

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition by Florida Power & Light) Docket No. 20210015-EI
Company for Base Rate Increase and) Filed: June 21, 2021
Rate Unification)

PETITION TO INTERVENE BY THE SMART THERMOSTAT COALITION

Pursuant to sections 120.569, 120.57(1), Florida Statutes and Rule 28-106.205, Florida Administrative Code, the Smart Thermostat Coalition (“STC” or “Coalition”), through their undersigned counsel, hereby respectfully petitions the Florida Public Service Commission (“Commission”) for permission to intervene in the above-captioned proceedings. In support thereof, STC states as follows:

1. STC is an *ad hoc* coalition comprised of industry leaders in smart thermostat technology.¹

2. STC’s representative in this proceeding is:

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Mr. Secrest is authorized to accept service of papers in this proceeding on behalf of STC.

3. The affected agency in this proceeding is:

Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

¹ STC’s participants are ecobee, Inc. (“ecobee”) and Google LLC (“Google”). STC does not seek associational standing, but rather seeks standing jointly for its individual corporate participants.

4. On March 21, 2021, Florida Power & Light Company (“FPL”) and Gulf Power Company (“Gulf Power”) (collectively, “Companies”) filed a Petition for Base Rate Increase and Rate Unification (“Petition”). STC received notice of the filing of the Petition through a search of the Commission’s docketing system in May 2021.

STATEMENT OF AFFECTED INTEREST

5. STC, through its smart thermostat manufacturer members, has a unique and substantial interest that will be affected by the outcome of this proceeding with respect to the Companies’ implementation of residential time-of-use (“TOU”) tariffs in their service territories.

6. In a rate-fixing proceeding pursuant to Section 366.06, Florida Statutes:

[T]he commission shall have the authority to determine and fix fair, just, and reasonable rates that may be requested, demanded, charged, or collected by any public utility for its service. . . In fixing fair, just, and reasonable rates for each customer class, the commission shall, to the extent practicable, consider the cost of providing service to the class, as well as the rate history, value of service, and experience of the public utility; the consumption and load characteristics of the various classes of customers; and public acceptance of rate structures.

Section 366.06(1), F.S. The same provision states that a public utility may not “charge or receive any rate not on file with the commission for the particular class of service involved.” *Id.*

7. Section 366.041(1), Florida Statutes, sets forth the considerations that the Commission may take into account “[i]n fixing the just, reasonable, and compensatory rates, charges, fares, tolls, or rentals to be observed and charged for service within the state by any and all public utilities under its jurisdiction,” which include “the efficiency, sufficiency, and adequacy of the facilities provided and the services rendered; the cost of providing such service and the value of such service to the public; [and] the ability of the utility to improve such service and facilities.”

8. As detailed below, the Companies' proposed tariffs for residential customers are not just and reasonable when taking into account these considerations because they fail to provide a robust mechanism for customers to leverage flexible demand technologies like smart thermostats, which when paired with TOU rates can provide significant bill savings for customers along with reliability services that increase efficient use of the distribution grid.

FPL's AMI Deployment

9. The Commission authorized FPL's cost recovery for its investment in Advanced Metering Infrastructure ("AMI"), or "smart meters," on March 17, 2010 in Order No. PSC-IO-0153-FOF-EI. In that proceeding, FPL provided testimony asserting that AMI would provide a range of benefits, including by providing detailed energy consumption information and "enabl[ing] adoption by customers of innovative efficient technologies in the future." *In re Petition for Rate Increase by FPL*, Docket No. 20080677-EI, Testimony of Marlene M. Santos (Mar. 18, 2009) at 41.

10. At the time, the Commission stated:

Customers will receive the benefits of having smart meters and a smarter infrastructure, affording them more information on their usage. As we discussed above, implementation of smart grid technology will have significant cost savings to FPL customers. In recognition of the cost savings that will be realized by FPL, we direct FPL to bring us a program to help customers use AMI to reduce energy consumption.

In re Petition for Rate Increase by FPL, Docket No. 20080677-EI, Order (Mar. 17 2010) at 140.

The Commission therefore ordered FPL to provide an annual progress report, including "a detailed description of how FPL intends to utilize smart meters to allow customers to better manage their energy consumption, including new programs or rate offerings associated with smart meters."

11. To facilitate AMI deployment to its 4 million residential customers, FPL accepted a \$200 million grant from the U.S. Department of Energy (“U.S. DOE”). As described in an FPL report to the Commission, among other items this grant funded FPL’s “In-Home-Technology Project which is designed to test emerging in-home technologies and dynamic pricing associated with smart meters.” Docket No. 20110002-EG, FPL Smart Meter Progress Report (Mar. 21, 2011) at 3. FPL’s report stated that “[t]his program will help FPL to better understand its customers’ needs and some of the potential products and services that could be offered to customers to better manage their energy usage.” *Id.*

12. FPL subsequently summarized the results of this project, carried out in 2012, to the Commission in Docket No. 2011031-EG. The report found no significant customer response to information about energy usage in terms of actual energy or demand savings. *Petition for approval of residential service dynamic price response pilot rate*, Docket No. 20110031-EG; FPL’s Annual Report on Residential Service Dynamic Price Response Pilot Rate (Apr. 25, 2013).

13. This result is consistent with the findings of a larger analysis conducted by the U.S. DOE regarding the results more than 70 utility smart grid studies examining the response of AMI customers to time-varying rates coupled with either informational displays or advanced thermostat technology to automatically control heating and cooling. U.S. DOE concluded that advanced thermostats “enabled greater peak demand reductions than manual responses” while “[i]n-home displays (IHDs) were less helpful, and in many cases, participating customers declined to use them or used them for a short period of time.” U.S. DOE, Results from The Smart Grid Investment Grant Program at 6 (Sept. 2016), *available at*

https://www.energy.gov/sites/prod/files/2016/12/f34/AMI%20Summary%20Report_09-26-16.pdf.

14. Among the analyses considered in the U.S. DOE report was an Oklahoma Gas & Electric (“OG&E”) Consumer Behavior Study, which measured customer response to dynamic pricing utilizing in-home equipment. OG&E, Final Evaluation Report (Aug. 2012), *available at* https://www.smartgrid.gov/project/oklahoma_gas_electric_positive_energy_smart_grid_integration_program.html. OG&E found that customers with advanced thermostats realized a 58% kW demand reduction on variable peak pricing compared to a control group, and attributed this result to the automated response of the thermostat versus treatments that merely provided pricing and usage information while requiring an active customer response.

15. These studies and others show that pairing TOU rates with smart thermostats is the most effective approach to achieve a consistent and significant customer response based on detailed energy usage data, exceeding benefits from simple informational tools like web portals and in-home displays.

16. It is also worth noting that a 2019 research study by the Smart Energy Consumer Collaborative found that automation technologies (such as smart thermostats – versus web portals or apps that do not provide automation capability) significantly increase residential customers’ willingness to participate in time-based pricing programs that are a primary basis for successful customer energy, demand, and bill savings from AMI. Nearly half of residential respondents indicated that they would be willing to participate in a time-based pricing program if automation technologies were deployed in their home, versus only 5-7% that indicated that they would do so without such devices. Smart Energy Consumers Collaborative, Rate Design: What

Do Consumers Want and Need? (Sept. 19, 2019) at 17, *available at*

<https://smartenergycc.org/rate-design-what-do-consumers-want-and-need>.

17. Although FPL currently offers an opt-in residential time-of-use rate, customer enrollment in that tariff does not involve adoption of any smart thermostat technology.

Gulf Power's AMI Deployment

18. Prior to the merger of Gulf Power and FPL, the Commission approved Gulf Power's cost recovery for widespread deployment of AMI in Docket No. 20110138-EI. In that case, Gulf Power witness Neyman explained that the benefits that the company expected to realize from AMI included "critical peak pricing and peak demand management response, including the next generation of Energy Select." *In re Petition for increase in rates by Gulf Power Company*, Docket No. 20110138-EI Testimony of Margaret D. Neyman (July 8, 2011) at 25.

19. Energy Select is a Gulf Power program in which customers can use technologies to automatically control their load to reduce demand at peak time. Although the program has been in existence since 1995, since Gulf Power's AMI deployment it has evolved to include an option for a customer to use a price-responsive programmable thermostat to automatically respond to a time-varying rate (schedule RSVP, Residential Variable Pricing). According to a case study by the Smart Energy Consumer Collaborative, this program had enrolled over 10,000 customers as of 2013 and produced significant average peak load demand reduction and energy savings per household, with an average annual electricity bill reduction of 12-15%. Smart Energy Consumer Collaborative, *Gulf Power – Case Study (2014)*, *available at* <https://smartenergycc.org/2014-gulf-power-case-study>. As of December 2019, there were over 20,000 participants who experienced average summer kW savings of 1.8 kw, average winter kW

savings of 1.07 kW, and average annual energy savings of 735 kWh. Docket No. 20210000-OT, Florida Power & Light Company and Gulf Power Company 2020 DSM Annual Report (Mar. 1, 2021) at 17.

20. In the pending Petition, the Companies propose to phase out existing Gulf Power tariffs and to “migrate all Gulf Power customers onto the applicable best-fit FPL rate schedule.” Direct Testimony of Tiffany C. Cohen (Mar. 12, 2021) at 11. Schedule E-13C of the Petition reflects that the Companies plan to transition Gulf Power RSVP customers participating in the Energy Select program to FPL’s standard RS-1 residential tariff, which does not offer a time-varying rate. MFR Vol. 5, Schedule E-13C at 85.

Current U.S. Efforts to Leverage Smart Thermostats in Combination with TOU Rates

21. STC has a concrete interest in participating in this proceeding in order to ensure that the Companies make available tariffs through which STC’s members can effectively respond to price signals to provide customer and grid benefits through automated shifting of customer heating and cooling load.

22. STC is familiar with examples of such tariffs and/or programs in other jurisdictions.

23. In Oklahoma, the Public Service Company of Oklahoma provides a free smart thermostat to customers enrolling in a time-of-day rate through its “Power Hours” program, separate from its demand response program involving a utility-controlled thermostat. *See* <https://psopowerhours.com/programs>.

24. In Ohio, STC is a signatory to a stipulation with Dayton Power & Light Company that paves the way for a utility proposal to deploy smart thermostats to a significant percentage of the utility’s customers in conjunction with installation of AMI “with a goal of maximizing

residential customer benefits from managing peak demand in conjunction with time-varying rates.” Public Utilities Commission of Ohio (“PUCO”) Case Nos. 18-1875 *et al.*, Stipulation and Recommendation (Oct. 23, 2020) at 19-20. The PUCO approved this Stipulation on June 18, 2021. PUCO Case Nos. 18-1875 *et al.*, Opinion and Order (June 16, 2021) at 19-20.

25. An ongoing effort in Arizona illustrates a tariff design that will help residential customers achieve bill savings through flexible demand technologies. In late 2020, the Arizona Corporation Commission (“ACC”) directed Arizona Public Service Co. (“APS”), the state’s largest utility, to establish a tariff providing for the aggregation of distributed storage and demand-side resources based on their provision of capacity, demand reduction, load shifting, and other services, and also directing that the tariff should provide compensation to the suppliers of these services. ACC Docket No. E-01345A-19-0148, Decision No. 77762 (Oct. 2, 2020) at 8; Decision No. 77855 (Dec. 31, 2020) at 3.

26. In May 2021, APS issued a request for proposals (“RFP”) for provision of the specified Distributed Demand-Side Resources (“DDSRs”) in order to inform its tariff design, including generic energy and capacity resources and locational resources to relieve peak-season capacity constraints on specific distribution feeders. ACC Docket No. E-01345A-19-0148, APS, 2021 Distributed Demand-Side Resources Request for Proposals – Draft (May 20, 2021), *available at* <https://docket.images.azcc.gov/E000013623.pdf?i=1621588041667>. This RFP is aimed at leveraging such “clean energy resources and flexible capacity resources to maintain system reliability, particularly during summer system peak load times, in an environment of . . . increased customer adoption of DDSRs.” *Id.* at 4. APS seeks to procure these demand-side resources through a “load management agreement” with participating vendors, enabling such

vendors to aggregate eligible resources without a complex enrollment process for individual customers.

27. There are real potential benefits for residential customers in adopting a similar approach to pairing smart thermostats with a time-varying price signal in the Companies' service territory. STC member ecobee conducted a national pilot program to test a new price optimization software platform in 2019 and 2020, which a subsequent third-party evaluation determined resulted in significant average demand reductions and 10% savings on cooling costs for customers on FPL's RTR-1 TOU rate. Demand Side Analytics, Eco+ Thermostat Optimization Pilot Report (Nov. 2020), Table 2, *available at* <https://www.ecobee.com/en-us/ecoplusemv>.

28. If the Commission does not require the Companies to implement a mechanism for utilizing smart thermostats in conjunction with TOU price signals to shift demand, then both the Companies' customers and the members of the STC will lack an important avenue to achieve benefits from cost-effective load shifting. Although the Commission recognized in authorizing FPL's and Gulf Power's cost recovery for AMI investment that it could benefit customers through providing more information about their energy usage, the subsequent research detailed above shows that information alone is not enough; enabling technologies that automate customer load-shifting in response to a price signal are key to achieving direct customer benefits from AMI.

29. Because this approach requires both customer participation and the technology provided by STC's members, STC and the Companies' ratepayers have an intertwined interest in the development of a program to facilitate smart thermostat-enabled customer response to TOU rates. The Companies' decision to discontinue any tariff that could constitute a viable platform

for STC's members to provide benefits to Florida residential ratepayers is a concrete and non-speculative injury to STC's substantial interests that satisfies the first prong for intervention pursuant to *Agrico Chemical Company v. Department of Environmental Regulation*, 406 So. 2d 478, 482 (Fla. 2d DCA 1981).

30. STC's interest is also of a type or nature which this proceeding is designed to protect, as required by the second prong of the *Agrico* test for intervention. *Id.* STC's members seek to provide a service to benefit the Companies' customers that relies on the existence of a utility TOU tariff facilitating an automated customer response to price signals to produce customer and grid benefits. Whether the Companies will provide such a tariff is within the zone of interests protected by Section 366.041, Florida Statutes, which authorizes the Commission to consider the "the efficiency, sufficiency, and adequacy of the facilities provided and the services rendered [by a public utility]; the cost of providing such service and the value of such service to the public; [and] the ability of the utility to improve such service and facilities" in a rate proceeding such as this one. These considerations provide a robust basis for the Commission to address STC's potential injury and substantial interest by ordering the Companies to establish a tariff that effectively facilitates customer use of smart thermostats for cost-effective load shifting in response to time-varying rates.

STATEMENT OF POSITION

31. STC's substantial interest as set forth above provides it standing, and in light of the reasons set forth in this Petition to Intervene, STC seeks to ensure that the Commission requires the Companies to provide just and reasonable tariffs that enable the full suite of customer benefits from AMI deployment and TOU rates.

DISPUTED ISSUES OF MATERIAL FACT

32. At this time, STC has not identified disputed issues of material facts stated by the Companies.

STATEMENT OF ULTIMATE FACTS ALLEGED AND AT ISSUE

33. Ultimate facts alleged and at issue include, but are not limited to, the following:
- a. Commission approval of the Companies' tariffs as proposed in the Petition will not result in rates that are fair, just and reasonable; and
 - b. Fair, just, and reasonable rates for the Companies' residential customers must include a mechanism that facilitates the use of STC member technology for automated load management in response to price signals.

STC anticipates that other ultimate facts and issues may arise during the course of this proceeding.

RULES AND STATUTES JUSTIFYING RELIEF

34. The rules and statutes that entitle STC to intervene and participate in this case include, but are not limited to:

- a. Section 120.569, Florida Statutes;
- b. Section 120.57, Florida Statutes;
- c. Section 366.04, Florida Statutes;
- d. Section 366.041, Florida Statutes;
- e. Section 366.05, Florida Statutes;
- f. Section 366.06, Florida Statutes;
- g. Rule 28-106.201, Florida Administrative Code; and
- h. Rule 28-106.205, Florida Administrative Code.

REQUESTED RELIEF

35. STC requests that the Commission grant this Petition to Intervene.

36. STC has conferred with all other parties of record as to their position regarding this Petition. FPL, Commission Staff, the Office of Public Counsel, the Florida Industrial Power Users Group, Walmart, the CLEO Institute and Vote Solar, and the Florida Retail Federation indicated they took no position. Counsel for the Larsons and Floridians Against Increased Rates indicated they do not oppose the petition. No other parties had stated their position at the time of filing.

WHEREFORE, the Smart Thermostat Coalition respectfully requests that the Commission grant this Petition to Intervene and authorize STC's participation in these Commission proceedings as a full party of record.

June 21, 2021

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been furnished by electronic mail to the following parties on June 21, 2021.

/s/ Madeline Fleisher
Madeline Fleisher

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