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Attachments: Status of Furnace Standards.docx

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Status of Furnace Standards
September 16, 2015
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1. Congress forced DOE to consider the AGA/NRDC,ACEEE capacity based 2 Tier Standard
2. It could have been worse since AGA started with wanting noncondensing and condensing furnaces as two different classes.
3. The negotiations between AGA and NRDC were not completed in time for the comment letters in June.

Table II.2. Share of Sample Households by Furnace Size (percent)

Furnace Size	Small Furnace Definition				
	≤ 45 kBtu/hour	≤ 50 kBtu/hour	≤ 55 kBtu/hour	≤ 60 kBtu/hour	≤ 65 kBtu/hour
Large	92	86	85	68	62
Small	8	14	15	32	38
Total	100	100	100	100	100

4.

This table is from the most recent DOE document and is for the nation. It drives the conclusion/position that a 55kBTUh is a good level to use.

Table III.11. Comparison of National Impacts of Single Standard vs. Separate Standard for Large and Small Furnaces*

Single Standard for All Furnaces			Separate Standard for Large and Small Furnaces		
AFUE (%)	National Energy Savings (quads)	National Net Present Value, 7% (billion 2014$)	AFUE (%) Large/Small	National Energy Savings (quads)	National Net Present Value, 7% (billion 2014$)
92	2.6	2.2	92/80	2.9	3.5
95	3.9	3.3	95/80	4.1	4.6
98	5.4	2.6	98/80	5.7	4.4

* Using small furnace definition of ≤ 55 kBtu/hour.

5. The surprising number in this table is the 92 AFUE Quads is 2.6 and with the capacity standard goes the Quads go up to 2.9. This is because there is projected to be less fuel switching. California does not have fuel switching problems compared to other utilities, especially in the SE.
6. In the call with EE advocates, and in the meeting next Wednesday, we can state our position in support of a single standard level but it will go nowhere. Then we can note California's unique position to lay the foundation for having 45kBTh as the level and then back off to 55 if needed.
7. We can also push to go up to 95 since it has the best PV and Quads combination while leaving the OEMs the option of 95+ units.
8. But I want to avoid committing to signing on to the capacity based approach since it does not work for us.
9. We need to push NRDC to get from AGA and AHRI (and others who endorse the compromise) a commitment to not sue DOE if they adopt a two tier standard. The main reason to work on the capacity based standard is to avoid legal action which has already delayed furnace standards wasting money and energy.

10. Lemonade from lemons
    a. Replacement Furnaces are most often the same capacity as the unit being replaced. Not until recently have furnaces been <60k. Contractors do not want comfort complaints.
    b. Furnace capacity in CZs with cooling is driven by the airflow needed for AC. Furnaces with 45k BTUh can only handle up to 3 tons.
    c. For new construction (T24 2019) TDV Zero will mean that if a noncondensing furnace is chosen other efficiency measures and/or more PV will need to be installed. These will cost more than the furnace upgrade.
11. With 45kBTUh cutoff, 95 AFUE, and the guarantee of no legal action this compromise might turn to be acceptable.

Please treat this as a working draft.