NO<sub>x</sub>  $\leq 0.075$  lb/MMBtu verified with continuous emission monitor (CEM).

# USEFUL THERMAL ENERGY (CONTINUED)

10

- ❖ **Application requirements**
  - ❖ Rated Thermal Capacity
  - ❖ Emission Requirements, if applicable
- ❖ **Metering requirements**
  - ❖ No Heat Metering Standard; Need Criteria/Standards for Meters
  - ❖ ASTM standard probably not final until December 2014
- ❖ **Verification by independent monitor**
  - ❖ Qualifications
- ❖ **NHPUC is working with NEPOOL GIS to incorporate thermal RECs.**

# Contact Information

11

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# Comments

12

