

DOCKETED

Docket Number:	15-AAER-01
Project Title:	Appliance Efficiency Rulemaking for Toilets, Urinals, Faucets, HVAC Air Filters, Fluorescent Dimming Ballasts, and Heat Pump Water Chilling Packages
TN #:	204547
Document Title:	Natural Resources Defense Council/Meg Waltner Comments: On Air Filter Labeling 15-Day Language
Description:	N/A
Filer:	System
Organization:	Natural Resources Defense Council/Meg Waltner
Submitter Role:	Public
Submission Date:	5/8/2015 2:31:25 PM
Docketed Date:	5/8/2015

Comment Received From: Meg Waltner

Submitted On: 5/8/2015

Docket Number: 15-AAER-01

NRDC Comments on Air Filter Labeling 15-Day Language

Additional submitted attachment is included below.



NRDC Comments on HVAC Air Filter Labeling 15-Day Language

2015 Appliance Efficiency Rulemaking Docket Number 15-AAER-1

May 8, 2015

Submitted by:

Meg Waltner, Natural Resources Defense Council

On behalf of the Natural Resources Defense Council and our more than 380,000 members and online activists in California, we respectfully submit these comments on the California Energy Commission's (CEC) 15-day language for HVAC Air Filter Labeling.

NRDC generally strongly supports the CEC's proposal to require air filters to be labeled with their particle capture efficiency and initial resistance. Air filters contribute to air flow resistance in heating and cooling systems which leads to unnecessary fan energy use and cost. Providing information to designers, consumers, and contractors about filter efficiency and resistance will help reduce this energy use and facilitate compliance with the Title 24 Building Energy Standards.

NRDC generally supports the labeling requirements proposed in the 15-day language and urges adoption of these requirements. While NRDC supports the CEC moving forward with the 15-Day Language as proposed, NRDC recommends that the CEC clarify some of the requirements proposed in the 15-day language in its next opportunity to update appliance efficiency standards. NRDC also recommends that in the longer term the CEC look to unify air filters under a single efficiency rating requirement and move towards consistent pressure drop reporting requirements, both of which will aid consumers, contractors, and design professionals in understanding and utilizing the label.

NRDC offers the following specific comments:

NRDC supports the proposal to label air filters, which will lead to energy savings and facilitate compliance with Title 24. As discussed in NRDC's comments on the Staff Analysis, air filter labeling represents an opportunity to reduce wasted energy in heating and cooling distribution systems by providing information to designers, consumers, contractors, and policy makers and facilitating compliance with the Title 24 Building Energy Standards. We continue to support the CEC's proposal to require air filter labeling and generally support the changes proposed in the 15-day language.

Recommended changes at the next opportunity to amend the standards:

The CEC should clarify the requirements around size categories and scaling. The CEC proposed new language on page 11 of the 15-day language that states: “Manufacturers shall test small, medium, and large size filters for each grade.” However, the 15-day language does not define these size categories or what is meant by filter grade. Given that there are hundreds of filter size and grade combinations, testing every filter would be burdensome and allowing for scaling based on the test results of a filter of the same filter medium is reasonable. If the CEC keeps these categories, it should define them, rather than leaving the manufacturer with discretion over what filters to test, as different manufacturers may use different filter sizes for the nominal categories, leading to differences in reported results.

While it is appropriate to not require testing of every filter size for filters using the same filter medium, filters should be labeled with scaled results that are specific to that filter size. This is because pressure drop across the filter at a given flow rate (measured in cubic feet per minute, or CFM) depends on the size of the filter. Allowing filter labels to be binned into small, medium, and large size categories would result in inaccurate pressure drop information for some filters. The CEC should require that filters are labeled with results that are specific to that filter size, even if these results are scaled from testing a filter of a different size.

The CEC should also confirm that there is a method to scale results from testing a single or limited number of filters for filters tested using AHRI 680. Whereas ASHRAE 52.2 resistance measurements are based on a specified face velocity to determine the test flow rates, AHRI 680 is based on regular CFM increments. The initial resistance will vary at a given CFM depending on the size of the filter, even if the filter type is the same. Since initial resistance is reported at CFM and not based on face velocity under AHRI 680, a larger filter will have a smaller initial resistance at a given CFM compared to a smaller filter of the same type. The CEC should confirm that there is adequate clarity for how to scale results from a single test under AHRI 680.

The CEC should revise the definition of pressure drop. The 15-day language defines pressure drop as: “‘Pressure drop’ also known as ‘particle size removal efficiency’ means the drop in static pressure versus air flow rate across air filter media in the forced-air heating or cooling equipment.” The added language that pressure drop is also known as “particle size removal efficiency” is inaccurate: particle size removal efficiency refers to the percentage of particles removed by the filter, not the pressure drop or initial resistance across the filter. We recommend removing the phrase “particle size removal efficiency” and inserting “initial resistance.”

Recommended future changes:

NRDC recommends that the CEC move toward the use of a single rating system: MERV. NRDC commented in response to the Staff Analysis that the CEC should require the use of a single rating: MERV under both Title 20 and Title 24. While we recognize that there are currently barriers to moving towards this single metric due to limitations in ASHRAE 52.2, we

recommend that the CEC look to move toward a single metric as this test procedure is updated in the future. Utilizing a single metric would facilitate market understanding: a homeowner replacing their air filter might be confused if faced with both MERV and particle size efficiency rating metrics. MERV should be this metric, since it is better known, easier to understand, and the most widely utilized non-proprietary filter rating metric.

NRDC recommends that air filters be labeled with initial resistance at consistent air flow rates to allow for comparison across filters. While AHRI 680 requires reporting of resistance at specific air flow rates in 400 cfm increments, ASHRAE Standard 52.2-2012 requires manufactures to report initial resistance at 50, 75, 100, and 125 percent of the test airflow rate, so the specific air flow rates reported will vary filter by filter. While this latter method has the benefit of providing more information to design professionals, it also makes information more difficult to compare across filters and potentially confusing to consumers. Using consistent airflow rates would facilitate compliance as contractors and code officials will have uniform values to look for, rather than assessing the values on a filter by filter basis. Additionally, consumers looking to replace their filters will be able to make a direct comparison between filters, without having to assess what airflow rate the initial resistance was measured at. In the future, we recommend that the CEC move towards a hybrid approach that includes the reporting of pressure drop across a range of air flow rates for every filter, but in a way that standardizes these air flow rates so filters of the same size report pressure drop data at the same specific air flows.

We appreciate the opportunity to submit these comments and welcome further discussion on any of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Meg Waltner', with a long horizontal flourish extending to the right.

Meg Waltner
Manager, Building Energy Policy
Natural Resources Defense Council