

Appliance Standards Awareness Project  
Natural Resources Defense Council

February 16, 2021

Dr. Stephanie Johnson  
U.S. Department of Energy  
Office of General Counsel, EE-5B  
1000 Independence Avenue SW  
Washington, DC 20585

**RE: Docket Number EERE–2019–BT–STD–0002/RIN 1904–AE31: Notification of Proposed Determination for Energy Conservation Standards for Direct Heating Equipment**

Dear Dr. Johnson:

This letter constitutes the comments of the Appliance Standards Awareness Project (ASAP) and Natural Resources Defense Council (NRDC) on the notification of proposed determination (NOPD) for energy conservation standards for direct heating equipment. 85 Fed. Reg. 77017 (December 1, 2020). We appreciate the opportunity to provide input to the Department.

**We urge DOE to address pilot light energy consumption for both unvented and vented heaters.** Direct heating equipment (DHE) models with standing pilot lights can waste a significant amount of energy in off mode. The current test procedures for vented and unvented heaters do not require measurement of the pilot light energy input rate for models that instruct the user on how to turn the pilot light off.<sup>1</sup> However, we believe these instructions may do little to reduce the operating hours of standing pilots. In the 2015 notice of proposed rulemaking for energy conservation standards for hearth products<sup>2</sup>, DOE's analysis found that 40% of hearth users leave standing pilot lights on all year and that average operating hours for standing pilot lights are close to 4000 hours/year. Additionally, some models of vented heaters meet the current energy conservation standards yet still have standing pilots.<sup>3</sup> However, the test procedure for vented heaters is likely underestimating the true energy consumption of these models. Pilot lights in DHE that are left on year-round can consume 6.8 MMBtu of fuel per year – around a quarter of the total annual gas consumption for vented heaters.<sup>4</sup>

Electronic ignition systems are an efficient alternative to standing pilots and are currently available for both vented and unvented heaters on the market.<sup>5,6</sup> In the 2015 analysis for hearth products, DOE found that electronic ignition systems operate only 3.9 hours per year at an estimated 50 W. In the same

---

<sup>1</sup> 10 CFR § 430.23(o).

<sup>2</sup> <https://www.regulations.gov/document?D=EERE-2014-BT-STD-0036-0017>.

<sup>3</sup> See <http://empirezoneheat.com/products/direct-vent-wall-furnaces/direct-vent-counterflow-wall-furnaces/> and <https://www.williamscomfortprod.com/products/furnaces/floor-furnace-detail-page/>.

<sup>4</sup> Assuming a pilot light fuel use of 775 Btu/hr and total gas consumption of 27.7 MMBtu/yr (estimates of gravity-type heaters from 2010 final rule).

<sup>5</sup> See <https://www.williamscomfortprod.com/products/furnaces/he-direct-vent-detail-page/>.

<sup>6</sup> All Rinnai vent-free direct heating products use electronic spark ignitions: <https://www.rinnai.us/catalog/vent-free-fan-convactor/fan-convectors/fc>.

analysis, DOE found that with an incremental price of around \$80, electronic ignition systems offer a payback period of 2.9 years and LCC savings of \$327.<sup>7</sup>

For unvented heaters, for which there are currently no energy conservation standards, we urge DOE to consider a prescriptive requirement banning standing pilot lights. In addition, for vented heaters, DOE should consider revising the test procedure to better capture pilot light energy consumption.

Thank you for considering these comments.

Sincerely,



Kanchan Swaroop  
Technical Advocacy Associate  
Appliance Standards Awareness Project



Joe Vukovich  
Energy Efficiency Advocate  
Natural Resources Defense Council

---

<sup>7</sup> Difference between \$769 and \$442, the average life-cycle costs for efficiency levels 0 and 1, respectively.