

225 CMR 16.00

Renewable Thermal Technologies in the APS

Biomass Subgroup Meeting November 24, 2014 Westborough, MA

Agenda

- Introduction
- Biomass system requirements
 - > Air emissions
 - > Storage requirements
 - Fuel / Thermal
 - Minimum efficiency
- Resource sustainability
- Fuel quality



Specifications in the Statute

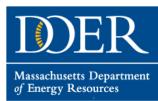
DOER has to establish for biomass, biogas and liquid biofuel technologies (with MassDEP):

- Air emission performance standards for PM2.5 and CO;
- A requirement of 50% reduction in life-cycle GHG emissions;
- Requirements for thermal storage or other means to minimize deterioration of efficiency or emissions due to boiler cycling, if feasible;
- Fuel conversion efficiency performance standards;
- Requirements that fuel shall be provided by means of sustainable forestry practices (with DCR).



Biomass Sustainability

- Demonstrate sustainable forest management
 - > Key role for licensed forester
 - Forest management plan, best management practices,
 Forest Guild biomass guidelines
 - Sustainability certification of fuel feedstock
 - MA sourced: Commonwealth Quality Program
 Incl. provisions for downed wood and soil condition
 - Import from outside MA: Sustainable Forestry Initiative,
 Forest Stewardship Council, ENPlus, Programme for the
 Endorsement of Forest Certification...
 - > Option to use DOER qualified list of suppliers



Biomass Sustainability

- Verification
 - Qualified biomass system owners required to keep record of invoices to demonstrate eligible fuel is used
 - Spot audits by DOER or Agent
 - ➤ DOER tracks and reports average aggregate share of residues/thinnings from large wood chip users and pellet producers



Biomass GHG Balance

- Need to demonstrate 50% lifecycle GHG savings compared to default traditional heating source
 - > DOER calculation, no individual reporting
 - Based on representative reported mix of residues and thinnings
 - Include in sustainability criteria
 - ➤ Residue versus thinnings share in pellet feedstock should be about 50/50

(Indicative results based on the MA RPS Class I GHG Calculation Guideline)



Biomass System Performance

DOER to establish with MassDEP: best in class commercially feasible technologies

- > Air emission performance standards
 - Small systems

PM: max. 0.1 lb/MMBtu heat output

CO: tbd

- Large systems: MassDEP air permit
- Requirements for thermal storage or other means to minimize deterioration of efficiency or emissions due to boiler cycling, if feasible
 - No storage needed if boiler can operate with minimum emissions / efficiency loss at 20% of capacity
 - Review based on results of MassCEC metering
- > Fuel conversion efficiency performance standards
 - Min. 80% efficiency



Biomass Fuel Quality

- Combine sustainability with fuel quality
 - > Dimension (length, diameter)
 - > Heating value
 - Moisture content
 - > Ash content
 - > Contaminants
- Available standards
 - > ENplus (EN 14961-2, ISO 17225-2) > PFI

