



NATURAL RESOURCES DEFENSE COUNCIL

California Energy Commission

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12-AAER-2E

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July 29, 2013

California Energy Commission
1516 Ninth Street, Mail Station 4
Sacramento, CA 95814-5512

Via e-mail: docket@energy.ca.gov

RE: Air Filter Proposal for Standard – **Docket #12-AAER-2E**

On behalf of the Natural Resources Defense Council (NRDC) and our more than 250,000 members and online activists in California, we respectfully submit this response to the Commission's Invitation to Submit Proposals dated June 13, 2013.

Enclosed is NRDC's proposal under Docket #12-AAER-2E for Air Filters.

We appreciate the opportunity to present our proposals. Please let me know if you have any questions.

Respectfully submitted,

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Proposal for Standards Air Filter Labeling

Docket No. 12-AAER-2E

Appliance Efficiency Standards and Measures

for California Energy Commission's Invitation to Submit Proposals

Submitted By:

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July 29, 2013



On behalf of the Natural Resources Defense Council (NRDC) and our more than 250,000 members and online activists in California, we respectfully submit this response to the Commission's Invitation to Submit Proposals dated June 13, 2013.

NRDC has reviewed the Investor Owned Utilities (IOUs) standards proposal for air filter labeling and is in agreement with their analysis, savings estimates and proposal. Rather than repeat much of their content, NRDC highlights below key considerations regarding the IOU proposal.

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.

There are two elements of air filter efficiency: the filter's effectiveness at removing particles from the air and the pressure drop across the filter. Air filters today are generally labeled for particle removal efficiency, but these labels are not standardized and multiple metrics are used throughout the industry (e.g., Minimum Energy Reporting Value (MERV) and Filter Performance Rating (FPR)). Air filters are not currently labeled with information about the pressure drop across the filter which is what affects heating and cooling system energy use.

The Title 24 2013 Building Efficiency Standards require that the design air flow and pressure drop from an HVAC system be specified by the designer. The Title 24 Standards also require

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

that an air filter device be supplied and labeled with the applicable design airflow rate and the maximum clean-filter pressure drop allowed by the design, so that is visible by a person replacing the air filter media². However, this requirement falls on the installer and does not require an air filter manufacturer to label their product, nor is there guidance to the manufacturer on test procedures and format by which to label air filters. Additionally, designers need filter pressure drop data in order to accurately size duct systems. Without this data, designers must use design tables based on assumptions that result in oversized, and therefore more costly, ductwork.

The IOUs proposal would require manufacturers to label air filters with both a MERV and pressure drop rating at two air velocities. The proposal would require printing of the label on the air filter itself as well as reporting the information to the CEC database. Labeling air filters with this information will have several benefits:

- It will enhance compliance with air filter requirements in Title 24 by allowing contractors and code inspectors to ensure that the installed air filter meets design requirements.
- It will provide information to consumers who are replacing their air filters and enable them to replace them with filters that meet the design requirement.
- It will reduce construction costs by allowing designers to utilize actual pressure drop data in the design of ductwork.
- It will enable future improvements to heating and cooling system efficiency by gathering more information on the pressure drop over different filters.

The IOUs estimate that the cost of labeling air filters – 10 cents per filter – will be greatly outweighed by the cost savings of \$200 per dwelling from decreased ductwork costs.

For these reasons we urge the CEC to adopt the IOUs proposal for air filter labeling.

² 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.”