

MASSACHUSETTS FOREST ALLIANCE

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To: Samantha Meserve, MA Dept. of Energy Resources
From: Massachusetts Forest Alliance
Date: August 7th, 2017
Subject: 225 CMR 16.00 Alternative Energy Portfolio Standard and “Guideline on Biomass, Biogas, and Biofuels for APS Renewable Thermal Generation Units”

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We appreciate the opportunity to comment on the revised “225 CMR 16.00: Alternative Energy Portfolio Standard (APS)” and “Guideline on Biomass, Biogas, and Biofuels for APS Renewable Thermal Generation Units”. There have been some major improvements in the most recent changes proposed to the APS, most notably the attempts to focus more on the stack emissions and the efficiency of qualifying woody biomass systems, and less on things like fuel moisture level. There remain areas of concern that have gone unaddressed, as well as some new concerns with the most recent changes.

While we know that DOER’s primary focus is on producing clean energy, MFA is excited about the opportunity provided by the APS to assist with improving air quality in Massachusetts. While it is likely that eligible woody biomass systems incentivized by this system will replace heating systems that run on fossil fuels such as oil and propane, it is even more likely that they will replace existing, older, less efficient wood heating systems. The leaps in wood heating system technology that have been made in the last decade, and those that we can anticipate in the near future, are impressive. As the prices of these systems fall, and ease of operation and efficiency increase, the prevalence of older wood systems will diminish, and the stigma of wood burning will fade. While there is much debate about the accuracy of the air quality data that is used to compare Massachusetts to many of its neighboring states, there is no doubt that woody biomass heating systems that meet the requirements proposed in these regulations will not only displace dirty fossil fuels, but will also replace much of the existing infrastructure of older wood burning systems.

MFA, its predecessor organizations, and many of our members individually have long been involved in discussions of renewable energy policy in the Commonwealth. While we are as eager as anyone to see the regulations and guidelines finalized, we also urge DOER to take the necessary care to “get it right” and maximize the potential for a thermal energy incentive to advance energy diversification, address the challenges posed by greenhouse

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gas levels, and sustain forests, which provide much to the residents of our state. We are happy to participate in further discussions among stakeholders and clarify our perspective on any issues we or other commenters have raised. If you wish to follow up with us, please get in touch with executive director Nathan L'Etoile at nletoile@massforestalliance.org, telephone (413) 896-8786, or board president Charles Thompson at cthompson@massforestalliance.org, telephone (617) 894-5800. We have organized our comments into two categories – major concerns with policy, and more specific technical questions.

Policy Issues

1. Woody biomass combined heat and power systems should be treated at least as favorably as natural gas. Natural gas combined heat and power facilities begin to receive financial incentives based on a tiered structure in combination with their Annual Efficiency Levels at 60% efficiency. Woody Biomass CHP systems will require a minimum efficiency of 75%. While natural gas may be a “cleaner” fossil fuel, it is still a fossil fuel imported into the state through leaking pipelines and is distributed through a network susceptible to seasonal shortages. Woody Biomass is a carbon-neutral, locally produced, sustainable, renewable, reliable fuel. It should not be treated less favorably.
2. In the proposed revised regulation, small woody biomass systems would be ineligible for pre-minting. We are strongly opposed to this change. DOER’s apparent concern is that pre-minting will remove the incentive for consumers to actually purchase the high quality fuels that DOER is insisting on, and the consumer would instead choose to defraud the state and switch to a cheaper, ineligible fuel. There is little basis for this concern: virtually all pellets, the fuel most likely to be used in systems potentially eligible for pre-minting, meet the standards required to assure efficiency and sustainability levels sought by DOER. Almost all pellets available in Massachusetts are produced with mill residues, and have appropriate moisture and ash content.

This concern could also be addressed by auditing compliance with the existing requirement that operators of eligible systems buy fuels only from approved suppliers, and that they purchase only approved fuels from those vendors. Pre-minting for smaller woody biomass systems (under 1 MMBTU) is crucial to having these systems installed, to holding down the costs of producing the credits, and for the state to track them.

Ultimately it is the ratepayers who will pay for the inefficiencies that are introduced by removing the option for pre-minting smaller systems. In DOER’s own report to the legislature titled “Heating and

Cooling in the Massachusetts Alternative Portfolio Standard” the department concluded (pages 34-36) that pre-minting was the most cost effective way to implement these types of credits for small systems.

3. A Forest-Derived Woody Biomass Set-Aside is justified – and needed - to assure that the diversity of technologies sought has the opportunity to succeed. The Commonwealth cannot drive industry to change, if adequate time is not given. . Currently, most of the technologies favored in the APS already have approved systems in the market, and fuel supplies that are readily available. DOER's continued preference for dry chips and aggressive efficiency levels mean that it will take time for the thermal biomass industry to establish adequate capacity to dry and distribute fuel, as well as obtain the certifications necessary for the eligible systems. With so many other technologies ready to compete for APS credits, there is a realistic fear on the part of those seeking to use woody biomass for heat that, by the time systems are put in place, other technologies will already have "used up" the demand for credits. If DOER insists on driving woody biomass users to transition from a green chip to a drier chip, yet allows other technologies (air source heat pumps, natural gas CHP, etc. . . .) to merely operate at “business as usual” standards, a portion of the credits should be set aside for forest derived woody biomass to utilize when DOER’s “goal line” is reached. MFA suggests and respectfully requests that between 10% and 20% of the credits be set aside for forest derived woody biomass systems. More technologies and a more diverse pool of fuel sources producing heat and power will ultimately lower the cost of these credits to the ratepayers. While we understand that, from a legislative authorization standpoint, a set-aside or floor may present challenges, the logic is sound. If a set-aside is deemed to be unworkable due to the lack of a specific authorization, the legislative intent expressed within MGL c. 25A s. 11F1/2 (a) (iv) requiring that all of the listing technologies be included in the program provides ample support to cap the total number of credits that can go to each technology to assure that there are credits available for all technologies.
4. Cordwood systems remain unattainable within the proposed regulations, despite the appearance that cordwood is eligible. The continued tortured distinction between “residues” and “thinnings”, combined with the need to use some portion of “residues” in every qualifying system and the prohibition against cordwood being called a “residue”, mean that no cordwood burning system, automatically fed or not, and regardless of efficiency or stack purity, will ever be able to qualify.
5. The current distinction between “thinnings” and “residues” contravenes the intent of the regulations, and does not match up with “on the ground” forestry. It appears that the attempt to divide these two categories is motivated by a desire to distinguish between: a) wood that would be cut anyway, and; b)

the wood that is being incentivized to be cut. Much of the material being described as a “thinning”, however, is the byproduct of other management activities, and is therefore actually a “residue” within the intent of the regulations. If the intent is to differentiate between wood that slows carbon sequestration and wood that does not, then we recommend that: a) all material currently described as a “residue” remains so, and; b) all material that does not serve the primary purpose of the management activity also be classified as a “residue”, as long as it does not reduce crown cover percent below a designated threshold.

How could this be achieved? One approach would be to revisit in its entirety the rationale and definitions of “residue” and “thinning”. A second approach would revise 16.02: Eligible Biomass Woody Fuel (a) 1. as follows: “Tops, crooks, ~~and~~ other portions of trees, or trees produced . . .” The effect would be to allow small and non-merchantable trees that are harvested incidentally along with other trees harvested for sale as other products to qualify. Examples would include: a) trees that must be removed to safely fell a tree harvested for sawlogs; b) trees that are simply in the way of accessing another tree designated for harvest. This minor revision would effectively recognize very real operational realities in stands where partial harvests are taking place. This type of material is routinely generated during a harvest of other primary materials such as logs and cordwood, and provided the appropriate amounts of residues are left behind, this material is best utilized at the time of harvest.

6. The requirement for ash content of chips is unnecessary. With requirements for efficiency and emissions already strict, the only effect of the ash content limitation is to prohibit any bark in chips, an unnecessary restriction on fuel sourcing that will only result in a higher cost of chips (dry, semi-dry, or green) or the burning of more fossil fuels at harvest to debark the trees.
7. MFA continues to doubt that the regulations are consistent with the statutory language that states: “. . . *facilities using biomass fuel shall be low emission, use efficient energy conversion technologies **and** fuel that is produced by means of sustainable forestry practices* [emphasis added] . . . (MGL c. 25A, s. 11F1/2 (a)(iv)).” The regulations go through great pains to: a) identify what sustainable forestry practices are; b) assure that material coming from the forest is “sustainable”, and; c) assure that non-forest woody fuels contribute to climate goals. Ironically, the regulations do not, in any way, assure that any of the fuel in biomass systems is produced using any type of forestry practice at all, never mind sustainable ones. In other words, it is possible that all of the woody biomass accessing the APS credits could come from non-forestry sources! Certainly, this was not the statutory intent.

One way to address this problem would be to revise the *Guidelines on Biomass, Biogas, and Biofuels for eligible Renewable Thermal Generation Units [3. Biomass Sustainability]* as follows: “Per 225 CMR 16.05(4)(g)(2), facilities using woody biomass in the form of pellets, chips, cord wood, or biogas (through biomass gasification) will need to demonstrate that any Forest Derived Residues or Thinning’s they use to generate Useful Thermal Energy is sourced from forests managed according to Sustainable Forestry Management practices and that at least 30% of the useful heat produced is derived from: Forest Derived Residues; Forest Salvage; Forest-Derived Thinnings; or residues derived from wood products manufacturing consisting of Clean Wood.”

8. The procedural requirements for Forest Salvage are onerous for DOER’s sister agency and should be revised as follows: “Damaged, dying, or dead trees removed due to injurious agents, such as wind or ice storms or the spread of invasive epidemic forest pathogens, insects and diseases or other epidemic biological risks to the forest, but not removed due to competition. Such eligible trees may be removed without limitation for biomass fuel, only if they are a major threat to forest health or risk to private or public resources, and if the United States Department of Agriculture Animal and Plant Health Inspection Service, the United States Department of Agriculture Forest Service, or appropriate federal or state governmental agency has issued a declaration, rule, or order declaring a major threat to forest health or risk to private or public resources; or if the State Forester makes a determination that such threat to forest health or risk to private and public resources exists.”
9. DOER has made significant improvement in the revisions to the fuel quality standards in an effort to focus more on emissions and less on fuel characteristics not associated with sustainability. MFA suggests that the “Source Materials” row of Table 5 in the “Guideline” be removed. The language of section 3 (Biomass Sustainability) is sufficient to require all systems using woody biomass as a fuel to use only Eligible Biomass Woody Fuel. Inclusion in Table 5 only presents opportunities for confusion.

Additionally, while unnecessary fuel characteristics have been removed from the requirements for those systems that meet the efficiency standards and comply with DEP’s air quality specification, the listing of specific performance requirements for those systems is superfluous. MFA suggests exempting the same class of systems that are exempted from the fuel moisture standards from the following performance requirements of Table 3 of the Guideline: Start up; Modulation/shut off; Multi-pass heat exchanger; Pressurized portion of the system; and Thermal storage.
10. The Licensed Forester Attestation remains unreasonably non-specific in its apparent requirement that all foresters adhere to the entirety of the cited Forest Guild publication. This really needs to be

clarified, since the publication covers topics that are not directly related to biomass harvesting in any way. DOER can remedy this problem by referencing only the biomass harvesting guidelines within the document, rather than the entire document itself.

The continued use of the words “cutting plan” and “management plan” are confusing and conflict with existing regulatory provisions of DOER’s sister agencies. MFA suggests that DOER consider using the following language changes that will clarify these issues:

“The licensed forester attests that all the plots from where Eligible Biomass Woody Fuel was sourced were covered by a plan for the long-term forest management of the forest~~plan~~, and that the harvest of the material adhered to best management practices and implemented the operational guidelines for biomass retention and harvesting within the publication titled “Biomass Harvesting and Retention Guidelines for the Northeast” (Forest Guild, 2010). For forests in the Commonwealth of Massachusetts, a Forest Cutting Plan approved by the Department of Conservation and Recreation shall be sufficient to show that the land is under a plan for the long-term management of the forest if such plan is filed using the long-term management option. ~~the long-term forest management plan should be a Commonwealth of Massachusetts Department of Conservation and Recreation (DCR) cutting plan under the long term management option.~~ Suppliers utilizing forest outside of the Commonwealth of Massachusetts should have a cutting plan, or its equivalent, authorized under the host state forest agency or signature of a professional forester.”

Technical Issues

1. Trees cut or otherwise removed in the process of maintaining existing agricultural lands (pruning, field edge cleaning, etc. . . .) should be added to the category of “Non-Forest-Derived Residues”.
2. MFA strongly supports the inclusion of the PEFC North American certification schemes (SFI and Tree Farm). We are concerned, however, with the sentence: “A supplier cannot supply raw material or fuel as certified by one of the approved schemes if it is not itself certified to that scheme.” Does the “it” and the “itself” refer to the raw material/fuel or to the supplier? It is reasonable if this applies to the fuel itself; but if it is meant to apply to the supplier, the requirement is unreasonable and will effectively eliminate use of the scheme. Such certification should apply only to the land the fuel is produced from and the material coming off the land.
3. In the “Guideline”, Section 3 (Sustainability), there are several issues. First is the continued requirement for SAF certification and membership. Second, there is a wording problem in the definition of “licensed forester”. The words “certified by the Society of American Foresters” (SAF)

are confusing: a) not all foresters are members of SAF; b) many foresters who are members of SAF are not “certified foresters” under the SAF designation; c) the word “and” creates additional difficulties, requiring both SAF and state credentials; d) what is a “comparable” state? As currently worded, this provision excludes many professional foresters, either because they are not SAF members, or they reside in a state that does not license or certify foresters.

4. The chain of custody language and procedures are both unnecessarily complex and unclear. We have consulted with foresters, chip dealers, pellet manufacturing facilities and others. All expressed confusion and a basic lack of understanding of the meaning of the consignment basis reporting requirements. We urge DOER to both simplify and clarify what is proposed. Chain of custody requirements should not and need not place an unnecessary burden on small businesses, some of which operate without the staff or systems to provide extensive documentation of wood flow, supply and sales.
5. MFA remains confused as to why DOER has included a definition of “Dedicated Energy Crops” and then restricted such crops in a manner that entirely prohibits their inclusion. We recognize the conflict presented by growing fuel on land that could grow food, but as written, there is no land in the commonwealth that does not have the economic potential to grow a crop for human consumption. The inclusion in this manner is misleading and disingenuous and the ability to grow such crops should either be stricken, or expanded. Once wetlands (for regulatory reasons), forestlands (based on the definition’s other provision), and other developed land have been set aside, greenhouses and other input-intensive forms of agriculture can produce crops on any reasonably sloped land remaining. Of the unreasonably sloped land remaining, animals such as goats and sheep can be grazed on those lands. All land within the commonwealth therefore has the economic potential to grow crops for food, especially with the scarcity of land and the high value paid for many of the crops we grow. Additionally, who is to make the determination that such land does or does not have the economic potential to meet the regulations – the licensed forester who likely knows little about food crops? DOER?
6. Requirements for thermal storage should be revised to be based on the lowest output achievable from a cascading system. Additionally, the requirement that an exemption can only be granted if it can be shown that the thermal storage hurts performance is onerous and increases costs unnecessarily. This language should be modified to state that a waiver will be granted if it can be shown that having a thermal storage system will not improve system performance.

7. It is confusing why carbon monoxide is being regulated as an emission when other greenhouse gasses such as NOx are not. MFA suggests striking this portion.