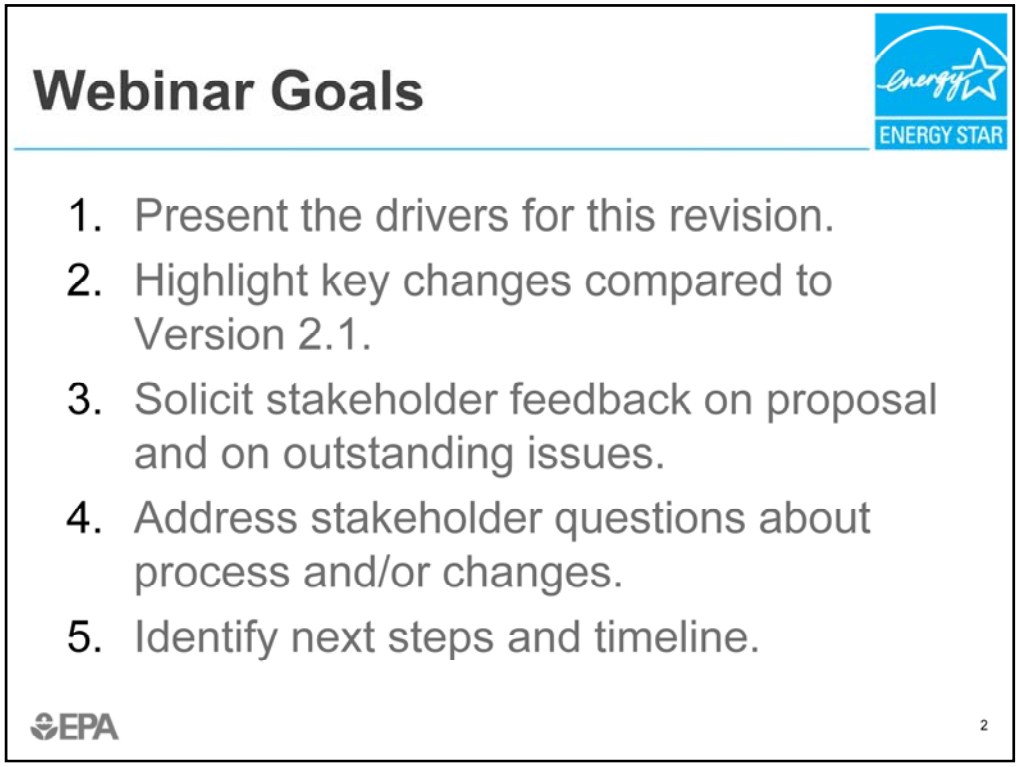
Welcome

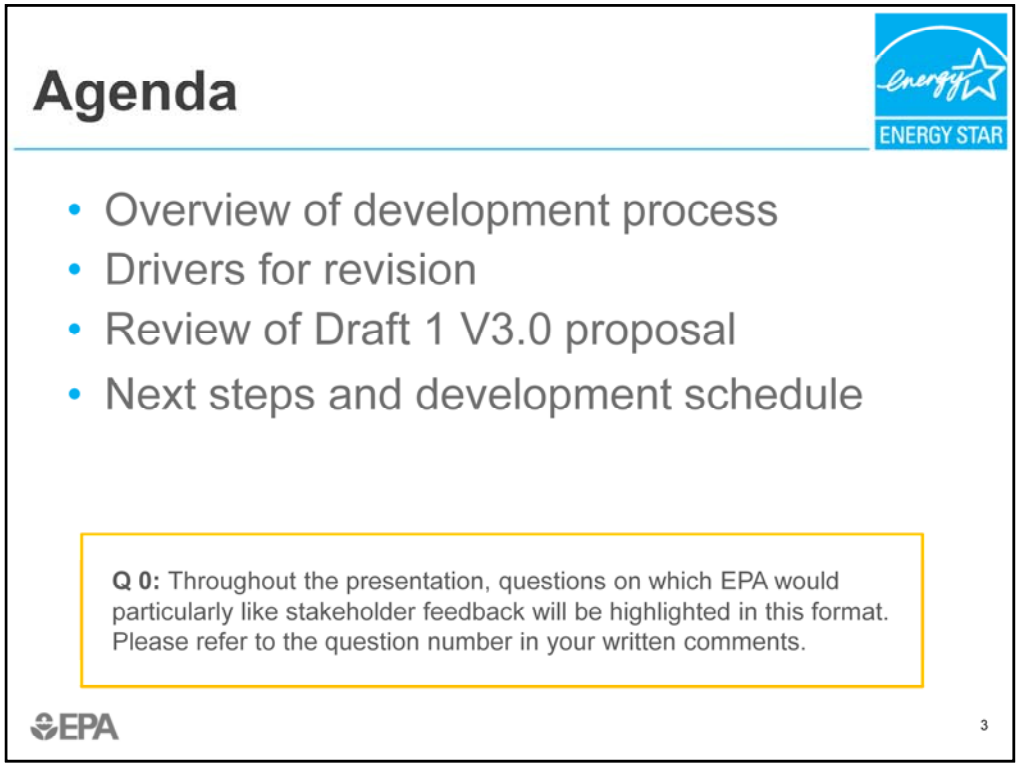
Introductions

Muting – small group, but still please mute yourself when you are not talking. *6 to mute, #6 to unmute.

Explain the role of the Navigant person.



We have a few things we want to accomplish here today. We hope to connect with you about why we are doing this revision, how we do them, and the proposal itself. We will highlight a number of issues on which we particularly want stakeholder feedback. Most importantly, we want to answer any questions you have about our proposal as you prepare to respond formally with comments.



We'll start with a quick overview of the specification life cycle – many of you will be familiar with this, so I will go through it fairly quickly. After a quick review of why we are revising the specification at this time, we'll dive into the proposal itself. That will be the majority of my presentation today.

I'll pause at various points for questions and comments, but feel free to speak up before I get to a pause.

ENERGY STAR Specification Development

- Guiding Principles:
  - Cost-effective efficiency
  - Performance maintained or enhanced
  - Significant energy savings potential
  - Efficiency improvements are achievable with non-proprietary technology
  - Product differentiation and testing are feasible
  - Labeling can be effective in the market

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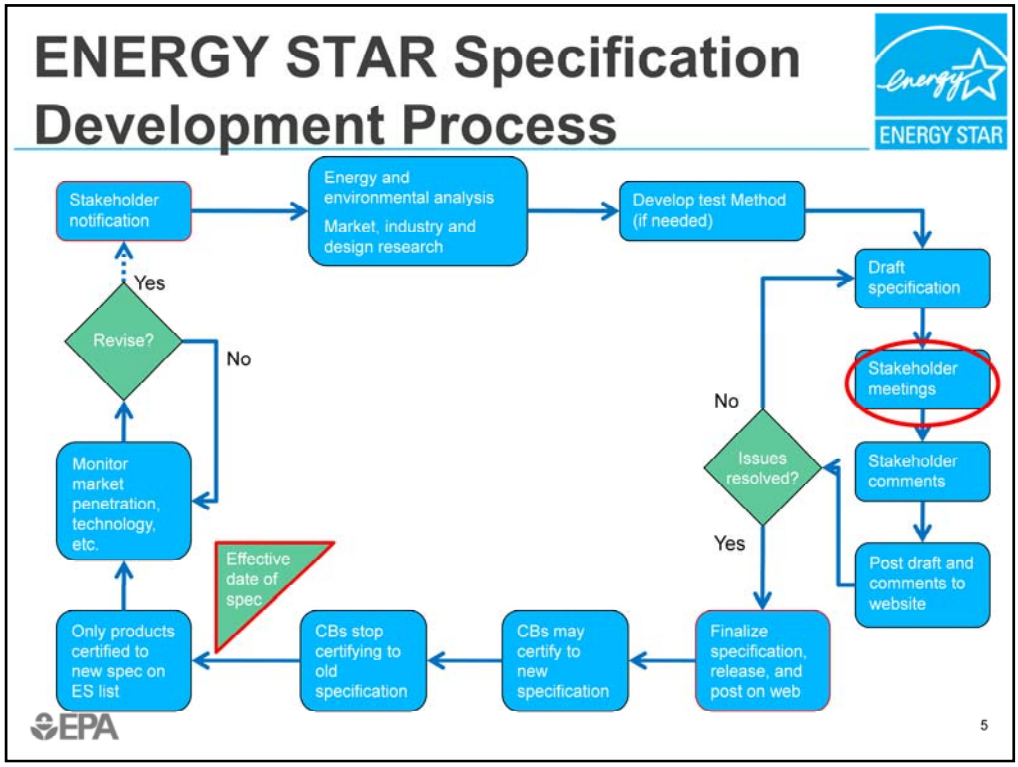
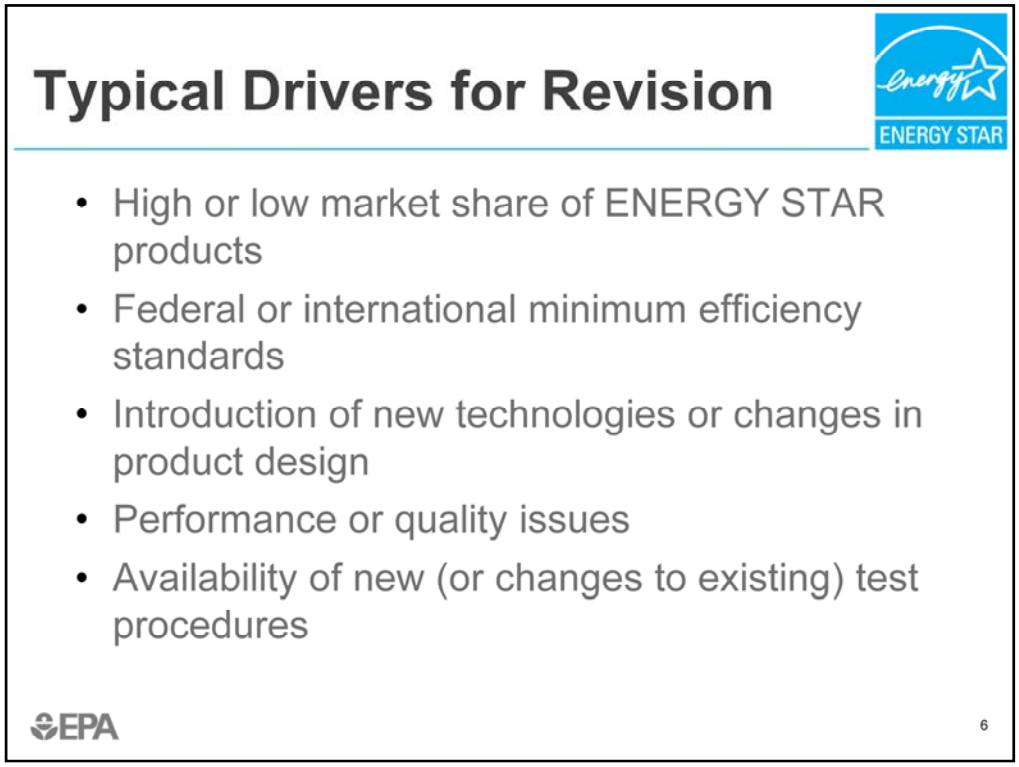


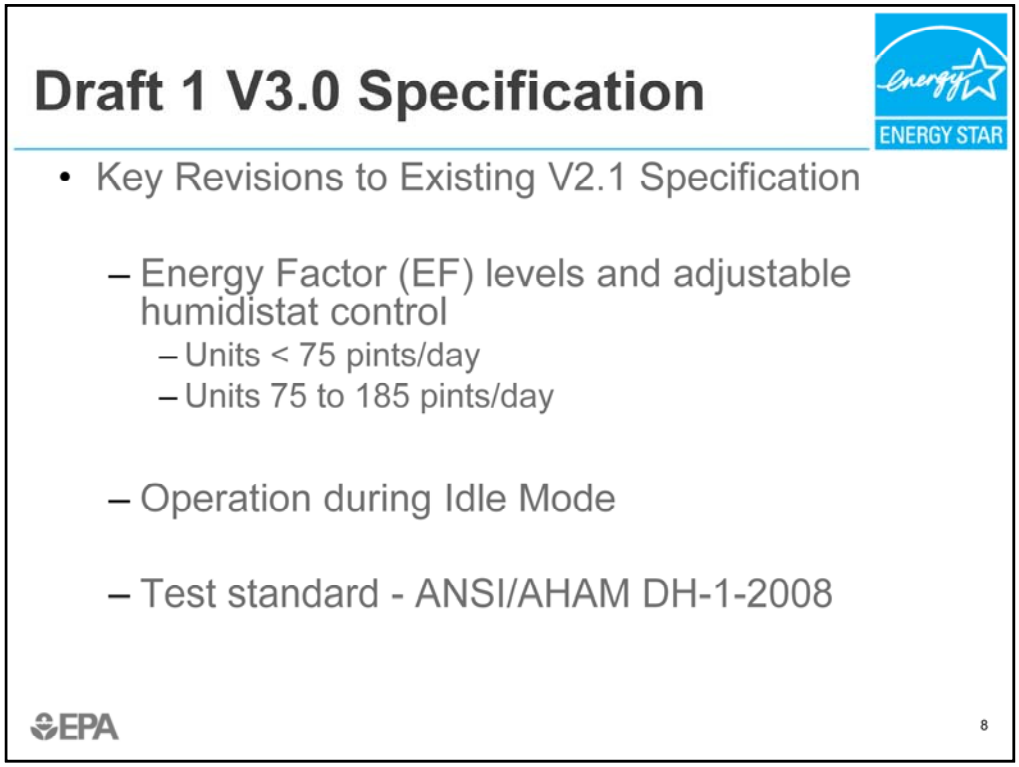
This is a quick visual of the spec life cycle, indicating where we are. This reflects a bit of a change in the transition process from one revision to another, so you might want to take a more in-depth look at it later.

For dehumidifiers as for other products addressed by DOE's minimum efficiency standards, we use the DOE test. We are open to additional testing to address requirements that DOE does not.



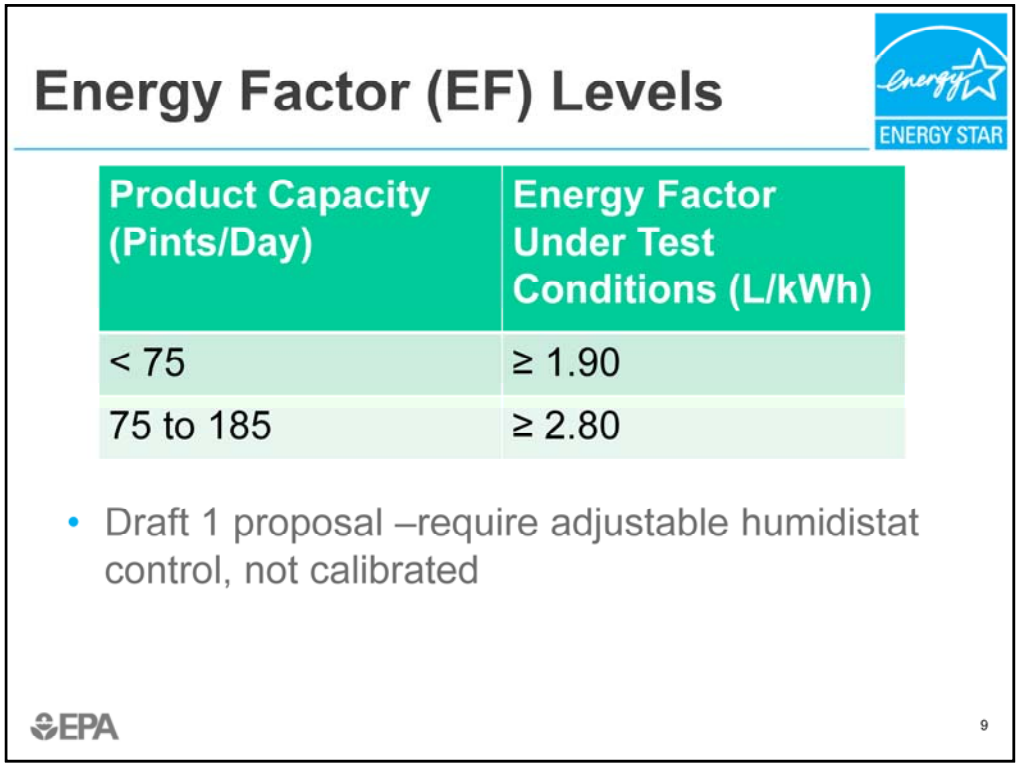
In the previous slide there was a “monitoring” step. We revisit products at least every few years and check against these issues to see if a product category is ripe for reconsideration. In reality we follow the market continuously.

For dehumidifiers, several of these factors led us to revise at this time.



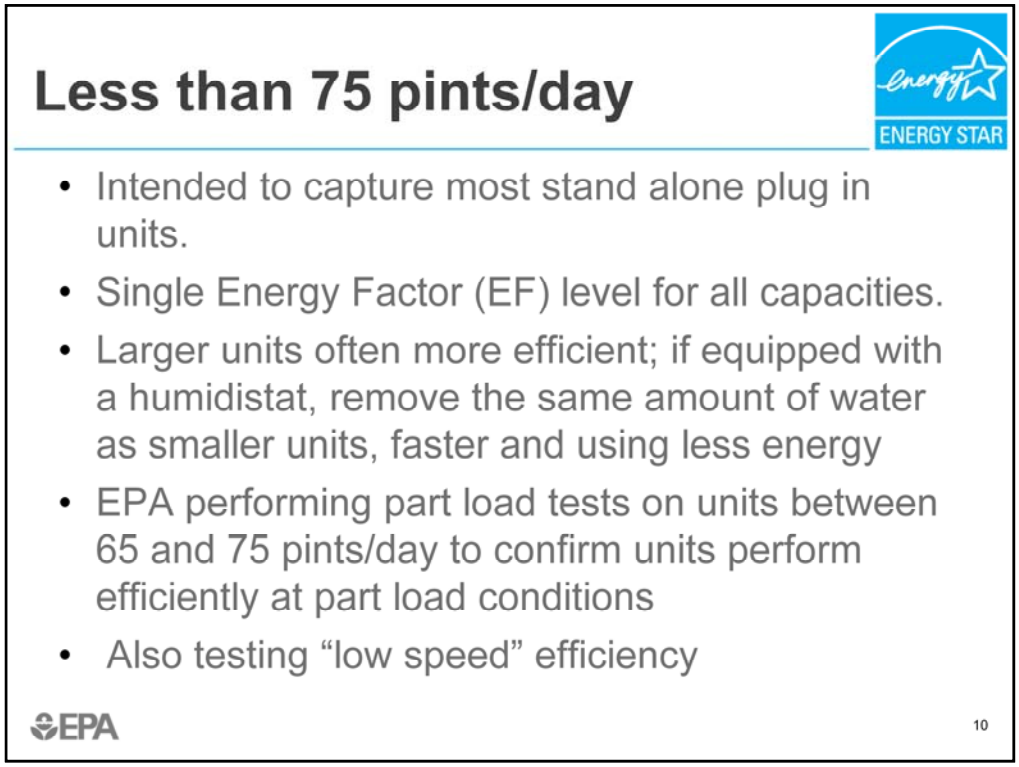
Now we will address the specification itself. We'll talk first about EF requirements in each size category, and related to that, the requirement for an control by an adjustable humidistat.

Then we'll talk about the idle mode requirements, and changes to the test procedure.



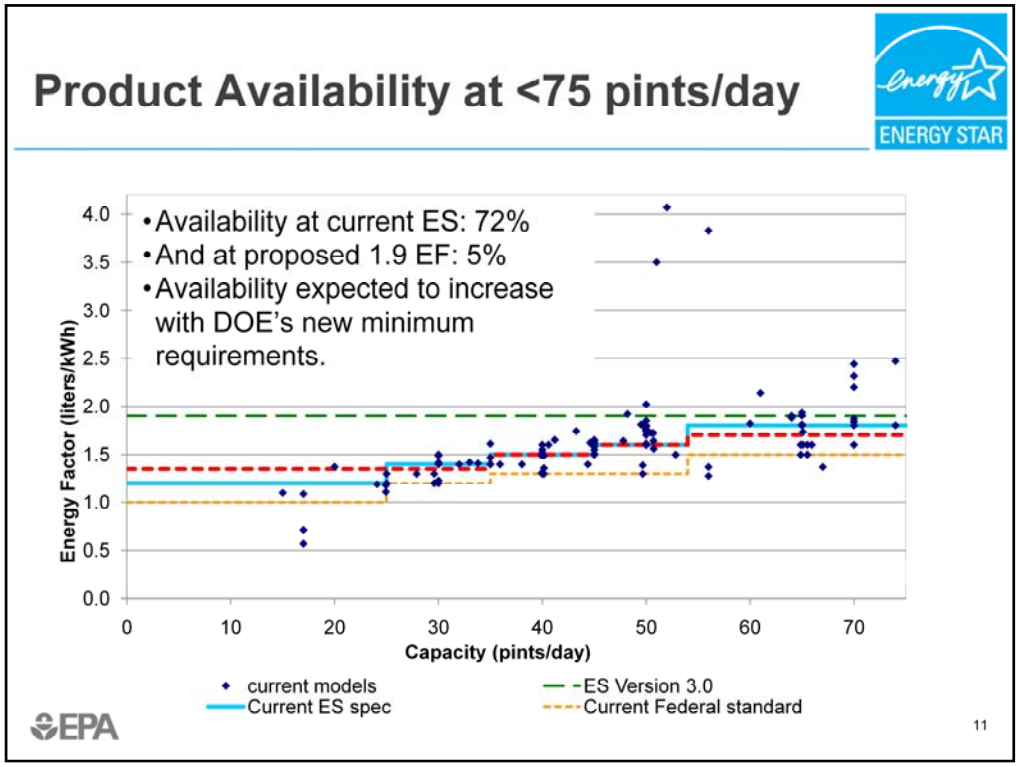
As indicated in our launch letter in December, we propose a single EF level for all units less than 75 pts/day, and a different level for units above 75 pts/day. We chose levels in each size category at levels that provide a variety of cost-effective options for consumers. This conclusion is based on data assembled from the AHAM certification directory, our ENERGY STAR qualified products list, data sent to us by manufacturers, and data from academia.

For all units, we propose requiring control by an adjustable humidistat. We got significant stakeholder feedback from our launch letter on the idea of requiring that the dial be marked or there be a digital readout, so that users could tell what humidity they were setting. The feedback we received is that calibrated humidistats such as that would require are considerably more expensive. In addition, this feature provides a customers a visible benefit, so it is less necessary for us to reward it. Thus we are not proposing a requirement for markings or a digital readout.



The smaller size category is intended to capture stand-alone plug in dehumidifiers. These units are most often used to keep a particular space such as a basement from developing mold or water damage – in other words, they are an air quality appliance. The single level of course biases qualification towards larger units. If a 50 pint unit is set with a humidistat in a smaller space, it will remove only the water that is needed to keep that space at the set level. That's likely to be less than 50 pints a day. Our assumption is that it will maintain most of its efficiency advantage and use less energy than a unit sized perfectly for the space.

We are testing this assumption with a small sample of units, as well as testing the efficiency of larger units in "low speed" (presumably lower capacity) mode.



This is the data we have for smaller units. This actually represents some 400 units, but a substantial fraction of them are relabeled so there are a smaller number of points on the chart. Also shown are current DOE and ENERGY STAR levels, the new DOE levels and the level for our proposal. 72% of the models on this list meet our current specification, and 5% meet the new specification. We expect that as the effective date of this specification approaches, a larger fraction of available units will meet it, because of the October 1st DOE requirements, which are the dotted red line.

Cost Effectiveness of <75 pints/day units

Assumptions:

1) Larger, more efficient unit operates less time to remove the same moisture as the smaller, less efficient unit.

2) Operation time varies linearly with capacity.

3) Compare full operating cost of a smaller unit to a portion of the cost of larger unit.

							Larger, more efficient units		
						model	**Model X**	**Model Y**	**Model Z**
						L/day	33.1	23.7	22.8
						EF (L/kWh)	2.2	2.022	1.92
						price	$895	$300	$278
						BASE kWh/yr	1016	791	802
						BASE cost $/yr	$114.76	$89.40	$90.58
Smaller, less efficient units	model	L/day	EF (L/kWh)	price	BASE kWh/yr	BASE cost $/yr	Payback (Years)		
	Model A	21.3	1.5	$184	959	$108.31	20.6	4.1	4.0
	Model B	23.7	1.6	$249	1000	$112.98	21.0	2.2	1.5

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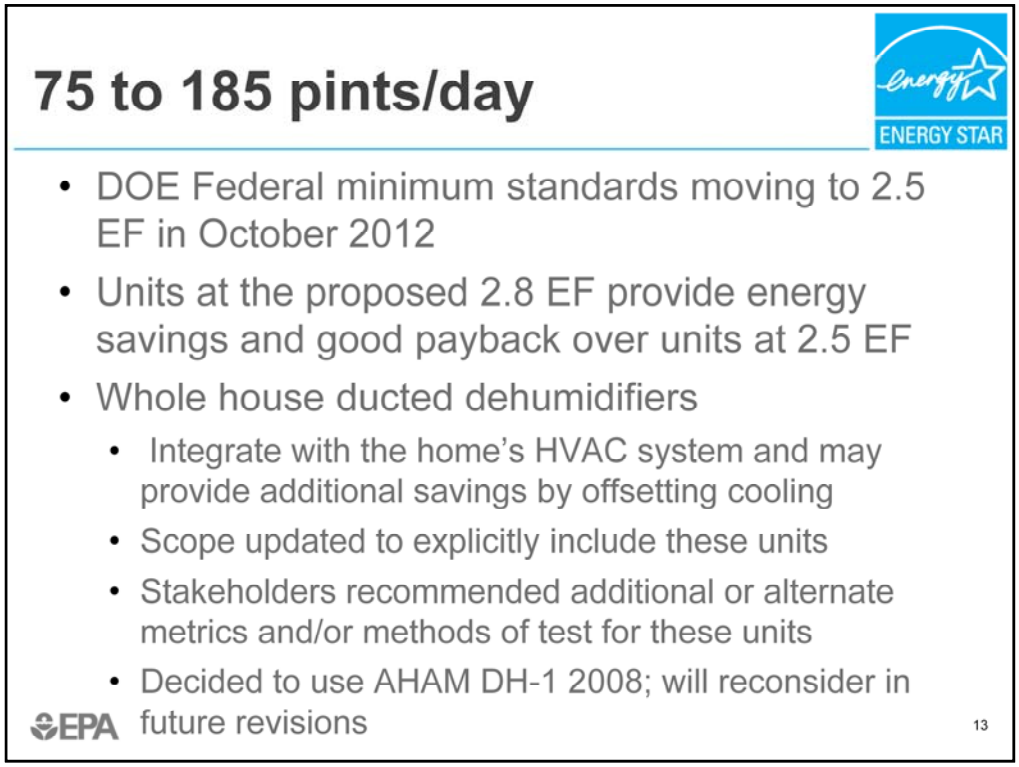
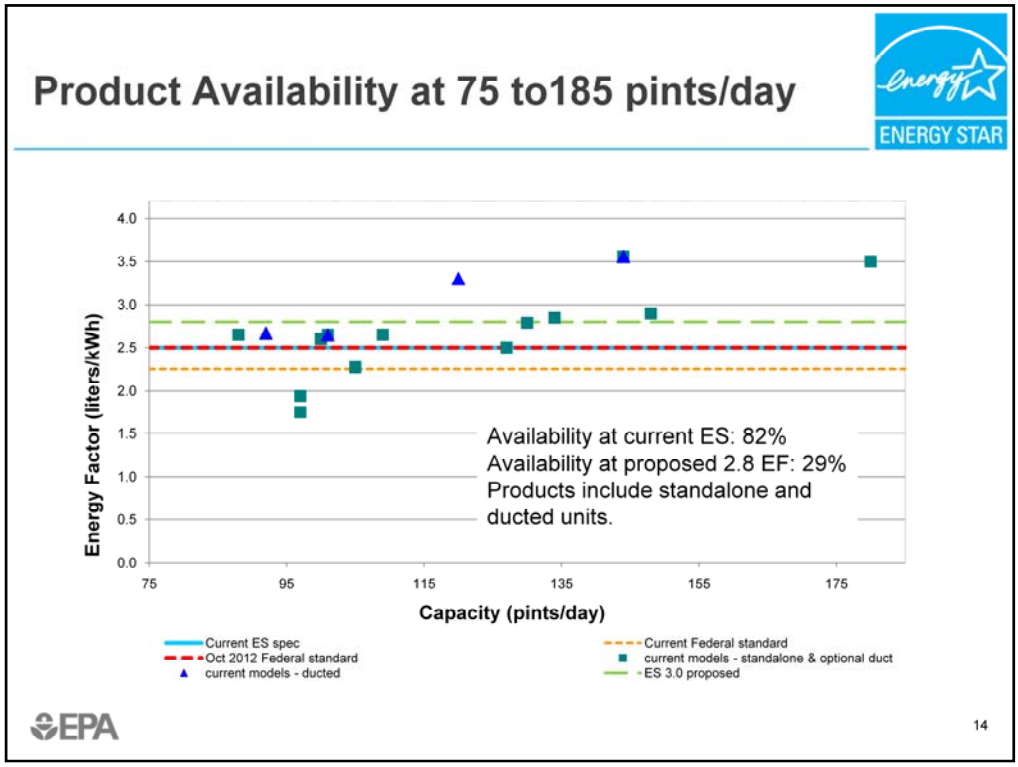
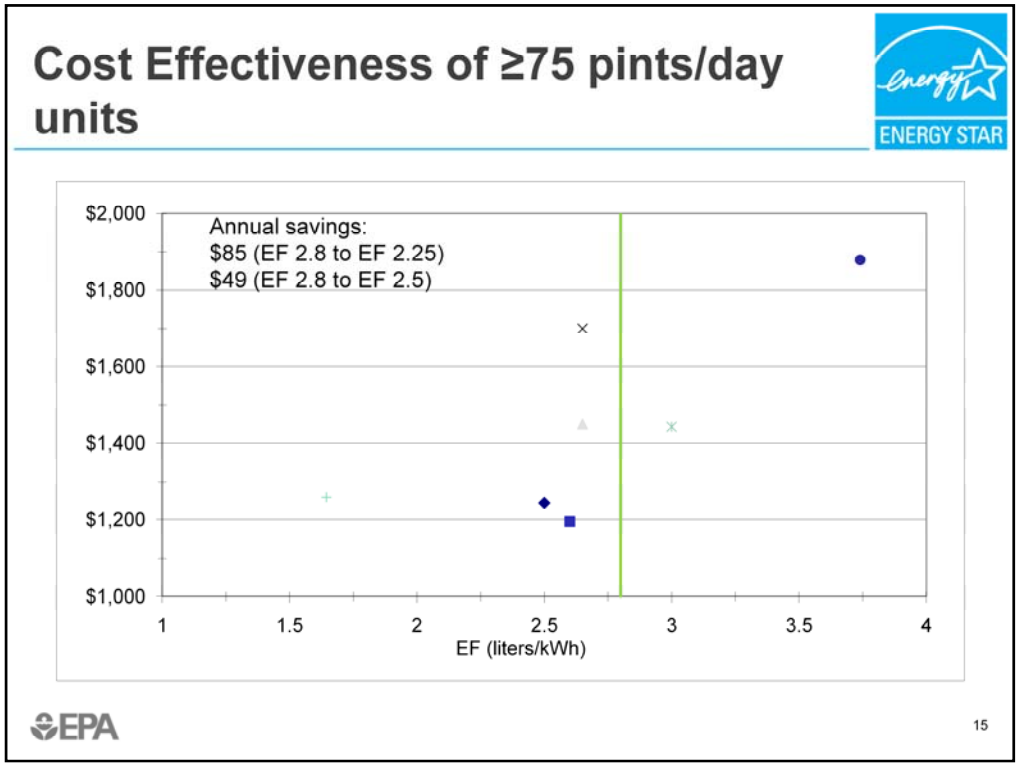
We compared the cost to use a larger unit to remove the same amount of water as a smaller unit, assuming that units are as efficient operating at part load as at full load. So for instance a 70 pts/day unit removing 35 pts/day is assumed to run half the time, with the tested and reported EF. The payback times are excellent, particularly compared to the lifetime of the unit, so it is not critical that the assumption is entirely true. Nevertheless, we are testing that assumption and would welcome any stakeholder results as to the actual part load performance of dehumidifiers.



Larger units are a small fraction of the dehumidifier market, and are more varied in their intended use. Some of these are plug-in units like the smaller ones. These may have an optional ducting arrangement such that a unit in one room can dehumidify the air in another room. This is distinct from the sub-class of units integrated into a home's HVAC system and controlled by a humidistat in the conditioned space or by an advanced thermostat. These units are not used to control air quality, but to enhance occupant comfort. Depending on how they are used, they may offset the need for cooling and therefore save users considerable money. This different use motivated EPA to consider separate requirements just for whole house ducted units, but ultimately we felt the additional effort was best left for a later specification revision. We look forward to working with stakeholders to monitor the development of the market for this type of product.



This is the data we used to set the level for 75 to 185 pints/day units.



When we looked at cost effectiveness, we saw that there is not a strong correlation between the cost of the unit and its efficiency; thus we are confident that there are higher efficiency options that will repay their purchase price.

Energy Factor (EF) cont.

Q 1: Do manufacturers test for part load conditions? If yes, how? And do units perform as efficiently at part load conditions as at full load?

Q 2: Do manufacturers test at additional environmental conditions? If yes, do units perform as efficiently at part load conditions as at full load?

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Idle Mode Requirements

- Some units run fans continuously to bring air past the humidity sensor – wasteful.
- Proposal
  - The main fan shall not operate more than every 20 seconds within a 5 minute period to check humidity levels
  - Units may use a smaller auxiliary fan to do this, but shall not consume more than 7% of the main fan power

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Idle Mode Requirements cont.

- Note that units with a remote humidistat are automatically exempt from this
- Chose a prescriptive requirement because
  - No need to burden all manufacturers for the poor choice of just a few
  - No idle mode test method (DOE evaluating test procedure for standby mode only)
- Because this choice is uncommon, assumed little impact on availability

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Idle Mode Requirements cont.

Q 3: Why are some units designed to use the main fan this way?

Q 4: What are the other methods used by the unit to monitor humidity levels? How common is the usage of small auxiliary fans to monitor humidity levels and what is the typical energy usage?

Q 5: Does a prescriptive requirement make sense? Is there a better way to do a prescriptive requirement?

Q 6: Is this indeed rare enough not to limit availability?

Test Standard Changes

- ANSI/AHAM DH-1-2008 test standard replaces ANSI/AHAM DH-1-2003 and CAN/CSA-C749-94
  - ANSI/AHAM DH-1-2008 includes Energy Factor calculation along with the test method to measure capacity.
  - No substantive changes

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Before we close, we wanted to touch on third party certification. These are program-wide changes , which no doubt you have heard about, that will affect dehumidifiers as we transition to the new specification.

Third Party Certification cont.

- List of EPA-recognized Certification bodies for Dehumidifiers:
  - Association of Home Appliance Manufacturers (AHAM)
  - CSA International
  - IAPMO R&T, Inc.
  - Intertek
  - Underwriters Laboratories, Inc.

For more information, visit ww.energystar.gov/3rdpartycert

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Dehumidifier spec revision Schedule

• 3-25-2011	Draft 1 Version 3.0 Dehumidifier specification released
• 4-7-2011	Draft 1 Stakeholder webinar
• 4-22-2011	Deadline for comments/data
• Early June 2011	Draft 2 specification released
• July 2011	Final draft specification
• Sept 2011	Final specification released; CBs may certify to new spec immediately
• June 2012	Version 3.0 takes effect

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Contact Information

Abigail Daken, US EPA
daken.abigail@epa.gov // 202-343-9375
Sarah Medepalli, ICF International
smedepalli@icfi.com // 202.862.1268

Please address questions and comments to
dehumidifers@energystar.gov
Visit the ENERGY STAR UPS Web page at
www.energystar.gov/revisedspecs

Thank you

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