

**BEFORE THE
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE
ENERGY
UNITED STATES DEPARTMENT OF ENERGY
WASHINGTON, D.C.**

Error Correction Request and Request for Withdrawal of Draft Final Rule

**Energy Conservation Program: Energy Conservation Standards for
Commercial Packaged Boilers**

Docket Number EERE-2013-BT-STD-0030

RIN 1904-AD01

ErrorCorrectionInfo@EE.DOE.Gov

**Submitted by Spire, Inc. and the American Public Gas Association
February 11, 2017**

Pursuant to 10 C.F.R. § 430.5, DOE has posted the above-referenced draft final rule (the “Draft Rule”) on its web site and requested that interested parties notify it of any “typographical or other errors, as described in such regulations, by no later than midnight on February 11, 2017.” By this submission, Spire Inc. (“Spire”) and the American Public Gas Association (“APGA”) (together, “Joint Requestors”) hereby notify DOE of a fundamental error in the modeling upon which the Rule was based. This error completely invalidates the regulatory analysis that provides the basis both for the selection of the energy efficiency standards the Draft Rule would impose and the Secretary’s determination that such standards are economically justified. As a result of this error, the regulatory analysis does not support the standards the Draft Rule would impose and the Joint Requestors respectfully request that the Draft Rule be withdrawn.

Withdrawal of the Draft Rule is warranted and appropriate under the corrections procedure specified by 10 C.F.R. § 430.5. Regardless, withdrawal of the Draft Rule is within DOE’s discretion, and is necessary to prevent the issuance of standards that plainly have not been economically justified as required by law. Accordingly, Joint Requestors request that the Draft Rule be withdrawn and that the issues involved be addressed appropriately through further collaborative rulemaking proceedings. Similar errors are evident in other rulemaking proceedings, such as the Furnace SNOPR and commercial water heating NOPR, and these systematic errors must be systematically addressed and corrected, even though the associated proceeding are on different timelines in other dockets.

Finally, the proposed rule raises serious safety concerns for non-condensing furnaces, which themselves warrant withdrawal and reconsideration.

Interest in this Proceeding

Spire, formerly the Laclede Group, Inc., is a holding company that owns and operates Laclede Gas Company, including its Missouri Gas Energy operating division, the two largest natural gas distribution companies in the state of Missouri, Alabama Gas Corporation, the largest natural gas distribution company in the state of Alabama, and Mobile Gas Service Corporation and Willmut Gas and Oil Company, which operate in Alabama and Mississippi, respectively. Spire's utility companies have been distributing gas in one form or another in their respective service areas for more than a century and a half. Today, they collectively provide natural gas distribution service to more than 1.7 million residential, commercial and industrial customers.

Spire supports energy conservation. Spire's utility businesses have supported energy efficiency education for homeowners and businesses alike for many years, and have invested significant resources in rebate programs promoting the sale of high-efficiency equipment and appliances. However, ill-conceived efficiency regulations can do considerable unnecessary harm, and Spire, its natural gas distribution companies, and the communities and customers those companies serve would be directly and adversely affected by the energy conservation standards the Draft Rule would impose. Specifically, the Draft Rule would effectively force many purchasers of commercial packaged boilers to switch from gas boilers to alternatives that would impose higher energy costs for commercial boiler operators and produce a loss of customers – and a direct loss of revenue – for natural gas distribution companies including those owned by Spire. Spire therefore has a keen interest in the subject of the Draft Rule and submitted extensive comments to the docket in this proceeding, including a submission dated June 22, 2016.¹ Spire is therefore a party to this rulemaking as defined by 10 C.F.R. § 430.5(b).

¹ Spire's Comments dated June 22, 2016 are available in the docket at: [file:///C:/Users/BDDay/Downloads/Spire Comments on Commercial Boiler NOPR.pdf](file:///C:/Users/BDDay/Downloads/Spire%20Comments%20on%20Commercial%20Boiler%20NOPR.pdf)

Similarly, APGA has its own interest and is a party to this proceeding. APGA is the national association for publicly-owned natural gas distribution systems. There are approximately 1,000 public gas systems in 36 states, and more than 730 of these systems are APGA members, who will be affected directly by the implementation of the Draft Rule.²

The Primary Error in Question

Base and standards case used for economic modeling do not reflect reality. The regulatory analysis offered in support of the Draft Rule is based on a modeling methodology in which DOE starts by constructing ten thousand “trial cases” that are supposed to represent the full range of commercial gas boiler installation scenarios that exist in the United States. The methodology then calls for DOE to conduct simulations to determine how new efficiency standards would change commercial boiler installation outcomes in these trial cases. This is how DOE measures the economic consequences of those changed outcomes. In some cases, commercial boilers that satisfy the efficiency standards that the Draft Rule would impose have already been installed or would be installed in the absence of regulation; in other cases, such boilers would only be installed if new standards are adopted. DOE’s analysis is supposed to identify the latter cases – those trial cases in which installation outcomes would be altered by new energy efficiency standards – and then determine the economic consequences of those altered outcomes.

The fundamental error in the analysis underlying the Draft Rule is that the ten thousand trial cases DOE used as its basis for analysis were not constructed to reflect the reality that – in

² APGA and the American Gas Association filed comments on June 22nd, 2016 with the Department of Energy in response to the Notice of Proposed Rulemaking – Energy Conservation Standards for Commercial Packaged Boilers. - Docket No. EERE-2013-BT-STD-0030; RIN 1904-AD01

the absence of regulation – purchasers generally choose high-efficiency commercial gas boilers in installation scenarios in which an investment in such equipment would make economic sense for the purchaser. Instead, the ten thousand trial cases were improperly constructed by randomly “assigning” high-efficiency boilers to installation scenarios without regard to the economic consequences of the installation involved, as though – in the absence of regulation – purchasers of commercial boilers literally never consider the economics of such purchases at all. The result is that the ten thousand trial cases do not represent the market that actually exists; instead they represent an imaginary market in which purchases of high-efficiency gas boilers made in the absence of regulation are no more likely to be economically beneficial for the purchaser – and no less likely to be economically disastrous for the purchaser – than purchases that would only occur as a result of regulatory compulsion. The existence of this error is revealed by the fact that Cell D10 of the spreadsheet entitled “No New Stds Case Efficiency” links to a linear random distribution function picking base case boiler efficiency. This spreadsheet can be found in DOE Boiler LCC spreadsheets CPB_ECS_NOPR_LCC_2016-03-15.xlsm at the following link: <https://www.regulations.gov/document?D=EERE-2013-BT-STD-0030-0045>

Unfortunately, the problem can only be observed if the spreadsheet is opened with an Oracle Crystal Ball plug-in; otherwise, only the numeric output of the last computation spreadsheet run is visible.

The result of this error is a dramatic distortion of the base case for regulatory analysis. In the real world, installation scenarios in which high-efficiency boilers would provide the greatest economic benefits are those in which purchasers are most likely to purchase such boilers on their own; it follows that a disproportionate percentage of such installation scenarios should be represented in the “base case” (*i.e.*, among the trial cases in which boilers meeting the new

standards would be present in the absence of new regulation). Conversely, installation scenarios in which high-efficiency boilers would result in the greatest net costs are those in which purchasers are least likely to choose such boilers in the absence of regulation; it follows that a disproportionate percentage of such installation scenarios should be represented in the “standards case” (*i.e.*, among the trial cases in which boilers meeting the new standards would be absent unless new standards are imposed). By erroneously assigning high-efficiency boilers to installation scenarios on a random basis, DOE produced a universe of trial cases in which the distribution of even the best and worst economic outcomes is exactly the same for installations of high-efficiency boilers required by rule as it is for installations that purchasers would choose to make on their own in the absence of regulation. This error in DOE’s methodology produced a massive reallocation of positive economic outcomes from the “base case” to the “standards case,” and a massive reallocation of negative economic outcomes from the “standards case” to the “base case.” The result is an obviously skewed regulatory analysis that does not even arguably address the universe of installation outcomes that would actually be affected by the adoption of new standards. The entire economic analysis underlying the Draft Rule is therefore completely erroneous and invalid, and it provides no justification at all for the standards the Draft Rule would impose.

The Correction Required

The error in question is elementary: standards cannot be economically justified unless their impacts are identified and the economic consequences of those impacts are considered. In effect, DOE provided an economic analysis that did not even attempt to identify the real impacts of the standards that the Draft Rule would impose. Instead, it created an artificial universe of supposedly impacted installation scenarios. The imaginary market thus created by DOE

improperly included a substantial range of positive outcomes that would occur (or have already occurred) in the absence of new standards while improperly excluding a substantial range of negative outcomes that would only occur if new standards are imposed. Correction of this error would dramatically reduce the economic benefits claimed to justify the Draft Rule and would fundamentally alter the outcome of DOE's regulatory analysis. Accordingly, editorial revisions would not be adequate to correct the error, and the Draft Rule should be withdrawn.

Additional Errors

DOE's unreasonable methodology to deny consumer economic logic is not the only error in need of correction. For example, and most importantly, DOE erred by putting consumer safety at risk. Spire commented extensively on this problem in its [filed comments of June 22, 2016](#), as did many others. These include the following excerpts:

[From AHRI 22JUN16 comments](#)

DOE needs to understand the full range of venting approaches in the field. DOE's approach to venting and installation is simply much too limited and misses the subtlety of the venting issue. This has significant consequences. First, DOE is proposing minimum efficiency standards that reduce the current margin of safety in venting systems on existing commercial boiler installations by reducing the energy available to drive the products of combustion through the venting system. Second, because manufacturers and installing contractors cannot accept this potential reduction in the safe and proper operation of the venting system, there are additional installation costs associated with upgrading or reworking the vent system to provide a safe and proper venting system for the higher efficiency boiler.

[From AGA and APGA 22JUN16 Comments](#)

The Department should revise its technical analysis and economic justification for the proposed 85.0% levels because they considerably reduce the margin of safety levels which are included in product designs to help ensure that premature failures do not occur. The 85.0% thermal efficiency ("ET") minimum efficiency requirement that is proposed for Small Gas-Fired Hot Water Commercial Packaged Boilers and 85.0% combustion efficiency ("EC") for Large Gas-Fired Hot Water Commercial Packaged Boilers are dangerously close to promoting excessive condensation in both the venting system and the interior heat exchanger of these boilers. Excessive condensation could result in premature failure of the boiler and the vent.⁶ The current

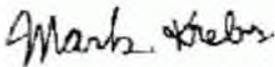
minimums at 80.0% ET and 82.0% EC, for Small and Large Gas-Fired Hot Water Commercial Packaged Boilers, respectively, as developed by the ASHRAE 90.1 committee, reflect a balance between a justifiable margin of safety and an improved energy efficiency level. The Department has failed to meet its burden for deviating from the ASHRAE standard.

Request for Withdrawal

As already stated, withdrawal of the Draft Rule pursuant to 10 C.F.R. § 430.5 is necessary to correct a fundamental error in DOE's regulatory analysis. In any event, withdrawal of the Draft Rule is within DOE's discretion and is plainly warranted on the merits.

On January 20, 2017, the White House issued a Memorandum for the Heads of Executive Departments and Agencies instituting a regulatory freeze pending review of new regulations not yet submitted to the Office of the Federal Register for publication. The Draft Rule is subject to that regulatory freeze, and – since the Draft Rule would impose standards that lack the economic justification expressly required by law –the review required by the regulatory freeze memorandum can and should result in a withdrawal of the Draft Rule to facilitate further analysis of the relevant issues and development of a new proposal appropriately addressing DOE's statutory obligations.

Respectfully submitted,



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