Stakeholder feedback on proposed Version 2.0 ENERGY STAR Program Requirements for Programmable Thermostats

To: Katharine Kaplan, Acting Branch Chief, ENERGY STAR Product Labeling

Dear Ms. Kaplan:

FPL recognizes the considerable effort and emphasis that the EPA has placed on advancing energy efficiency through the ENERGY STAR brand, and appreciates the opportunity to submit comment and data on the subject product specification.

FPL is Florida's largest electric utility, serving 4.5 million customers throughout the state. We strive to offer our customers energy which is affordable, reliable, and clean. We are part of FPL Group, one of 20 EPA Climate Leader recently recognized for meeting aggressive carbon reduction goals. FPL's clean energy strategy is achieved, in part, through cost-effective demand side management (DSM) programs to help consumers use energy wisely, and lower their bills. Florida is a hot and humid place, and air conditioning is among the largest users of the energy we produce. Consequently, managing cooling energy and peak demand are central to our DSM efforts.

Any thermostat standard set by ENERGY STAR will have significant implications for energy use in Florida. In light of this, FPL offers EPA our latest data on the performance of ENERGY STAR programmable thermostats.

FPL recently completed a study of the energy saving and direct load control impacts of programmable communicating thermostats (PCTs) in 400 south Florida homes. The study used ENERGY STAR thermostats equipped with two-way communication. The two-way communication enabled the researcher to gather real-time data on consumer programming habits, air conditioner run time and indoor temperatures, as well as allowing consumers to monitor and program their thermostat over the internet. The results of FPL's study have been reported to the Florida Public Service Commission.

The majority of the homes in the FPL study (56%, 224 homes) programmed their thermostat. The remainder (44%, 176 homes) used "Hold" to prevent programs from running. This allowed FPL to compare the energy and peak demand characteristics of homes using programmed and non-programmed thermostats, with a large sample in each group. In doing so, FPL found:

1. Programmed thermostats resulted in 25% higher summer peak demand compared to homes with non-programmed thermostats.

2. Programmed thermostats resulted in a 24% increase in annual cooling energy compared to homes with non-programmed thermostats. Indoor temperature data provides new insight into the reason for higher energy use among programmers. We believe this may be the first time such data has been gathered at the thermostat and correlated with energy use.

Florida's energy goals, under the The Florida Energy Efficiency and Conservation Act, include "reducing the growth rate of weather sensitive peak demand…and reducing and controlling the growth rate of kilowatt hour consumption to the extent cost effective." In light of these goals, FPL was unable to justify promoting the use of PCTs, as their actual impacts are contrary to the goals of the state.

The study also found that only 3.4% of total participants (13 of 400 homes) utilized the default ENERGY STAR specified cooling program. Even the homes which used the default ENERGY STAR cooling program also did not save cooling energy (although this finding should be considered directional due to the small number in the sample). The finding is significant, however, in that it reveals that consumers in hot and humid climates do not employ the ENERGY STAR specified cooling program. We note that the ENERGY STAR cooling program specification has not changed from Version 1.2 to proposed Version 2.0.

Clearly, FPL's findings are limited to the impacts of ENERGY STAR programmable thermostats on cooing energy in the hot and humid climate zone, and do not add to the understanding of their potential to save heating energy. Our findings, however, may yield important insight into the regional impacts of programmable thermostats. Comparison to similar data from other regions would help discern if FPL's findings are regional or general in nature.

FPL also wishes to offer comment on the process for establishing new standards for ENERGY STAR programmable thermostats. FPL encourages EPA to base specifications on reasonable evidence that the specification will result in energy savings and environmental benefits on a consistent, nationwide basis. In its thermostat stakeholder communication of May 4, 2009, EPA stated that "EPA has been unable to confirm any improvement in terms of the energy savings delivered by programmable thermostats and has no credible basis for continuing to extend the current ENERGY STAR specification." It is our understanding that this statement remains true.

Any new standard should be evidence based. FPL encourages EPA to complete a review of existing evidence and determine if it is sufficient to support a new standard's ability to save energy. If not, specify and fund the research which is needed. PCTs are widely deployed in utility pilots, and unanalyzed data on programming impacts may be available now.

FPL hopes that our data and comments are helpful in informing the discussion and guiding the direction of future ENERGY STAR product specifications for programmable thermostats. FPL wishes to encourage and support EPA in understanding regional impacts of programmable thermostats. To this end, we offer to host a conference call to share the findings of our study with you in greater detail.

Sincerely,

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