The Air-Conditioning, Heating, and Refrigeration Institute (AHRI) is the trade association representing manufacturers of heating, ventilation, air-conditioning, refrigeration (HVACR) and water heating equipment within the global industry. AHRI’s more than 320 member companies account for over 90 percent of HVACR and water heating residential and commercial equipment manufactured and sold in North America.

Background
Growing electricity demand and the potential for increased renewable energy sources are two trends influencing policymakers and utilities to consider how to better manage peak load. As part of that effort, decision makers are assessing opportunities to implement demand response (DR) programs.

As the grid becomes increasingly powered by renewable sources, excess energy will need to be stored for periods when demand peaks. Legislators and regulators have identified demand response-ready HVACR and water heating products as an area of major opportunity.

Grid-interactive water heaters, in particular, are viewed as a relatively simple way to shift load without negatively impacting customers. Utilities can send load curtailment requests to the water heaters, which store energy in the form of hot water supply. Utilities are also considering opportunities to use a similar approach for other HVACR appliances, including air conditioners and refrigerators.

To run a successful DR program, utilities need to be able to communicate with products. Utilities have turned to policymakers to assess which communications protocols provide the best opportunity. Many stakeholders believe standardizing the communications protocol by limiting it to one interoperable technology ensures DR programs can be implemented quickly and efficiently. Industry has spent considerable time and effort assessing if this approach is both practical from an engineering standpoint and in the best interest of consumers (and manufacturers).

Industry Position and Policy Considerations
While work on this topic continues to evolve, AHRI supports demand response programs and policies that encourage innovation and preserve the ability of manufacturers to utilize the best available technology. AHRI recently developed AHRI Standard 1380, Demand Response through Variable Capacity HVAC Systems in Residential and Small Commercial Applications.

AHRI 1380 establishes requirements for two stage and variable capacity residential HVAC systems equipment, supporting DR strategies to benefit the electric grid in a predictable manner and to help end-users participate in DR or similar incentive programs offered by electric utilities. The Standard’s technology-agnostic approach supports innovation while providing utilities with a predictable load management tool without sacrificing consumer comfort. AHRI supports the inclusion of AHRI Standard 1380 when states or utilities implement DR programs and policies targeting HVAC systems.