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March 26, 2018

Mr. Daniel Simmons
Appliance and Equipment Standards Program
U.S. Department of Energy
Building Technologies Program
Mailstop EE-5B
1000 Independence Avenue SW
Washington, DC 20585-0121

Re: Energy Conservation Program: Energy Conservation Standards Program Design, Docket # EERE-2017-BT-STD-0059

Dear Mr. Simmons,

The Southern Company (Southern) appreciates the opportunity to submit comments on the Department of Energy's (DOE or Department's) Request for Information (RFI) regarding Energy Conservation Standards Program Design, published in the *Federal Register* on November 28, 2017 (volume 82, page 56,181.)

Southern Company is America's premier energy company, with 46,000 megawatts of generating capacity and 1,500 billion cubic feet of combined natural gas use and throughput volume serving 9 million electric and gas utility customers through its subsidiaries. The company provides clean, safe, reliable and affordable energy through electric utilities in four states, natural gas distribution utilities in seven states, a wholesale generation company serving customers across America and a nationally recognized provider of customized energy solutions. Through an industry-leading commitment to innovation, Southern Company and its subsidiaries are inventing America's energy future by developing the full portfolio of energy solutions—including nuclear energy, 21st-century coal technologies, natural gas, renewable energy resources and energy efficiency—and creating new products and services for the benefit of customers. We are committed to meeting our customers' energy needs today and bringing customers energy solutions that will drive growth and prosperity tomorrow.

Southern Company supports increases in minimum appliance efficiency standards which are:

1. Cost-effective, based on reasonable consumer economics.
2. Which are fair and non-discriminatory to all affected parties, including energy suppliers.
3. Which do not degrade the utility of the product under consideration.
4. Which are based on realistic, accurate data and projections of cost, energy, and benefits to society.

Southern fully supports the current Department of Energy (the Department) efforts to reduce regulatory burdens. Transitioning from the current mandatory minimum efficiency standard to a “fleet-average” standard such as the motor vehicle CAFE standard is an intriguing concept.

However, there are significant barriers and challenges to implementing a market-based system. These will be discussed in more detail below.

A market-based approach would impact utility energy efficiency programs and the Energy Star™ Program

Electric utilities in the United States spent more than \$6.2 billion in 2016 on energy efficiency programs¹. These programs included incentives for building envelope and other efficiency measures as well as higher efficiency equipment and appliances, but a substantial portion of this spending was to provide incentives for the use of higher efficiency equipment. This investment was made with the assumption (valid at the time) that the money spent for reduced energy use would result in actual decreased energy use. However, a fleet average approach to efficiency means that the selection of an above average efficiency appliance generates a credit which would allow the sale of a less efficient appliance by another consumer.

These existing efficiency programs are an important factor not only in reducing energy use, but in helping drive the market deployment of higher efficiency equipment.

It would have a similar negative impact on the Energy Star™ program. Energy Star™ is a voluntary program of the Environmental Protection Agency intended to reduce greenhouse gas emissions through reduced energy consumption due to the purchase of higher efficiency appliances. But energy savings and greenhouse gas emissions resulting from those energy savings become highly uncertain if a kWh saved through the purchase of higher efficiency equipment generates a “credit” to allow additional energy consumption through the sales of less efficient equipment than would otherwise be allowed.

A fleet average approach to efficiency requires precise information on the current efficiencies of equipment sold in the market. This does not currently exist for many types of equipment.

An example would be residential air conditioners and heat pumps, under 5.25 tons. As was discussed in the negotiated rulemaking leading to the Direct Final Rule for residential central air conditioners and heat pumps², neither the Department nor the applicable trade group (AHRI) possesses complete market data on the distribution of efficiencies of equipment currently sold and/or installed in the United States. An estimate of the efficiency distribution has been made by the Department and its contractors, and this is sufficiently accurate for use in the cost-benefit analysis used by the Department to determine minimum efficiency standards using the current standard setting process. It is highly questionable that the current level of accuracy would be acceptable to either the Department or the manufacturers as a basis for establishing a fleet average baseline, where it is likely that the Department would assess financial penalties for failure to achieve the required fleet average efficiency level.

¹ ACEEE, September 2017. *The 2017 State Energy Efficiency Scorecard*, Report U1710, Appendix B, page 149. www.aceee.org

² *Federal Register*, January 6, 2017, page 1786.

In the case of regional standards such as central air conditioning or gas furnaces, accurate data would be required for current fleet average efficiencies for each of the three defined geographic climate regions to establish an accurate baseline, which would be even more challenging.

Legislative restrictions applicable to transitioning to a market-based system

Several significant issues would need to be addressed here in a transition to a market based system.

“Anti-backsliding” issues

As stated in 42 USC 6295 (o) (1):

The Secretary may not prescribe any amended standard which increases the maximum allowable energy use, or, in the case of showerheads, faucets, water closets, or urinals, water use, or decreases the minimum required efficiency of a covered product.

A similar requirement for commercial equipment is listed in 42 USC 6313 (a) (6) (B) (iii).

It appears obvious that the Department would interpret “maximum allowable energy use” to mean the total energy use across the class of products regulated in the current rulemaking, or something similar, when transitioning to a market-based system. To interpret this to apply to each individual product would not allow a market-based system for any products where standards currently exist, and there are few if any products with significant energy use which are not already covered under existing energy standards. However, justification and defense of this change will need to be included as part of any transition to a market-based system.

However, what about the multitude of cases where Congress (not the Department) has set minimum standards in legislation? These include:

- Refrigerators and freezers
- Room air conditioners
- Central air conditioners and heat pumps
- Small duct high velocity air conditioning systems
- Gas direct heating equipment
- Grid-enabled water heating equipment
- Commercial package air conditioning and heating systems

These are examples, not an exhaustive list. Do these minimum requirements set by Congress establish a “floor” efficiency level which equipment in a market-based system must still comply? This is not a serious restriction for some products, such as the minimum air conditioner efficiency of SEER 10, compared to the current national standard of SEER 13.

But for commercial equipment, the minimum efficiency specified by legislation for air cooled central air conditioner greater than 65,000 BTU/hour and less than 135,000 BTU/hour is EER 11.2 for equipment using electric resistance heating, manufactured after 1/1/2010.³ The current efficiency standard is IEER 12.9 for equipment manufactured after 1/1/2018, and IEER 14.8 for equipment manufactured after 1/1/2023. Does this mean that there is a floor “EER” efficiency

³ 42 USC 6313 (a) (7) (A) (i)

that must be met by all products in a market-based system, even though the current performance metric is “IEER”?

If the United State Code requirements do apply as a floor efficiency level, then this minimum would presumably apply to each of the:

- 12 different efficiency levels specified for the classes of room air conditioners
- 16 different efficiency levels specified for the classes of gas direct heating equipment
- 114 different efficiency levels specified for the various types of electric motors

Classes of equipment specified in legislation

Because legislation defines 114 different “classes” of electric motor (based on size, open/closed, and number of poles) does this mean than a fleet average efficiency would need to have 114 different market-based averages? If so, this would mean that market based standards would only be practical where legislation has either not defined specific products to be regulated, or where legislation has defined products more broadly, such as for under 65,000 BTU/hour air conditioners.

Lack of Obvious Advantages for Manufacturers under Market-Based Approaches

In general, the regulatory market-based approaches which have been successful were able to define a regulatory goal in such a way that either:

- (1) **A regulatory limit was achieved at lower cost of compliance.** For air pollution regulations, there has often been a lower cost option to reduce pollution from an unregulated source, or achieve additional reductions from a different regulated source at lower cost.
- (2) **Low profit margin products generated credits which could allow the production of more high profit margin products than would otherwise occur.** This has been the case for vehicle fuel economy standards, where promoting the sale of low profit margin, fuel efficient vehicles generated credits that allowed more sales of high profit margin, less fuel-efficient vehicles.

Neither of these seem to apply to appliance and equipment markets. In general, the manufacturers’ low profit margin, commodity products are lower efficiency, and their higher profit margin, premium products are higher efficiency. So, what is the business case for the manufacturers to go to a fleet-average performance metric? The manufacturers would generate credits by selling high profit margin products which could be used to subsidize and promote the sale of low efficiency, low profit margin products. Where could these credits be profitably used, when it would be reasonable to expect that the manufacturers would attempt to persuade their customers to purchase higher profit margin, higher efficiency products?

It is not obvious that there are the same sorts of synergies under a market-based approach as exist in some of the previous market-based regulatory programs. This would appear to reduce the benefits to manufacturers.

Southern is certainly not an expert on market implications and profit margins for energy consuming equipment. We are not directly involved in that market. However, we also recognize that it is difficult for manufacturers to discuss profit margins or related topics even in a general

sense due to anti-trust restrictions. Since Southern is not involved in the manufacture of equipment, we have greater freedom to discuss this topic.

Summary

Transitioning from the current system of specified minimum efficiency levels could potentially provide a more flexible regulatory system for appliance standards than the current one. However, significant barriers exist as discussed above. Southern looks forward to working with the Department to find ways to simplify and improve the efficiency of the appliance standard process, including but not limited to the topics addressed in this RFI.

Thank you for the opportunity to comment on this Request for Information.

Sincerely,



Donald M. Brundage, P. E.
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Southern Company Services, Inc.