

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF CLARK ENERGY)	
COOPERATIVE, INC. FOR A CERTIFICATE OF)	CASE NO.
PUBLIC CONVENIENCE AND NECESSITY TO)	2016-00220
INSTALL AN ADVANCED METERING)	
INFRASTRUCTURE (AMI) SYSTEM)	

ORDER

On June 27, 2016, Clark Energy Cooperative, Inc. (“Clark Energy”) filed an application seeking a Certificate of Public Convenience and Necessity (“CPCN”) to purchase and install an advanced metering infrastructure (“AMI”) system over a 48-month period. The AMI system would consist of meters,¹ meters with a remote service switch, radio frequency (“RF”) collectors, RF routers, computer infrastructure, RF engineering/test equipment, and software/support services. Clark Energy proposes to purchase and install 12,558 new AMI meters over the next four years.² The estimated total cost for the proposed AMI project is _____.³ A procedural schedule for the processing of this matter was established pursuant to the Commission’s July 22, 2016 Order. The procedural schedule provided for, among other things, two rounds of

¹ The proposed meters will be Landis & Gyr E330 Focus AX and E350 AX-SD single-phase meters.

² Clark Energy’s response to Commission Staff’s First Request for Information (“Staff’s First Request”), Item 20.

³ Clark Energy’s June 27, 2016 and September 1, 2016 motions to keep the estimated total cost for the proposed AMI confidential were denied pursuant to the Commission’s Order of December 22, 2016. Pursuant to 807 KAR 5:001, Section 13(5), when confidentiality is denied, “the material shall not be placed in the public record for the time period permitted pursuant to KRS 278.410 to bring an action for review.”

discovery upon Clark Energy's application. On October 5, 2016, Clark Energy filed a notice indicating that there are no material issues of fact that warrant a hearing in this case and that the matter may be submitted for the Commission's decision based upon the existing record

BACKGROUND

Clark Energy states that it currently utilizes a hybrid Landis & Gyr Power Line Carrier ("PLC") metering system. Clark Energy currently has 26,625 meters in use, of which 18,527 are TS1 meters and 8,098 are TS2 meters.⁴ Clark Energy states that the TS1 meters were installed in 2001 but that replacement parts are no longer available for TS1 meters and that those meters are nearing the end of their useful life.⁵ As a result, Clark Energy, as part of its 2010 – 2014 Construction Work Plan,⁶ began replacing its TS1 meters with TS2 meters.⁷ According to Clark Energy, the TS2 meters were capable of utilizing the existing infrastructure which allowed for the gradual replacement of aging TS1 meters and infrastructure. Transitioning to TS2 meters minimized the cost associated with what otherwise would have been a full-scale deployment of the TS2 meters and infrastructure.⁸ However, during the deployment of

⁴ Clark Energy's response to Staff's First Request, Item 5.a.

⁵ Application, Exhibit 2. *See also*, Clark Energy's response to Commission Staff's Second Request for Information ("Staff's Second Request"), Item 1.

⁶ Case No. 2011-00303, *Application of Clark Energy Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct According to its 2010-2014 Construction Work Plan* (Ky. PSC June 13, 2012).

⁷ Application, Exhibit 2. *See also*, Clark Energy's response to Staff's Second Request, Item 1.

⁸ Clark Energy's response to Staff's First Request, Item 1.

the TS2 meters in 2013, Landis & Gyr informed Clark Energy of certain limitations with the PLC communication system that would prevent Clark Energy from fully utilizing the TS2 meters as needed.⁹ The limitations were caused by an issue characterized as “cross-talk” in which a meter receives a command and attempts to communicate with multiple collectors but is unable to differentiate the collector that sent the data. The cross-talk issue manifested itself in the form of a weak signal reaching the TS2 meter, a weak meter signal reaching a collector, inability to communicate to direct load-control switches, and an inability to confirm direct load-control switch operations. Due to the technical issues with the TS2 meters, Clark Energy discontinued deployment of the TS2 meters and began looking for alternate meter solutions capable of providing the functionality and options that its members were wanting.¹⁰

After determining that product development for PLC technology had virtually stopped in favor of RF technology, Clark Energy solicited proposals from General Electric, Sensus, and Landis & Gyr.¹¹ Clark Energy stated that the proposals were evaluated based upon overall cost; cost of infrastructure; recurring cost; functionality; and compatibility with Clark Energy’s outage management system, customer information system, and supervisory control and data acquisition system. Clark Energy ultimately selected Landis & Gyr’s mesh RF system, which utilizes individual meters as signal-enhancing relay points to transmit data to routers and collectors.¹² Clark Energy noted that in addition to being the lowest-cost bid, Landis & Gyr’s proposed system

⁹ Application, Exhibit 2.

¹⁰ *Id.*

¹¹ *Id.*

¹² Application, Exhibit 3.

could be installed on existing standard distribution equipment and would allow Clark Energy to use its currently installed hardware and software.¹³ The Landis & Gyr RF system is compatible with Clark Energy's billing and accounting software system and would permit more frequent meter readings, assist members with monitoring usage online, allow for pre-pay metering, and enhance Clark Energy's ability to develop other rate structures to offer to its members.¹⁴ The additional rate structures could include real-time pricing, time-of-use, on-peak/off-peak, and time-of-day.¹⁵

Clark Energy states that the proposed RF infrastructure will be able to communicate with its existing Landis & Gyr AMR/AMI software system currently being used for the TS1 and TS2 meters.¹⁶ This will allow Clark Energy to continue to use its existing meters and replace the older TS1 meters over the planned 48-month transition period.¹⁷ Clark Energy indicates that all of its electromechanical TS1 meters have been fully depreciated and will be replaced with the proposed AMI meters.¹⁸ Clark Energy currently has 12,700 electromechanical and 5,827 solid state TS1 meters in use.¹⁹ Clark Energy stated that solid state TS1 meters will be tested and reused in existing TS1 areas of Clark Energy's system until the completion of the proposed RF

¹³ Clark Energy's response to Staff's First Request, Item 5.g.

¹⁴ Clark Energy's response to Staff's First Request, Item 5.h.

¹⁵ Clark Energy's response to Staff's First Request, Item 13.

¹⁶ Application, Exhibit 3.

¹⁷ *Id.*

¹⁸ Clark Energy's response to Staff's First Request, Item 18.

¹⁹ Clark Energy's response to Staff's First Request, Item 5.c.

infrastructure.²⁰ According to Clark Energy, solid-state TS1 meters can then be replaced at the request of the members or upon meter failure with the proposed AMI meters.²¹ Clark Energy also anticipates that some solid-state TS1 meters may remain in use for several years on low-use basic service facilities such as barns, garages, and water pumps, at which time these meters will be or nearly will be fully depreciated.²²

Clark Energy states that the 8,098 TS2 meters currently in service will be reused in other parts of its system that do not have PLC communication issues until the RF infrastructure is completed.²³ Clark Energy states that TS2 meters can then be replaced with a proposed AMI meter at the request of a member or upon a TS2 meter failure.²⁴ As with the solid-state TS1 meters, Clark Energy indicates that it will continue to utilize TS2 meters on low-use basic service facilities such as barns, garages, and water pumps.²⁵

Clark Energy states that it is proposing to purchase only 12,558 meters as part of this AMI project because it will be able to continue utilizing the existing PLC infrastructure as the proposed RF infrastructure is being deployed.²⁶ Clark Energy believes that the requested meter quantity will be sufficient for the four-year planning cycle to cover meter replacement due to member request, meter failure, meter attrition,

²⁰ Clark Energy's response to Staff's First Request, Item 18.

²¹ Clark Energy's response to Staff's First Request, Item 18.

²² *Id.*

²³ *Id.* See also, Clark Energy's response to Staff's First Request, Item 5.f.

²⁴ Clark Energy's response to Staff's First Request, Item 18.

²⁵ *Id.*

²⁶ Clark Energy's response to Staff's First Request, Item 20.

and planned change out.²⁷ Because it is unlikely that a significant meter failure would occur and the RF infrastructure would be in place within four years, Clark Energy intends to include additional AMI meters in its next construction work plan to upgrade all meters to AMI.²⁸

DISCUSSION

Having reviewed the record and being otherwise sufficiently advised, the Commission finds that Clark Energy has established a need to upgrade its metering system. We note that the evidence shows that Clark Energy's current metering system consists of TS1 and TS2 meters utilizing a PLC communication system. The record shows that Clark Energy's TS1 meters are obsolete, nearing the end of their useful lives, and fully depreciated. The record also shows that Clark Energy's TS2 meters are currently experiencing communications issues that could not be resolved under the PLC communication system because Landis & Gyr soon will no longer support the TS2 meters.²⁹ The Commission further finds that the proposed Landis & Gyr RF AMI system is the least-cost alternative to addressing Clark Energy's metering needs and is not a wasteful duplication of facilities. The proposed AMI system will allow Clark Energy to provide its members with near real-time usage information, pre-pay metering options, dynamic pricing rate structures, and direct load control programs, as well as the ability

²⁷ *Id.*

²⁸ *Id.*

²⁹ The Commission takes administrative notice that in Case No. 2016-00077, *Application of Licking Valley Rural Electric Cooperative Corporation for an Order Issuing a Certificate of Public Convenience and Necessity* (Application filed Feb. 15, 2016), Licking Valley Rural Electric Cooperative Corporation provided evidence indicating that Landis & Gyr would discontinue support for its TS2 meters after December 31, 2020.

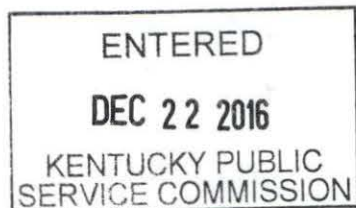
to perform remote connection and disconnection, distribution automation, and voltage data readings.

IT IS THEREFORE ORDERED that:

1. Clark Energy's request for a CPCN to purchase and install an AMI system as described in its application is approved.

2. Within 90 days of the issuance of this Order, Clark Energy shall file a summary detailing how it intends to implement the types of programs, such as pre-pay metering, dynamic pricing, direct load control, and any other energy efficiency or demand-side management programs, that Clark Energy would be able to develop and offer to its customers as a result of implementing the new AMI system. Clark Energy shall include in this summary a timeline of when it anticipates it would be able to make those program offerings to its customers.

By the Commission



ATTEST:


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