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Re: “Energy Conservation Standards for Residential Water Heaters, Direct Heating Equipment, and Pool Heaters: Public Meeting and Availability of the Preliminary Technical Support Document,” 74 Fed. Reg. 1643 (January 13, 2009).

Docket No. EERE-2006-BT-STD-0129; RIN 1904-AA90

Earthjustice submits the following comments on the Department of Energy’s (DOE’s) Preliminary Technical Support Document (TSD) for residential water heaters, direct heating equipment, and pool heaters.

Preliminary TSD Issue ES.4.16 – Impact on Natural Gas Prices Resulting from Energy Conservation Standards for the Three Heating Products

DOE must incorporate the economic benefits associated with reductions in natural gas prices into its analysis of the nationwide net present value of potential standard levels. The Department currently analyzes the costs and benefits of standard levels from the perspective of individual consumers of the regulated product and then aggregates these consumer impacts into a national net present value (NPV). However, this analysis is not a truly *national* analysis. It ignores that saving significant amounts of energy impacts consumers broadly, not just users of the regulated product. The only rational way to weigh the benefits and burdens of efficiency standards as the statute requires is to incorporate into the national NPV the monetary value of those economic benefits that reflect the need for national energy conservation: reductions in electricity and natural gas demand, increased employment, and reduced emissions.

DOE has requested comment on the extent to which a reduction in natural gas prices should be considered a transfer from producers to consumers, rather than net economic benefit. However, the extent to which a reduction in natural gas prices would constitute a transfer from producers to consumers is discussed in the Preliminary TSD, which explains that the long-term

decreases in price stem primarily from reduced extraction costs, an effect that benefits both consumers and producers of natural gas. Preliminary TSD at 10-32 to 10-33. Moreover, as the Preliminary TSD notes, natural gas producers include both domestic and foreign entities. *Id.* at 10-32 ftnt. d. In assessing the economic impact of other external benefits, the Department has refused to consider economic benefits that accrue beyond U.S. borders. Leaving aside the irrationality of that approach, if the Department continues to insist that only domestic impacts are the proper measure of the external benefits of standards, the Department must exclude the adverse impacts of natural gas price reductions on overseas producers to maintain a consistent approach.

In any event, EPCA does not compel DOE's consideration of the economic impact on natural gas producers. On the contrary, a refusal to consider this factor better serves the purposes of EPCA. In enacting EPCA, whose expressed purpose is achieving "major reductions in net energy consumption" through adoption of more efficient appliance standards, Energy Policy and Conservation Act of 1975, H. Rep. No. 94-340, at 94 (1975), *reprinted in* 1975 U.S.C.C.A.N. 1762, 1856, Congress intended that revised appliance efficiency standards would lead to reduced reliance on fossil fuels. By using lost revenue to fossil-fuel producers as a basis for rejecting a more stringent standard, DOE would be undermining this congressional intent, as every proposal to increase energy efficiency standards, at least in theory, results in revenue losses to fossil-fuel producers.

Preliminary TSD § 2.2.1.2 – Add-On Heat Pump Water Heaters

DOE's assertion that the Department lacks the authority to regulate the efficiency of heat pump water heaters assembled from add-on heat pump equipment does not stand up to scrutiny. EPCA's standards for water heaters apply to the manufacturers of these products. *See* 42 U.S.C. § 6295(e)(4)(B) (standards apply to water heaters "manufactured" after January 1, 2005); *Id.* § 6302(a)(5) (manufacturers may not distribute in commerce products violating standards). EPCA defines a "manufacturer" as "any person who manufactures a consumer product." 42 U.S.C. § 6291(12). In turn, the statute defines the term "manufacture" as "to manufacture, produce, *assemble* or import." 42 U.S.C. § 6291(10) (emphasis added). Therefore, because EPCA treats them as manufacturers of water heaters, contractors who assemble heat pump water heaters on site by connecting add-on heat pump equipment to a water storage tank are responsible for the compliance of the heat pump water heater with all requirements.

Performance standards would be applicable to contractors who assemble heat pump water heaters using add-on equipment notwithstanding that EPCA's prohibition against manufacturers distributing in commerce products that do not comply with energy conservation standards is limited to "new covered products," which the statute defines as products "the title of which has not passed" to an end-user. *See* 42 U.S.C. § 6302(b). EPCA does not identify the specific event that constitutes the transfer of title, and in resolving this ambiguity DOE's interpretation must be guided by congressional intent as reflected in surrounding provisions and the underlying purposes of the statute. As noted at the public meeting, heat pump water heaters assembled from add-on equipment will be competing in the marketplace with integral heat pump water heaters. Moreover, if not subject to the federal standards, the contractors who assemble heat pump water

heaters would be able to purchase non-compliant add-on equipment to install as a heat pump water heater. It is not reasonable to assume that Congress intended to provide a loophole that would allow assemblers of heat pump water heaters to skirt efficiency requirements, particularly as the statute treats the assembly of covered products as being equivalent to manufacture for purposes of compliance and enforcement.

In sum, the only reasonable interpretation of this requirement is that at the time a heat pump water heater is assembled on site from add-on equipment, the title has not yet passed to the end-user, and the heat pump water heater is thus a new covered product within the meaning of 42 U.S.C. § 6302(a)(5). The standards that DOE adopts would therefore be enforceable against contractors who assemble heat pump water heaters on site using add-on equipment.

Preliminary TSD § 2.2.2.3 – Solar Water Heaters

DOE advances a flawed legal justification for refusing to analyze hybrid solar technologies. The Department asserts that it lacks the authority to prescribe energy conservation standards for water heaters utilizing solar energy because EPCA defines the term “energy” as meaning electricity or fossil fuels. *See* 42 U.S.C. § 6291(3). This assertion ignores that DOE could continue to regulate the electricity or fossil fuel consumption of solar-assisted water heaters by treating the addition of solar water heating equipment as a technology option to improve the electric or fossil fuel energy efficiency of these products.

Preliminary TSD § 8.12 – Rebuttable Presumption Payback Period

DOE must adequately explain any refusal to adopt standard levels at least as strong as those that satisfy the rebuttable presumption payback period. EPCA establishes a rebuttable presumption that a standard is economically justified if “the additional cost to the consumer of purchasing a product complying with an energy conservation standard level will be less than three times the value of the energy . . . savings during the first year that the consumer will receive as a result of the standard.” 42 U.S.C. § 6295(o)(2)(B)(iii). In crafting the rebuttable presumption payback provision in 1987, Congress explained that, “[a]lthough this presumption is rebuttable, it provides specific guidance to DOE that standard levels with a simple payback period of three years or less are presumptively economically justified.” H. Rep. No. 100-11, at 36 (1987).

DOE’s analysis in the Preliminary TSD indicates that products covered in this rulemaking satisfy the rebuttable presumption payback period criterion at one or more technologically feasible levels. Preliminary TSD at 8-87. In 42 U.S.C. § 6295(o)(2)(B)(iii), Congress erected a significant barrier to DOE’s rejection, on the basis of economic justifiability, of standard levels to which the rebuttable presumption applies. DOE may ultimately conclude that other economic impacts are sufficient to rebut the presumption, provided the Department adequately justifies this conclusion. However, DOE may not ignore the rebuttable presumption out of a simple preference for the seven factor test contained in 42 U.S.C. § 6295(o)(2)(B)(i). DOE’s analysis must reflect the clearly expressed intent of Congress that the highest standard

level resulting in cost recovery within three years constitutes the presumptive weakest standard level that DOE is permitted to adopt.

Preliminary TSD § 2.12 – Monetary Value of Carbon Dioxide Emissions Reduction

By the time DOE's standards for water heaters, direct heating equipment, and pool heaters take effect, it is almost certain that Congress will have enacted a nationally applicable, mandatory regime to limit CO₂ emissions. Because of the high probability of such legislation, and the fact that the predictions of future energy prices that DOE uses in its analysis do not assume a fee for CO₂ emissions from power plants, if DOE fails to incorporate a value for CO₂, its electricity price assumptions will be arbitrarily low.¹ This reduces estimates of the operating cost savings of more efficient products, which skews the economic justification analysis against stronger standards.

However, even if DOE assumes that such legislation will stall in Congress, because many states are participating in regional cap and trade schemes to reduce CO₂ emissions, there will be functioning markets for CO₂ emissions in the U.S. that DOE must consider in evaluating the impact of the CO₂ reductions at issue in this rulemaking. For example, the Regional Greenhouse Gas Initiative (RGGI), which includes the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont, has now held multiple auctions for CO₂ emissions allowances.² Similarly, the Western Climate Initiative (WCI), which includes the states of California, Washington, Oregon, Montana, Arizona, New Mexico, and Utah, has released its design guidelines for the WCI's own cap and trade program.³ These markets will provide a baseline value that DOE must consider as the value of CO₂ emissions reductions in states that have agreed to binding emissions reductions.

Moreover, a DOE assumption that some areas of the country will remain outside of CO₂ reduction regimes does not obviate the need to consider the economic impact of reductions in CO₂ emissions in those states. For this purpose, there is a well-established literature on the value of CO₂ emissions that DOE must consult in selecting a rational value for CO₂ for use in its analysis. For example, numerous published sources give values for the avoided damage costs realized through CO₂ emissions reductions.

In sum, to rationally evaluate the economic value of resulting reductions in CO₂ emissions, the Department must consider the effect of coming climate change legislation and a national cap on carbon emissions. DOE must (1) quantify the effect of a CO₂ emissions cap on energy prices in the lifecycle cost analysis, and (2) account in the NPV for the effect of the standard in reducing allowance prices. Even if DOE refuses to consider the impact of a future nationwide cap, existing regional carbon caps will produce similar effects in states where they

¹ See Preliminary TSD at 2-49 (using the Energy Information Administration's (EIA's) *Annual Energy Outlook* (AEO) to project future electricity prices); EIA, *AEO* 2008 at 16 ("The potential impacts of pending or proposed legislation, regulations, and standards . . . are not reflected in the projections.").

² See RGGI website: <http://www.rggi.org/home>.

³ See WCI website: <http://www.westernclimateinitiative.org>.

are applicable, and DOE must account for these impacts, as well as the avoided damage costs associated with reductions in CO₂ emissions that result in states where no cap applies.

Preliminary TSD § 2.12 – Other Environmental Factors DOE Must Consider

DOE must also calculate and monetize the value of the reductions in emissions of particulate matter (PM) that will result from standards for water heaters, direct heating equipment, and pool heaters. In the past, DOE has refused to calculate PM emissions reductions in efficiency standards rulemakings because PM pollution consists of both primary and secondary emissions. *See* 71 Fed. Reg. at 44,384. However, DOE’s mere assertion that PM formation is “complex” does not excuse the Department from considering the impact of reductions in PM in standards rulemakings. The Department has not explained why this alleged complexity prohibits calculating the impact of efficiency standards on PM emissions. Moreover, even if it were physically impossible for DOE to ascertain the impact of efficiency standards on secondary PM emissions, that would not justify the Department completely ignoring primary PM emissions in its analysis. Finally, DOE’s assertion in the Preliminary TSD (at EA-1) that it need not address PM emissions because the Department considers the impacts of standards on precursors (NO_x and SO₂), similarly ignores the impact of primary PM emissions.

In refusing to calculate PM emissions reductions, DOE also asserts that PM emissions are not “driven significantly by . . . electric utility power plants.” Preliminary TSD at EA-1. This is not an accurate statement. According to 2003 emissions estimates from EPA, power plants emit 22.1% of all anthropogenic PM₁₀ and 22.7% of all anthropogenic PM_{2.5}.⁴ Thus, power plant emissions are a significant source of PM pollution, and it would be arbitrary and capricious for DOE to ignore the impact of efficiency standards on PM emissions on this basis.

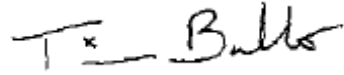
Effective Date

The Department has assumed a five-year lead time in its preliminary analyses, presumably because such lead time is consistent with the requirements under 42 U.S.C. § 6295(e)(4)(B) that DOE “publish a final rule no later than January 1, 2000 to determine whether standards in effect . . . should be amended,” and that “any such amendment shall apply to products manufactured on or after January 1, 2005.” However, this interpretation is contrary to the structure and purposes of the statute. There is nothing in the language of the statute that specifically deals with the situation at issue here — determining an appropriate effective date for a standard that DOE was required to adopt nearly ten years ago. The dates by which DOE was required to publish a final rule and the mandated effective date of such rule have both long since passed. Under the circumstances here, reliance on the five-year lead time specified under § 6295(e)(4)(B) is unreasonable. DOE must instead use its discretion to select effective dates that enable the Department to adopt standards meeting the requirements of EPCA – standards that are set at the maximum technologically feasible levels that are economically justified.

⁴ Office of Transportation and Air Quality, EPA, NATIONAL EMISSIONS TRENDS – UPDATED 7/18/2005 (complete tables of national emissions estimates), *available at* <http://www.epa.gov/airtrends/2005/econ-emissions.html>.

Thank you for the opportunity to participate.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Ballo". The signature is written in a cursive style with a horizontal line underneath it.

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