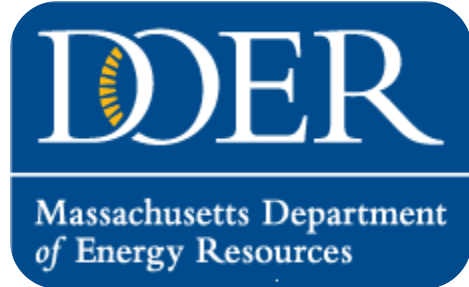


Creating A Greener Energy Future For the Commonwealth



Solar RPS Carve-Out

Solar Credit Clearinghouse

**Final Design Document
for Regulations**

December 10, 2009



Solar RPS Carve-Out Overview and Updates

- Previous Stakeholder Meetings were held and comments received on the Solar RPS Carve-Out Straw Proposal (August 26) and the Price Support Mechanism (October 23).
- DOER received 18 written comments on the Price Support Mechanism, and has had numerous conversations with stakeholders. DOER appreciates the great interest and constructive comments received.
- DOER has conducted detailed system dynamic modeling of the market under the price support mechanism.
 - Modeling has enhanced DOER's confidence that the proposed mechanism creates a secure market environment for solar development, but has led to certain refinements to the design.
- DOER will be filing emergency regulations before the end of December to begin the solar RPS carve-out program on 1/1/2010. Quickly thereafter, DOER will prepare final regulations and pursue a 30A regulatory process, including Public Hearings.

Solar RPS Carve-Out

Document Outline and Notable Changes

Document Topic / Outline	Slides
PV Project Eligibility	4
Program Design Elements	5 - 13
Compliance Obligation for Competitive Suppliers with Existing Contracts	14
Consideration of Ratepayer Impacts	15
Interaction with new MRET Commonwealth Solar programs	16
Program Launch – Public Outreach and Training	17

Notable Updates/Changes from Previous Program Description

- The administration has selected the branding **Solar Credit Clearinghouse** to refer to the program design, particularly as it pertains to the price support for Solar RECs provided by the auction and minimum standard adjustments.
- Changes to the structural form of the adjustments to the Minimum Standard
- Changes and constraints to the Auction Opt-In Term adjustments
- Addition of Safety Valve Mechanism to clear Auction
- Initial Minimum Standard increased to target 25 MW installed capacity

PV Project Eligibility

Location and Size

- Projects must be in Massachusetts
- Projects may be in, and even owned by, Municipal Light Districts
- Projects must be 2 MW_{DC} or smaller. Maximum project size will be measured per electric meter reporting generation for S-REC accounting. Projects must be on-site of an electric load, inclusive of small parasitic loads.

Installation Date and Prior State/MRET Support

- Projects must be installed on or after January 1, 2008.
- Projects that have received funding from Commonwealth Solar I, or from its predecessors (SRI or LORI programs), are ineligible.
- Projects that have received substantial support through the ARRA-related federal stimulus funds (not including the grant-in-lieu-of-ITC) are ineligible, with the exception of the Commonwealth Solar Stimulus rebates to be announced by MRET (see slide 16). DOER will provide further guidance on this eligibility.

Utility Owned PV Projects

- PV projects owned by the regulated utility companies, as provided in the Green Communities Act, are eligible, with the exception of those projects already approved by the DPU (filings from National Grid and WMECO).

Program Design Elements

ACP Rate and S-REC Banking

- Alternative Compliance Payment (ACP) Rate for 2010 is set at \$600/MWh.
- ACP Rate will not be adjusted by the Consumer Price Index (RPS Class I ACP Rate is adjusted by the CPI).
- DOER will maintain discretion to reduce the ACP rate annually, but no more than 10% per year.
- Banking of S-RECs by Load Serving Entities is limited to 10% of an LSE's compliance obligation. S-RECs can be banked for no more than 2 years.

Program Design Elements

Auction Account and Timing

Auction Account

- DOER will establish an Auction Account on the NE-GIS system.
- The Auction Account will be open for deposits of eligible unsold S-RECs for the final 31 days (May 16-June 15) of the Compliance Year's 4th Quarter trading period.
- Eligible S-RECs for deposit into the Auction Account are those that are generated within the Auction Opt-In Term (years) prescribed to that project at the time of its qualification by DOER for the Solar RPS Carve-Out.

Re-Minting S-RECs as Extended Life S-RECs

- DOER, in coordination with the NE-GIS, will re-mint the S-RECs in the Auction Account as Extended Life S-RECs.
- The Extended Life S-RECs will have a Shelf Life initially set at 2 years, allowing them to be used for compliance for either of the next two compliance years.

Auction Timing

- Within 30 days of the submission of Compliance Filings (first week day of July) and after DOER has announced the adjustment to the Minimum Standard, DOER will hold a fixed price auction for the Extended Life S-RECs.
- Auction will only be held in those years when S-RECs are deposited into the Auction Account.

Program Design Elements

Auction Design

Auction Design and Mechanics

- The Auction will be open to any qualified bidders. However, bidders who are not licensed retail electric suppliers in MA with RPS compliance obligations, will be required to provide financial security prior to the auction to cover their full bid amount.
- Auction will be a fixed price at \$300/MWh. Bids will be for the volume of Extended Life S-RECs that bidders are willing to buy for this fixed price.
- Auction Safety Valves
 - If the bid volume is insufficient to clear the volume of available Extended Life S-RECs, then the Shelf Life of the Extended Life S-RECs is increased to 3 years (enhancing their market value), and the auction is repeated.
 - If the bid volume is still insufficient to clear the volume of the available Extended Life S-RECs, then the Minimum Standard is re-adjusted by increasing the MWh obligation by the total volume of S-RECs that were deposited into the Auction Account. The Auction is repeated with the Shelf Life remaining at 3 years.

Auction Revenues and Fee

- Revenues received from the Auction will be re-distributed to the generators who deposited S-RECs into the Auction Account, minus an Auction Fee (5% or \$15/MWh).
 - Auction Fee is an important feature so that the use of the Auction Account is an option of last resort and generators have motivation to seek market trades.

Program Design Elements

Auction Opt-In Term and Adjustments

Auction Opt-In Term

- Each solar installation, as part of its RPS Solar Carve-Out qualification by DOER, will be given a set Term of years during which it will have the right (but not the requirement) to deposit S-RECs into the Auction Account.
- The Term begins at 10 years for Compliance Year 2010, but may be adjusted annually. All projects installed in a given year will be provided the same Term established for that year.
- The Term for a project already installed/qualified does not change.

Adjustments to Auction Opt-In Term

- Long Market Adjustment: Auction Opt-In Term is reduced by 1 year for each full 10% of the Compliance Obligation that is deposited into the Auction Account.
 - The maximum reduction per annual adjustment is 2 years.
 - The Minimum Auction Opt-In Term is 5 years for the first 7 years of the program (through Compliance Year 2016). After that time, the minimum term is reduce to zero years, unless otherwise set by DOER.
- Short Market Adjustment: If more than 5% of the Compliance Obligation is met through ACP Payments, the Auction Opt-In Term is re-set to 10 years.

Program Design Elements

Minimum Standard

Minimum Standard_% – Compliance Obligation

All retail electric suppliers with RPS obligations will be required to demonstrate compliance with the solar RPS carve-out as a percent obligation of their load served. The following formula will be used to set the Minimum Standard for each Compliance Year (CY), based on the total load obligation data available for the prior CY.

$$\text{MinStd}_{\%, \text{CY}} = \text{MinStd}_{\text{MWh}, \text{CY}} / \text{Total RPS Load Obligation}_{\text{MWh}, \text{CY}-1}$$

2010 Minimum Standard

The program will begin with a Minimum Standard set to be the equivalent of 25 MW operating throughout the compliance year.

$$\begin{aligned} \text{MinStd}_{\text{MWh}, 2010} &= 25 \text{ MW} \times 365 \times 24 \times \text{CapFct}_{(=0.13)} = 28,470 \text{ MWh} \\ \text{MinStd}_{\%, 2010} \text{ (estimated)} &= 28,470 \text{ MWh} / 50,243,788 \text{ MWh} = 0.0567\% \end{aligned}$$

Estimated value uses the Total RPS Load Obligation for CY2008. Final $\text{MinStd}_{\%, 2010}$ will be provided in July 2010, after CY2009 RPS Compliance Filings are received by DOER. Compliance entities will, as in subsequent years, need to adjust their S-REC purchases accordingly.

Program Design Elements

Minimum Standard – Adjustments

Base Growth Rate

The Minimum Standard is adjusted each year by a Base Growth Rate of 30%, such that the Minimum Standard will increase 30% more than it increased the year before. This growth rate provides a robust market demand growth for the solar industry.

Market Balance Adjustments

The Minimum Standard is adjusted each year by the S-REC market oversupply or shortage experienced in the previous Compliance Year. This adjustment maintains market balance, assuring the value of Extended Life S-RECs from the Auction, and protecting ratepayers from unrelenting dependence on ACP compliance.

Operative Formulas

$$\text{MinStd}_{\text{MWh}, 2011} = \text{MinStd}_{\text{MWh}, 2010} + \text{MinStd}_{\text{MWh}, 2010} \times 1.3 \\ - \text{ACP Volume}_{2010} + \text{Banking Volume}_{2010} + \text{Auction Volume}_{2010}$$

and after 2011;

$$\text{MinStd}_{\text{MWh}, \text{CY}} = \text{MinStd}_{\text{MWh}, \text{CY-1}} + (\text{MinStd}_{\text{MWh}, \text{CY-1}} - \text{MinStd}_{\text{MWh}, \text{CY-2}}) \times 1.3 \\ - \text{ACP Volume}_{\text{CY-1}} + \text{Banking Volume}_{\text{CY-1}} + \text{Auction Volume}_{\text{CY-1}}$$

NOTE: If the Auction does not clear after the second round, the Auction Safety Value will re-calculate the $\text{MinStd}_{\text{MWh}, \text{CY}}$ by again adding the $\text{Auction Volume}_{\text{CY-1}}$

Program Design Elements

Minimum Standard – Constraints

Minimum Standard will never decrease from prior year

Under conditions of extreme short markets, the MinStd formulas may result in a decrease in the Minimum Standard from one year to the next. Under this circumstance, the Minimum Standard will remain the same as in the previous Compliance Year.

Minimum Standard Cap

The Minimum Standard is capped at 455,520 MWh (sufficient to enable the installation of approximately 400 MW)

- At such time that DOER determines that sufficient applications have been qualified to meet this Cap, qualification of all additional solar installations is transferred to the RPS Class I program.
- Minimum Standard for the Solar RPS Carve-Out remains constant at the Minimum Standard Cap.
- The Solar RPS Carve-Out program remains in effect until such time as all the Auction Opt-In Terms of the qualified projects have expired, and the full Shelf Life years of the Extended Life S-RECs have expired, thereby maintaining the price certainty promised to all solar generators.

Program Design Elements

Timing of Announcements and Adjustments

Approx. Schedule for Program Announcements and Adjustments for Compliance Year CY

Action	Approx. Time
Compliance Year (for Generation and Load Obligation)	Jan 1 – Dec 31, CY
4 th Quarter Trading Period for S-RECs	Apr 15 – Jun 15, CY+1 ^(a)
S-REC Auction Account Open for Deposits	May 16 – Jun 15, CY+1
Retail Electric Suppliers/LSE Compliance Filings for CY due to DOER	July 1, CY+1
DOER Announce a Preliminary Adjustment ^(b) to Minimum Standard for CY+1 and the Adjustment to Auction Opt-In Term	July 20, CY+1
DOER Runs Auction (subsequent rounds will be spaced 1-2 days apart)	July 25, CY+1
Change in Auction Opt-In Term for New Applications goes into effect	August 15, CY+1
DOER Announces Final Adjustment to Minimum Standard for CY+1	August 30, CY+1

(a) for example, for Compliance Year 2010, CY=2010, CY+1=2011

(b) DOER requires some weeks to process and verify compliance filings before they are deemed accepted. Obtaining the final load obligation for the CY requires verification of several data sources, and small changes in the reconciliations can occur. Subsequently, DOER will be able to provide a preliminary adjustment to the Minimum Standard (percent obligation), but may need to make small changes once review of compliance filings is complete.

Program Design Elements

Use of Auction Fees and ACP Revenues

Auction Fees and ACP Payments will be overseen by DOER to benefit the continued development of renewable energy in the Commonwealth.

Compliance Obligation for Competitive Suppliers with Existing Load Contracts

Competitive Suppliers that have an RPS Class II and APS Load Obligation have been provided exemptions in the Green Communities Act for loads served under existing contracts.

Such exemption is not provided in the Act for obligations under RPS Class I or the RPS Solar Carve-Out.

Nonetheless, DOER provides the following relief to such competitive suppliers.

- Competitive Suppliers must meet its full Solar RPS Carve-Out obligation for all load served. However, for any load was under contract prior to 1/1/2010, the following graduated ACP Rate discount is provided.
 - For CY 2010, discounted ACP Rate is \$400/MWh
 - For CY 2011, discounted ACP Rate is \$450/MWh
 - For CY 2012 and thereafter, discounted ACP Rate is \$500/MWh
- In the same manner as established for RPS Class II and APS, competitive suppliers will need to provide information to DOER on contracted power and attest to its accuracy.

Consideration of Ratepayer Impacts

Inherent Design Protections for Ratepayer Impacts

- The Minimum Standard is adjusted annually in a manner that balances S-REC supply and demand, limiting prolonged reliance on ACP and high S-REC prices.
- If the solar industry does not respond to the growing Minimum Standard, the Minimum Standard growth rate will be diminished and even adjusted to zero until supply catches up with the standard.
- Program design creates a market which will encourage bilateral contracts of varying terms to lock in S-REC prices between the Auction fixed price and the ACP Rate.
- DOER maintains discretion to reduce the ACP Rate if it feels that the rate is unnecessarily high for solar development to continue its progress.
- Qualified projects generating beyond their Auction Opt-In Terms are not provided the minimum price support of the auction, and will enable compliance to be met with S-RECs trading at below the fixed auction price.

Bounds of Ratepayer Impacts

- For Compliance Year 2010, with the Minimum Standard = 28,470 MWh, the maximum ratepayer exposure (at \$600/MWh ACP Rate) is \$17 million, or approximately \$0.00034/kWh change in rates.
- For the Compliance Year when the Minimum Standard Cap is reached and equal to 455,520 MWh, the maximum ratepayer exposure at (\$600/MWh ACP Rate) is \$273 million, or approximately \$0.0054/kWh change in rates.

Interactions with New MRET Commonwealth Solar Programs

MRET will separately announce its plans for new Commonwealth Solar Rebates Programs and provide the necessary full details.

Two programs will be announced which will allow certain projects to receive both Commonwealth Solar Rebates and qualification for the RPS Solar Carve-Out.

Commonwealth Solar II – Rebates for Small Projects

- To maintain a robust residential and small solar project market, Commonwealth Solar II Rebates will be provided for small solar PV projects.
- Projects 5 kW and under will be eligible.

Commonwealth Solar Stimulus – Rebates for First Entries

- To encourage participation in the Solar RPS Carve-Out program, Commonwealth Solar Stimulus, supported with federal stimulus funds, will offer rebates for projects until funds are expended.
- Projects over 5 kW and up to 200 kW are eligible.
- Projects must meet additional requirements as prescribed in ARRA funding rules.

Program Launch

Public Outreach and Training

Program Launch

- DOER will issue emergency regulations before the end of December.
- Emergency regulations will be in force to begin the Solar RPS Carve-Out (compliance obligations and qualification of projects) on January 1, 2010.
- DOER will quickly thereafter prepare draft regulations and begin a formal 30A procedure for promulgating final regulations, including the convening of Public Hearings. DOER anticipates that final regulations may be promulgated around May 2010.

Program Design Webinar

- DOER will schedule a webinar to review the Program Design as described in this document.

Public Outreach

- DOER will prepare guidance documents to facilitate stakeholders' understanding of and interactions with the program.

Industry Training Sessions

- DOER, in coordination with MRET, will offer training sessions of interest to various stakeholder groups (compliance entities, solar developers, project financiers).

Thank you for your good ideas

DOER is thankful for the patience and participation of the solar industry and other stakeholders in the development of this program.

DOER is not, at this time, seeking comments on this final design document. However, if you have any questions or need some clarification, please address them natalie.howlett@state.ma.us