Gregory Cox
13 Pond Road
Hawley, MA 01339
413 339-5526
gcox@crocker.com

Samantha Meserve
Massachusetts Department of Energy Resources
100 Cambridge Street
Boston, MA 02114

RE: Comments re Alternative Portfolio Standards (225 CMR 16.00) & Guidelines Submitted June 30, 2016

Good Morning:

I have read over the draft *Alternative Energy Portfolio Standards* as well as the *Guideline on Biomass, Biogas & Biofuels for APS Renewable Thermal Generation Units* and am submitting the following comments.

I have operated a forced air wood/oil furnace to heat my residence that we have fueled using wood derived from managing our woodlands and doing routine maintenance of lands in agriculture since 1987. Burning wood in the furnace has saved us more than 1,000 gallons of heating oil per winter, and thousands of dollars that aren't exported to pay for fossil fuels. In a normal winter we burn between 6 and 8 cords of wood, all of which is derived from thinnings, salvage, or cleanup of storm damage on our lands. In the process, we have created more space for better trees to grow in our woods, and increased the growth rate and hence the amount of carbon which is sequestered in the wood.

I applaud the efforts of DOER to develop guidelines for AECs for renewable thermal energy. I would emphasize the importance of making sure such credits are available for landowners who utilize their own wood derived from managing their woodlands in a sustainable manner. The state estimates that 30,000 individual landowners own 10 or more acres of woodlands here, which would provide a wide base of potential users of renewable thermal heat under the guidelines. I am sure that many of those landowners, like myself, have older heating units that don't meet current EPA or state standards for emissions. Providing incentives to replace those older, less compliant units with newer, more efficient and cleaner burning heaters through the AEP regulations would help both the homeowners and the state's environment.

<u>Add a Definition of a Long Term Management Plan</u>

The regulations as written require in 16:05(4)(d)(ii) that forest derived residues and thinnings be sourced from forests meeting sustainable forestry practices as

independently verified under the Guidelines. Under the guidelines, suppliers can either have a licensed forester verify that the fuel was derived from woods managed under a long term forest management plan or third party certifiers such as FSC or Tree Farm may do so.

The proposed guidelines confuse matters by stating that a long term forest management plan would be an approved Forest Cutting plan under the long term option.

It seems to me that this is unreasonably confusing. I think a definition of a Long Term Forest Management Plan should be added in the definition section and it should not be equated with a Chapter 132 Forest Cutting Plan which is simply a permit to carry out a harvest. A simple definition of a long term forest management plan could be a long term management plan for a period of 10 years such as a MGL Chapter 61 or Forest Stewardship Plan that is approved by the State Forester.

Simplify Qualification of Eligible Woody Fuels

16:05(4)(d)(iii) requires that no more than 50 percent of the biomass woody fuel be from thinnings and at least 50 percent by from residues or salvage. When you thin trees in a woodlot, the trees cut fall into two categories: the bole which counts as a thinning, and the tops and limbs, which count as residues. Damaged, diseased or dying trees which are cut are considered salvage.

To meet the requirements of the above section, the Guidelines would require that someone certify that wood derived from salvage or residues at least equal that derived from bolewood. On a practical basis, who is really going to do this?

On our properties, since the 2008 ice storm, virtually all the wood we've cut has been generated from either ice storm salvage and from cleanup of residues from a harvest done to regenerate a stand badly damaged by the ice. In normal forestry, however, giving high value well formed trees room to grow by thinning out poorly formed low value trees is a better long term practice that just cutting dead trees killed by ice or insect damage.

I think that it is important to make this a simple process that recognizes the variability of individual woodlots.

For individual landowners who are using their own wood to fuel a boiler or furnace, a practical questionnaire would be: What percentage of the fuel is derived from thinnings, what percentage from tops, and what percentage from general salvage.

Air Emissions Limits

This part of the guidelines (Table 1 on Page 6) doesn't establish any limits for boilers, furnaces or other appliances fueled by cordwood. The U.S. EPA in 2015 set limits for

particulates for pellet fueled, solid fueled and chip fueled wood burning stoves, furnaces and boilers in its *New Source Performance Standards*. I think the new 2016 EPA standards for PM and CO emissions for cordwood fueled appliances should be included here.

Performance Requirements (Table 2, page 6)

1. In a similar vein, the new EPA standards set minimum thermal efficiency requirements for cordwood fueled boilers, furnaces and stoves – why wouldn't those standards be applied here.

2. The other parts of the performance standards don't set reasonable requirements for cordwood fueled systems – many cordwood fueled systems don't have automatic ignition.

3. The Thermal Storage requirement only is effective with hydronic systems – how do you have thermal storage for a hot air furnace, whether fueled by pellets, chips or cordwood?

Qualifying a Central Wood Heating System (page 7)

The use of the NYSERDA standards is fine for small pellet boilers but it fails to adequately address how chip or cordwood fueled systems will be tested. The new EPA *New Source Performance Standards* provides methodology for testing all units and I think that in the absence of NYSERDA standards, that methodology should be used.

This section also fails to address non-hydronic systems as noted previously

Thermal Storage (Page 7)

As noted previously, this section fails to address non-hydronic systems for which thermal storage is not practical.

Biomass Fuel Quality

This section also fails to address cordwood fueled systems.

This section would seem to require that wood chips be pre-dried before use as most chips have higher than 30 percent moisture content. I think it would be better to allow flexibility in moisture content of the chips as long as the efficiency and emissions requirements are met.

Thank you for the opportunity to comment.

Gregory Cox