

DOCKETED

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California Energy Commission

Draft Air Filter Testing, Certification, and Marking Requirements

August 3, 2017

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Presentation Agenda

- Purpose
- Background
- Proposed Changes to Existing Regulations
- Public Comments
- Next Steps



Purpose

- Review proposed modifications to the existing regulations

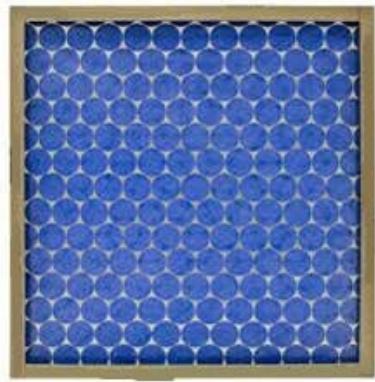


Background

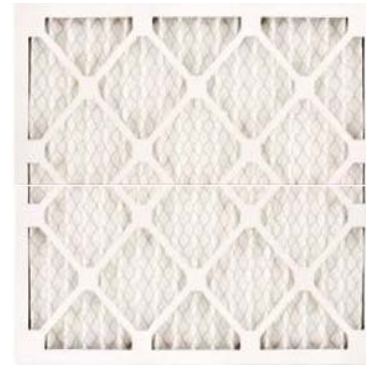
- Building Efficiency Standards required installation of air filters labeled for filter efficiency and static pressure drop beginning 7/1/2014
- Appliance Efficiency Regulations required residential air filters sold in California to be certified and marked with filter efficiency and static pressure drop beginning 7/1/2016



Background Product Examples



Fiberglass



Pleated paper



Pleated paper



Electronic



Proposed Changes Section 1601 - Scope

- Refinement of product coverage achieved with modified definitions rather than scope language
- Proposed modification to scope
 - Central air conditioners, which are electrically-powered unitary air conditioners and electrically-powered unitary heat pumps, except those designed to operate without a fan; and gas-fired air conditioners and gas-fired heat pumps, ~~air filters for residential buildings for use in forced-air heating or forced-air cooling equipment,~~ and heat pump water-chilling packages.



Proposed Changes

Section 1602 - Definitions

- Better align scope with T24 Building Efficiency Standards
 - Residential mechanical systems supplying air through ductwork exceeding 10 feet in length
- Proposed modification to air filter definition

“Air filter” means an air-cleaning device installed in forced-air heating or cooling equipment and used for removing particulate matter from the air and designed for installation in residential ducted forced-air heating or cooling systems. “Air filter” does not include models that allow the consumer to adjust the dimensions of the end-use device.



Proposed Changes

Section 1602 - Definitions

- Proposed new definition for basic model
“Basic model” of an air filter means all units of a given type of air filter with the same depth and the same construction, including type and grade of air filter media, pleat spacing, pleat height, pleat support, and filter frame pattern. The “basic model” of an air filter includes air filters with different filter face areas.



Proposed Changes

Section 1604 – Test Methods

- Proposed update of test methods to current versions
 - ASHRAE 52.2-2017
 - ANSI/AHRI Standard 680 (I-P)-2015
- Proposed modifications to reduce number of products that must be tested and increase specificity in product selection for testing

Manufacturers shall test each basic model of air filter. The tested air filter shall be the filter with dimensions closest to 24 inches wide x 24 inches long. Manufacturers may test additional air filters at other dimensions. ~~small, medium, and large size filters for each grade.~~



Proposed Changes

Section 1606 – Filing by Manufacturers

- Tested models of air filters must be certified
 - At a minimum, this is each basic model
 - Models that have not been tested **cannot** be certified
- Proposed modification to required data fields
 - Remove “air filter sizes tested”
 - Add “model number of tested air filter”
 - Modify permissible answers for MERV
 - Eliminate 17 through 20
 - Add N/A for air filters tested per ANSI/AHRI 680



Proposed Changes

Section 1607 – Marking of Appliances

- Proposed modifications split the marking requirements into three subsections
 - Filters tested per ANSI/AHRI Standard 680
 - Filters tested per ASHRAE 52.2
 - Filters that have not been tested



Proposed Changes

Section 1607 – Marking of Appliances

- Filters tested per ANSI/AHRI Standard 680
 - No substantive changes proposed
- Filters tested per ASHRAE 52.2
 - No substantive changes proposed



Proposed Changes

Section 1607 – Marking of Appliances

- Filters that have not been tested
 - Marked with information based on that from an air filter of the same basic model that has been tested.
 - Rely on relationship
$$\text{Volumetric Flow Rate} = \text{Face Velocity} * \text{Face Area}$$
 - Assume a face velocity identical to that of the tested filter



Proposed Changes

Section 1607 – Marking of Appliances

- Filters that have not been tested
 - Particle size efficiency (PSE) values for untested filter to be identical to those from the tested filter.
 - Initial resistance values for untested filter to be identical to those from the tested filter.
 - Airflow rates for untested filter to be equal to:

$$\text{Volumetric flow rate, untested} = \text{Volumetric flow rate, tested} * \frac{\text{Face area, untested}}{\text{Face area, tested}}$$

- MERV for untested filter to be identical to that from the tested filter.



Proposed Changes

Section 1607 – Marking of Appliances

- No proposed changes to the sample air filter marking
 - Previously a small omission

MERV		0.30-1.0	1.0-3.0	3.0-10	Airflow Rate (CFM)	[val 1]	[val 2]	[val 3]	[val 4]	[val 5]*	
[value]	(µm) PSE (%)	[value]	[value]	[value]	Initial Resistance (IWC)	[value]	[value]	[value]	[value]	[value]	*Max Rated Airflow





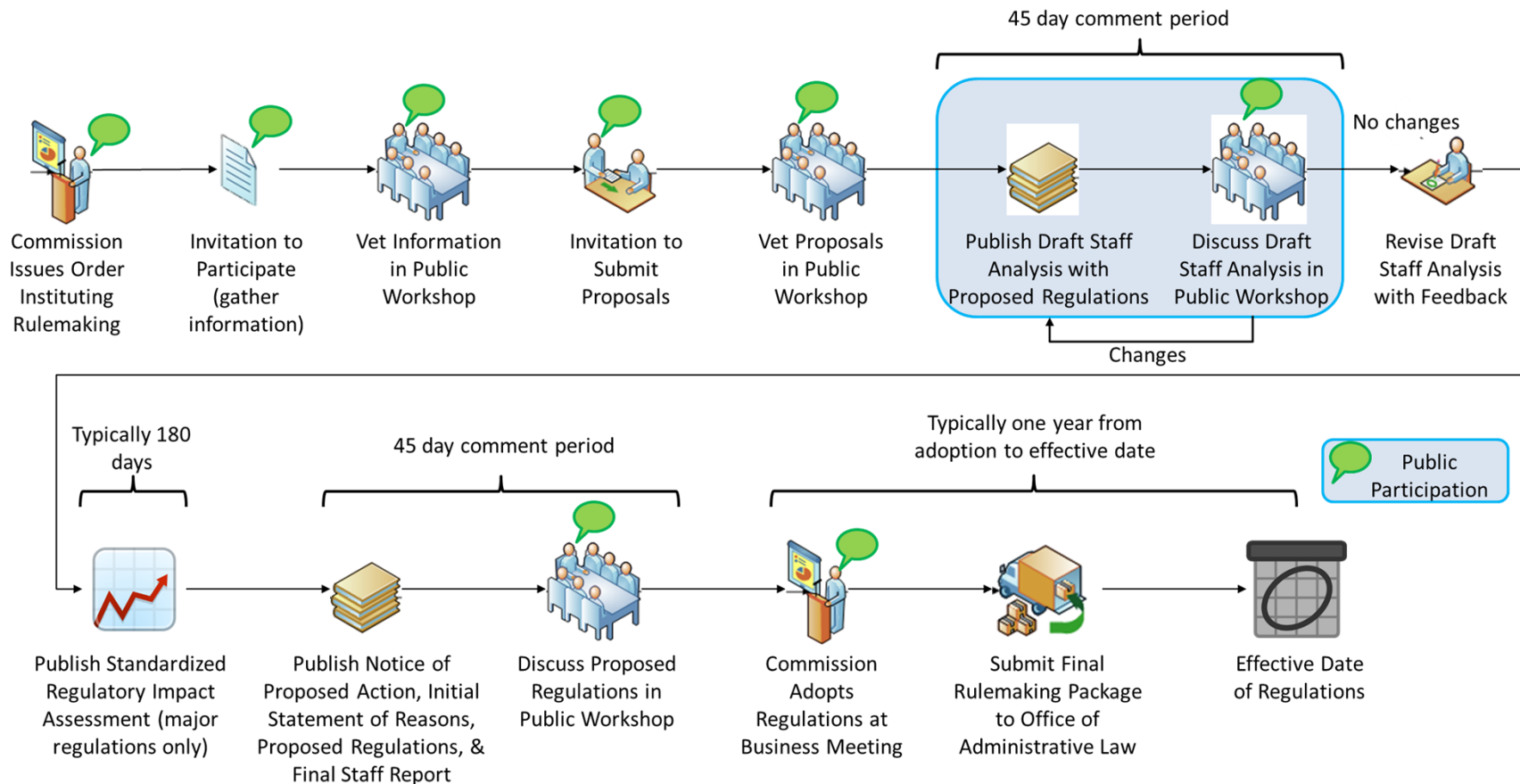
Public Comments

- Please provide comments and feedback on the presented information or other air filter topics you wish to discuss.



California Energy Commission

Next Steps





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Written Comments

Comments due by 5:00 p.m. on September 1, 2017

Docket Number 17-AAER-01

Visit the website at:

<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=17-AAER-01>.

Or emailing comments directly to:

docket@energy.ca.gov

If you prefer, you may send a paper copy of your comments to:

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 17-AAER-01
1516 Ninth Street Sacramento,
CA 95814-5512



California Energy Commission

Thank You

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