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California Energy Commission

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NRDC's Response to CEC's Invitation to Participate in the Development of Appliance Energy Efficiency Measures

2013 Appliance Efficiency Pre-Rulemaking on Appliance Efficiency Regulations: Docket Number 12-AAER-2E - Air Filter Labeling

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Submitted by:

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On behalf of the Natural Resources Defense Council and our more than 250,000 members and online activists in California, we respectfully submit this response to the Energy Commission's Invitation to Participate in the Development of Appliance Energy Efficiency Measures, posted on March 25, 2013.

Air filters represent a component of residential heating and cooling systems and their labeling represents an opportunity to reduce energy use, by providing better information to designers, consumers, contractors, and policy makers. According to data from the 2009 Residential Energy Consumption Survey (RECS), heating and cooling energy use accounts for approximately 30 percent of residential energy costs in California.¹ A portion of this energy cost can be attributed to airflow resistance in the heating and cooling distribution system, which results in unnecessary energy waste. Air filters contribute to this airflow resistance, causing fans to work harder and increasing the energy use of the system.

The Title 24 2013 Building Efficiency Standards require that mechanical systems supplying air through more than 10 feet of ductwork be fitted with an air filter device². They also require that this air filter device be labeled with the applicable design airflow rate and the maximum clean-

¹ www.eia.gov/consumption/residential/data/2009/index.cfm?view=consumption#end-use

² The Title 24 2013 Building Efficiency Standards define air filter device or air filter equipment as, "air-cleaning equipment used for removing particulate matter from the air."

filter pressure drop allowed by the design, so that is visible by a person replacing the air filter media³. The Title 24 2013 Building Efficiency Standards also require that installed air filters meet certain efficiency standards and pressure drop specifications, and that the installed air filter be labeled by the manufacturer to conform with these requirements. However, this requirement falls on the contractor/installer and does not require an air filter manufacturer to label their product. Requiring air filters to be labeled with both efficiency and pressure drop ratings will enable contractors to meet these requirements while providing better data to consumers, design professionals, and policy makers.

1. Basic Information

1.1 Product definition

The product definition should align with the definition of “air filter media” in Title 24. Title 24 defines “air filter media” as “the part of the air filter equipment, which is the actual particulate removing agent.”⁴

1.2 How many products in the market are currently labeled with Minimum Efficiency Reporting Value (MERV) rating?

NRDC supports the data submitted by the California IOUs, which found, based on a small sample size, that roughly one-third of filters were labeled with a MERV rating, one-third with a Microparticle Performance Rating (MPR; on 3MTM products only), one-quarter with a Filter Performance Rating (FPR; on products found at Home DepotTM), and the remaining products did not have an efficiency label.

1.3 What is the estimated cost to manufacturers to produce and affix a label? Does it differ by label location and format?

No response.

1.4 What are the estimated costs to manufacturers to alter an existing label?

No response.

1.5 Are there technical or logistical barriers to labeling air filters?

No response.

2. Air Filter Labeling

³ The Title 24 2013 Building Efficiency Standards define “air filter media” as “the part of the air filter equipment, which is the actual particulate removing agent.”

⁴ Title 24, 2013 Building Efficiency Standards, Page 40

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2.1 What are the current annual sales 2008-2013 and estimated Compound Annual Growth Rate (in CA and nationwide)?

No response.

2.2 What is an appropriate location of the label so that energy efficiency information is easily accessible to consumer?

The energy efficiency information should be clear and legible on the air filter packaging and/or on the air filter itself. It should be placed in such a way that it is easily seen by consumers and is consistent across different products so that consumers are easily able to make comparisons.

2.3 Other than the MERV is there other efficiency related information that could be on an air filter?

As discussed above, the Title 24 2013 Building Efficiency Standards require that air filter devices be labeled with the maximum clean-filter pressure drop allowed by the design and require that the air filter device be supplied with an air filter that is labeled by the manufacturer with both the pressure drop rating and the efficiency. We recommend that both of these pieces of information be included on the air filter label.

2.4 What are the benefits of affixing labels to products?

Air filter labels will facilitate compliance with the Title 24 Building Efficiency Standards by providing needed information to designers and contractors. It will also facilitate further in field energy savings by providing information to consumers replacing their air filters.

2.5 How does the MERV and other factors of an air filter impact the performance of HVAC equipment?

No response.

2.6 How many small businesses are involved in the manufacture, sale, or installation of these products?

No response.