



Solar RPS Carve-Out

Overview of the Program

June 2010



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 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 filed emergency regulations for the launch of the solar RPS carve-out program on 1/1/2010.
- Since January, the DOER has been pursuing a 30A regulatory process on the proposed regulations, which has included Public Hearings, accepting written and verbal comments, and making related edits.

Solar RPS Carve-Out Document Outline

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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 per parcel of land. Projects must be on-site of an electric load, inclusive of small parasitic loads.

Installation Date and Prior State/MassCEC 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 ARRA-related federal stimulus funds in excess of 67% of total installed costs (not including the grant-in-lieu-of-ITC) are ineligible, with the exception of the Commonwealth Solar Stimulus rebates to be announced by MassCEC (see slide 16).

Utility Owned PV Projects

- PV projects owned by the regulated utility companies, as provided in the Green Communities Act, are eligible.

Program Design Elements

ACP Rate and SREC Banking

- Alternative Compliance Payment (ACP) Rate for 2010 is set at \$600/MWh.
- ACP Rate for load under contract prior to January 1, 2010 is equal to the RPS Class I ACP rate for the applicable Compliance Year.
- 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 SRECs by Load Serving Entities is limited to 10% of an LSE's compliance obligation. SRECs 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 SRECs for the final 31 days (May 16-June 15) of the Compliance Year's 4th Quarter trading period.
- Eligible SRECs 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 SRECs as Extended Life SRECs

- DOER, in coordination with the NEPOOL-GIS, will re-mint the SRECs in the Auction Account as Extended Life -RECs.
- The Extended Life SRECs 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 SRECs.
- Auction will only be held in those years when SRECs 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 SRECs 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 SRECs, then the Shelf Life of the Extended Life SRECs 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 SRECs, then the Minimum Standard is re-adjusted by increasing the MWh obligation by the total volume of SRECs that were deposited into the Auction Account. The Auction is repeated with the Shelf Life remaining at 3 years.
 - If the third Auction does not clear, the remaining volume of Auction SRECs will be returned to the Generators who made the deposits and they will be allowed to sell the SRECs over their 3-year extended life span.

Auction Revenues and Fee

- Revenues received from the Auction will be re-distributed to the generators who deposited SRECs 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 SRECs 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 can be reduced by 4 quarters (1 year) for each full 10% of the Compliance Obligation that is deposited into the Auction Account, or increased by 4 quarters (1 year) for each 10% of the Compliance Obligation met with ACP payments (but not to exceed 40 quarters or 10 years)

- 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).

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 30 MW operating throughout the compliance year.

$$\begin{aligned} \text{MinStd}_{\text{MWh}, 2010} &= 30 \text{ MW} \times 365 \times 24 \times \text{CapFct}_{(=0.13)} = 34,164 \text{ MWh} \\ \text{MinStd}_{\%, 2010} \text{ (estimated)} &= 34,164 \text{ MWh} / 50,243,788 \text{ MWh} = 0.0680\% \end{aligned}$$

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 SREC 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 SREC market oversupply or shortage experienced in the previous Compliance Year. This adjustment maintains market balance, assuring the value of Extended Life SRECs from the Auction, and protecting ratepayers from unrelenting dependence on ACP compliance. The adjustment will be made in August and affect the Compliance Year beginning in the following January.

For Compliance Year 2011: the Minimum Standard is 78,577 MWh, calculated as 69 MW multiplied by 365 days in the year multiplied by 24 hours in the day multiplied by 0.13 (or 13%) capacity factor.

For Compliance Years after 2011:

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

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 $\text{Auction Volume}_{\text{CY}-2}$

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 SRECs 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 SRECs	Apr 15 – Jun 15, CY+1 ^(a)
SREC 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	January 1, CY+2
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 under contract prior to 1/1/2010, the ACP rate will be equal to the RPS Class I ACP rate for the applicable Compliance Year.
- 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 SREC supply and demand, limiting prolonged reliance on ACP and high SREC 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 SREC 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 SRECs trading at below the fixed auction price.

Bounds of Ratepayer Impacts

- For Compliance Year 2010, with the Minimum Standard = 34,164 MWh, the maximum ratepayer exposure (at \$600/MWh ACP Rate) is \$20.5 million, or approximately \$0.00041/kWh change in rates. NOTE: The 2010 actual cost estimate will be substantially lower due to load under contracts using the Class I ACP Rate.
- 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 MassCEC Commonwealth Solar Programs

Two programs have been established which 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 (Now Closed)

- To encourage participation in the Solar RPS Carve-Out program, Commonwealth Solar Stimulus, supported with federal stimulus funds, offered rebates for projects over 5kW and less than 200kW until funds were expended.
- Commonwealth Solar Stimulus held two application rounds and allocated \$4 million each round to qualifying projects.
- As of April 2010, the program has allocated all funds and is now closed.

Program Launch

Public Outreach Updates

Program Launch

- DOER has issued emergency regulations.
- Emergency regulations are currently in force to proceed with the Solar RPS Carve-Out (compliance obligations and qualification of projects) which began on January 1, 2010.
- DOER has filed changes to the emergency regulations based on the formal public process.
- DOER anticipates that final regulations will be promulgated around August 2010.

Public Outreach

- DOER has made guidance documents available to facilitate stakeholders' understanding of and interactions with the program.

Industry Training Sessions

- DOER, in coordination with MassCEC 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.

If you have any questions on the program please contact us at DOER.SREC@state.ma.us.