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Shannon Corcoran joined the American Gas Association staff as its Director of Building Codes and Standards in November 2021. Prior to joining AGA, she was the Lead Regulatory Advisor for Heating Appliances for the Air-Conditioning, Heating and Refrigeration Institute. From 2011-2019, she was a Project Manager with CSA Group, managing the Fuels and Appliances Strategic Steering Committee, the U.S. and Canadian consensus committees for natural gas and propane appliances and accessories, the Canadian 149 gas codes, and several of the appliances and accessories technical sub-committees. Shannon started her career in codes and standards with the American Society of Sanitary Engineering, a plumbing association, where she held several roles culminating in Executive Director of the association for 9 years.



Energy Efficiency Decarbonization Electrification



Shannon Corcoran

Director, Building Codes and Standards

American Gas Association

Energy Efficiency and DOE

Energy Policy and Conservation Act of 1975 (EPCA)

- Establishes national minimum energy conservation standards for 60+ products (consumer and commercial) including:
 - *Gas-fired appliances (furnaces, water heaters, boilers, dryers)*
 - *Electric appliances (A/C, furnaces, water heaters, washers)*
 - *Lighting products*
- Energy standards are periodically reviewed and amended to increase energy efficiencies (as needed, but typically at least every 6 years)
- By Statute, State, Counties, and Municipalities cannot set energy efficiency requirements that are above those established by DOE.



Energy Efficiency and DOE

Gas Industry Petition

- **Petition for DOE to consider non-condensing technology (appliances) and associated venting systems constitutes a performance-related feature that cannot be eliminated through adoption of an energy conservation standard**
 - *In January 2021, DOE issued a final interpretation rule that non-condensing was a performance-related feature*
 - *In December 2021, DOE reversed its interpretation, and determined that non-condensing technologies did not meet the intent of a performance-related feature*
- **Why is this important? This can result in non-condensing products being disallowed for both new and existing construction. This could force consumers to switch to electric appliances**



Energy Efficiency and DOE

DOE Process Rule

- **EPCA requires that any new or updated standard that DOE implements be designed to achieve maximum improvement in energy efficiency that is technologically feasible and economically justified**
 - *DOE published a final rule in February 2020 that made the process more transparent and more consistent*
 - *finalize test procedures at least 180 days before proposing related conservation standards*
 - *reliance on consensus-based test procedures*
 - *established a specific numerical threshold that an energy conservation standard will result in a specified reduction in energy usage*



Energy Efficiency and DOE

DOE Process Rule

- **In 2021, DOE issued new revisions to the Process Rule**
 - *DOE published a final rule in February 2020 that made the process more transparent and more consistent*
 - *Removes the binding nature of the 2020 final process rule. DOE would instead implement procedures on a case-by-case basis as was the practice under the 1996 rule.*
 - *Eliminates the requirement for early engagement through a request for information or advance notice of proposed rulemaking. Instead of early engagement being the default procedure for proposed rulemakings, the agency would return to discretionary use of these tools.*
 - *Removes significant energy savings threshold set forth in the 2020 final rule.*
 - *Eliminates the requirement that the test procedure be issued at least 180 days prior to a new energy standard unless the test procedure is for a new product, or significant amendments to the test procedure are made.*
 - *Eliminates the requirement to conduct a comparative analysis when determining whether a specific conservation threshold is economically justified.*

Energy Efficiency and DOE

Commercial Package Boilers

- **DOE Final Rule established a minimum efficiency of 86% ET**
- **Industry challenged Final Rule**
 - *DOE did not provide clear and convincing economic justification for the more stringent standards for commercial package boilers*
 - *D.C. Circuit Court agreed with industry, and remanded the rule to DOE to address several procedural and analytical concerns raised*
 - *April 20th, DOE issued a Final Rule that did not address the court's directive, nor did it provide for public review*
 - *Industry filed a "Motion to Vacate" the Final Rule*



Energy Efficiency and DOE

Test Procedures for Cooking Appliances - RFI

- Address concerns that the conventional cooking top test procedure may
 - *Not accurately represent consumer use for gas cooking tops,*
 - *May not be repeatable or reproducible for both gas and electric cooking tops, and*
 - *Is overly burdensome to conduct.*



Energy Efficiency and DOE

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Energy Efficiency and DOE

Energy Conservation Standards for Manufactured Housing – Supplemental NOPR

- **DOE bases the energy efficiency standards on the most recent version of the International Energy Conservation Code (IECC),**
 - *Except where DOE finds that the IECC is not cost effective, or*
 - *A more stringent standard would be more cost effective, based on the impact of the IECC on the purchase price of manufactured housing and on total life-cycle construction and operating costs.*
- **In August 2021, DOE proposed two potential approaches.**
 - *One provides a set of "tiered" standards based on the manufacturer's retail list price for the manufactured home that would apply the 2021 IECC-based standards to manufactured homes, except that manufactured homes with a manufacturer's retail list price of \$55,000 and below would be subject to less stringent building thermal envelope requirements based on manufacturer's retail list price.*
 - *The alternative approach would apply standards based on the 2021 IECC to all manufacturer's retail list price (86 FR 47744).*

Energy Efficiency and DOE

Energy Conservation Standards for Consumer Furnaces – RFI

- DOE requested input on updating the efficiency standards for Non-weatherized gas furnaces, Mobile home gas furnaces, Weatherized gas furnaces, Non-weatherized oil-fired furnaces, Mobile home oil-fired furnaces, and Weatherized oil-fired furnaces
 - *In January 2021, DOE published a final interpretative rule stating that in the context of residential furnaces, commercial water heaters, and similarly situated products/equipment, use of non-condensing technology (and associated venting constitutes a performance-related “feature” under EPCA that cannot be eliminated through adoption of an energy conservation standard*
 - *In December 2021, DOE issued a new final interpretative rule under which the technology used to supply heated air or hot water is not a performance-related “feature” that provides a distinct consumer utility under EPCA*



Energy Efficiency and DOE

Test Procedure for Consumer Water Heaters and Residential-Duty Commercial Water Heaters – NOPR

- *Improve representativeness of the test procedures*
- *Improve repeatability of the test procedures*
- *Reduce test burden for the manufacturers*
- *Provide clarification*



Energy Efficiency and DOE

Proposed Determination of Miscellaneous Gas Products as a Covered Consumer Product

- Determine if Direct Heating Equipment (decorative hearths and outdoor heaters) should be considered a covered consumer product under EPCA
 - *Classifying the product as a covered product is necessary or appropriate to carry out the purposes of EPCA; and*
 - *The average annual per-household energy use by products of such type is likely to exceed 100 kilowatt-hours (“kWh”) (or its British thermal unit (“Btu”) equivalent) per year.*
- Once DOE determines that it is a covered product, DOE may prescribe test procedures to measure the energy efficiency or energy use of such product



Energy Efficiency and DOE

Test Procedures for Warm Air Furnaces - NOPR

- DOE proposes to add a new metric, Thermal Efficiency Two (TE2) and corresponding test procedure that accounts for
 - *flue losses*
 - *jacket losses*
 - *part-load operations*
- Clarify how to test units with multiple vent hoods
 - *Measurements made in each vent hood shall be averaged or adjusted using a weighted average, depending on the flue hood face area*
- Clarify how to test units with vent hoods that are 2 inches or smaller in diameter
 - *Units with vent hoods that are 2 inches or smaller in diameter may optionally use 5 thermocouples*



Energy Efficiency and DOE

Test Procedures for Consumer Boilers- NOPR

- DOE proposes to expand boiler regulations to include heat pumps
- Use of linear interpolation to heat exchanger materials other than cast iron
 - *linear interpolation is a valid calculation method for these products as proven by the current cast iron allowance*
- Update to current editions of industry standards



Energy Efficiency and DOE

Technical Support Documents for Consumer Boilers

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Energy Efficiency and DOE

Technical Support Documents for Consumer Water Heaters

- TSD is a preliminary analysis DOE has conducted for purposes of evaluating the need for amended energy conservation standards for consumer water heaters. Key takeaways from the TSD include:
 - *DOE proposes to make atmospherically-vented water heaters unavailable*
 - *DOE assumes that purchasers would decline to make economically beneficial efficiency investments in the absence of standards*
 - *DOE used incorrect and significantly overstated energy prices for purposes of its LCC and payback analyses*
 - *DOE should collect and preferentially rely on real-world data, at least to confirm the validity of its analysis of product and installation costs.*



Energy Efficiency and DOE

Energy Conservation Standards for Pool Heaters – NOPR

- Establishes separate product classes based on fuel type - gas, electric, and heat pump
- Establish a crosswalk between the existing thermal efficiency (E_T) standards to new baseline integrated thermal efficiency (TE_I) standards for gas-fired pool heaters, and
- Amend energy conservation standards for gas-fired pool heaters from 82% E_T to 84% TE_I



Energy Efficiency and DOE

Energy Conservation Standards for Commercial Water Heaters – NOPR

- **Unfired Hot Water Storage Tanks**
 - *DOE has determined that the energy conservation standard does not need to be amended*
 - *No clear and convincing evidence that an amended energy conservation standard would result in significant additional energy conservation*



Energy Efficiency and DOE

Energy Conservation Standards for Clothes Dryers

- Currently at the Office of Management and Budget

Energy Conservation Standards for Furnaces

- Currently at the Office of Management and Budget



Consumer Products Safety Commission Gas Ranges and IAQ

- Initiated by RMI in 2021, RMI requested CPSC to initiate a review of health effects of natural gas ranges.
- CPSC formed a working group to review existing codes and standards as they relate to indoor air quality for gas-fired ranges and determine if improvements can be proposed.
 - **WG 1:** *focuses on compiling a list of existing North American voluntary standards and codes that may be applicable*
 - **WG 2:** *focuses on compiling a list of existing health reference values for NO_x, CO, and PM_{2.5}*
 - **WG 3:** *focuses on defining foreseeable and realistic conditions, measurement methods, and time frames that could be used as the basis of a performance test method*



QUESTIONS?

THANK YOU

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