MINUTES FROM THE RESIDENTIAL DEMAND RATES WORKSHOP OF THE UTILITY BOARD OF THE CITY OF KEY WEST, FLORIDA, HELD AT 9:00 A.M. ON WEDNESDAY, FEBRUARY 6, 2019 AT THE KEYS ENERGY SERVICES BOARD ROOM

The above referenced workshop of the Utility Board of the City of Key West, Florida, convened at 9:00 A.M., on the above date and location and was called to order by Chairman Batty.

Utility Board Members Present

Peter Batty, Chairman
Mona Clark, Vice Chair
Robert Barrios, Member
Timothy Root, Member
Steven Wells, Member

Staff Present

Lynne Tejeda, General Manager & CEO
Jack Wetzler, Assistant General Manager & CFO
Edee Delph, Executive Assistant to GM/CEO & UB
Nick Batty, Director of Legal & Regulatory Services
Julio Torrado, HR & Communications Director
Dan Sabino, Engineering & Control Center Director
Erica Zarate, Customers Services Director
Cindy McVeigh, Accounting & Analyst Supervisor
Jessie, Perloff, Accounting & Financial Analyst
Amy Haas, Accounting & Financial Analyst
Jeanette Williams, Accounting & Financial Analyst
Amber Menendez, Collections Supervisor
Hugo Valdez, Meter Services Supervisor

Others Present

Maxwell (Max) Bernt, Director Energy Practice for NewGen Strategies and Solutions

In February 2017 the Utility Board awarded Financial Consulting Services to NewGen Strategies & Solutions to accomplish the following task:

Task I – Provide Cost of Service Study
Task II – Develop Process and Procedures for Application of Overhead Cost
Task III – Develop Process and Procedures for Customer Billable Work
Task IV – Develop Process and Procedures for Calculating Pole Attachment Fees

The Utility Board held a Cost of Service Workshop in June 2017 and another in August 2017. The Board directed staff to complete the following:

- Develop a policy with larger Impact Fees for Large Commercial Customers and lower impact fees for low-income housing, governmental and non-profit accounts.
- Discuss Senior Citizen Discount, provide Utility Board with additional options and come back to Board for approval.
- Discuss benefit of an addition of Energy Auditor position within in the next year to provide customers with detail explanations on how to manage their energy consumption.
- Complete Electric Services Rate Tariffs and bring back to Board at a future meeting with an effective of January 1, 2018.
- Complete a Residential Demand Study and pending approved implementation by Board other rate classes will be considered.

All task were completed with exception of Board implementation, which is the purpose of today's Workshop. Residential Demand concepts will be revisited and how it can translate into a new Rate Application for Residential Customers.

Mr. Bernt stated he will discuss the Residential Demand Pilot Program to provide the Board with information on a proposal for KEYS Residential Demand Rate Pilot Study.

Mr. Bernt provided the following information to the Board:

Introduction to Demand & Energy

- Keys Energy Services (KEYS) provides electricity to customers on a firm all-requirements basis
- To meet this obligation, KEYS must have sufficient:
  - capacity to ensure reliability, and;
  - energy for customer use (work)
- Customer demand and energy usage characteristics drive utility investments and cost of service

Definitions

- *Demand:* The rate at which energy is used at a point in time
- *Energy:* The average demand used over time

System Configurations

- Typical Electric Utility System Configuration
- KEYS Electrical Utility System Configuration
  - FMPA: Power Generation & Transmission
  - KEYS: Transmission, Distribution & Customer Care

Generation Function

- The generation function is responsible for providing demand and producing energy
- The power plant portfolio is sized to meet the maximum demand requirements of the system (fixed costs)
- Energy is produced by burning fuel to meet the electricity

requirements of customers over time (variable cost)

Transmission Function

- The transmission function is responsible for transmitting electricity from the generator to the distribution system
- The utility must size transmission substations, transformers, and lines to serve the maximum demand requirements of the system
- Transmission costs vary with the amount of capacity required (typically fixed)

Distribution Function

- The distribution function is responsible for distributing electricity from the transmission line to customer
- The utility must size distribution substations, transformers, lines, and services, to serve the maximum demand requirements of their customers
- Distribution cost vary with the amount of capacity required and number of customers served (fixed)

Customer Function

- The customer function is responsible for:
  - Customer Service
  - Accounting/Billing
  - Customer Communication
  - Cost typically vary with number/type of customers served (fixed)

Demand & Energy Measures of Efficiency

- Capacity Measure
  - Load Factor
  - Reduces amount of capacity
- Energy Measure
  - Energy efficiency
  - Reduces energy consumption (i.e. lowers monthly bills)

Load Factor

- Load factor (measure of capacity efficiency):
  - Ratio of energy used to energy that could be used at 100% efficiency
  - Energy (kWh)/(Maximum Demand * Hours)

Rate Structure

- Two Part Rate (Current Residential Rate)
  - Customer Charge ($/Month)
  - Energy Charge ($/kWh)
  - Charges customers the same rate for energy used regardless of how it is used
  - Incentivizes energy efficiency only
  - Lower usage = lower bill
  - Lower demand (higher load factor) ≠ lower bill
- Three Part Rate (Demand Pilot Rate)
  - Customer Charge ($/Month)

- Energy Charge ($/kWh)

- Demand Charge ($/kW)
- Incentivizes energy efficiency and demand efficiency
  - Lower usage = lower bill
  - Lower demand (higher load factor) = lower bill

Demand Control

- Three part rate incentivizes customers to reduce (shift) demand
- Regardless of change in customer behavior, three-part rate reduces intra-class subsidies by more appropriately charging customers based on how they use energy

Time of Use Rates (TOU)

- FMPA charges KEYS demand charges based on KEYS demand at the time of FMPA's system peak each month
- FMPA demand costs make up 36.4% of all KEYS costs (from 2016 COS Study)
- Demand rates without a TOU component will only change individual customer's behavior but typically have minimal effect on system load behavior
  - No savings on FMPA demand costs unless a TOU component is added to rate
  - AMI meters recommended for TOU

Mr. Bernt provided Residential Demand Pilot Program Considerations and Options to the Board.

Why have a Residential Pilot Rate Program:

- Identify Rate Options
  - To provide clear pricing signals so customers can react
  - Fairly recover cost to serve customers
  - Result in an overall system benefit
  - Be proactive how utility handle emerging technology/trends
  - Provide utility staff experience with rates options and allow for adjustments to be identified and made before solution is rolled out to entire system

Mr. Bernt provided the Board with information on changing load requirements for Electric Vehicles and changing load requirements for solar.

Mr. Bernt provide the Board with examples of technology to assist pilot participants:

- Demand Controllers
- Load Monitoring Devices
- Batteries
- Programmable thermostats (typically more effective for TOU rates)

Mr. Bernt discussed two options:

- Implementation of AMI Meters
- Pilot Residential Demand Rate for Large Residential Customers

After discussion, the consensus of the Board was for Staff to explore cost and benefits for a pilot program and for full AMI deployment and bring back before the Board for further consideration.

(A copy of the power point presentation and all documents discussed are available upon request)

ADJOURNMENT

The Residential Demand Rates Board Workshop of Wednesday, February 6, 2019, was adjourned by Chairman Batty at 10:40 A.M.

APPROVE:

_____
Peter Batty, Chairman

ATTEST:

_____
Lynne E. Tejeda, General Manager/CEO & Secretary

/ed