

STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

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Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York State Electric & Gas Corporation for Electric Service Case 15-E-0283

Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York State Electric & Gas Corporation for Gas Service Case 15-G-0284

Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Rochester Gas and Electric Corporation for Electric Service Case 15-E-0285

Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Rochester Gas and Electric Corporation for Gas Service Case 15-G-0286

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**PETITION OF NEW YORK STATE ELECTRIC & GAS CORPORATION AND  
ROCHESTER GAS AND ELECTRIC CORPORATION FOR AUTHORIZATION FOR  
FULL-SCALE DEPLOYMENT OF ADVANCED METERING INFRASTRUCTURE  
AND TO ESTABLISH A SURCHARGE**

Dated: December 20, 2016

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New York State Electric & Gas Corporation  
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**PETITION OF NEW YORK STATE ELECTRIC & GAS CORPORATION AND  
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**I. PRELIMINARY STATEMENT**

New York State Electric & Gas Corporation (“NYSEG”) and Rochester Gas and Electric Corporation (“RG&E” and together with NYSEG, the “Companies”) hereby request authorization from the New York State Public Service Commission (“Commission”): 1) for full-scale deployment of Advanced Metering Infrastructure (“AMI”);<sup>1</sup> and 2) to establish an AMI Surcharge to recover the costs associated with same. Specifically, the Companies seek cost recovery of incremental AMI net operating expenses inclusive of operating expense savings and capital investments through a rate surcharge until such time as NYSEG’s and RG&E’s base rates

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<sup>1</sup> AMI is an integrated set of technologies that collect interval energy usage data through smart meters, validate and store the data in a database, provide customers access to their own meter data through a web portal, and provide certain behind-the-meter monitoring and control capabilities.

have been adjusted to fully reflect recovery of costs otherwise collected through the surcharge. In support of this Petition, the Companies are submitting herewith the testimonies of the Companies' AMI Business Plan Panel, the AMI Revenue Requirements Panel and the AMI Rate Design Panel, along with their supporting exhibits.

This Petition reflects the Joint Proposal approved in Cases 15-E-0283 et al.<sup>2</sup> which established a three-year rate plan for NYSEG and RG&E for the period commencing May 1, 2016 to April 30, 2019 ("2016 Joint Proposal").<sup>3</sup> The 2016 Joint Proposal indicated that implementation of full-scale AMI beyond the AMI implemented as part of the Companies' demonstration project in the Commission's Reforming the Energy Vision ("REV") proceeding would be the subject of a separate collaborative process. The Companies also note that this Petition is consistent with and expressly incorporates by reference as if set forth herein the AMI portion of the Companies' Distributed System Implementation Plan ("DSIP") filed on June 30, 2016 in the REV proceeding.<sup>4</sup>

Implementation of full-scale AMI is an essential foundational system in realizing New York's REV goals of empowering customers through new tools and information to effectively manage and reduce usage, establish and animate new markets to promote the implementation of distributed energy resources ("DER"), and minimize environmental impacts of power generation and energy consumption. As detailed more fully in the Companies' DSIP, the AMI project will include installation of intelligent meters (including new electric meters, new gas meters and new

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<sup>2</sup> Cases 15-E-0283 et al. - Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York State Electric & Gas Corporation for Electric Service, Order Approving Electric and Gas Rate Plans in Accord with Joint Proposal (June 15, 2016) ("2016 Rate Order").

<sup>3</sup> Id. at Joint Proposal, p. 26.

<sup>4</sup> On June 30, 2016, the Companies filed a public redacted version of the DSIP. Case 14-M-0101 - Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, NYSEG and RG&E 2016 DSIP – PUBLIC (June 30, 2016).

gas modules to be retrofitted on existing gas meters (together, “AMI meters”), a supporting telecommunications network and IT infrastructure that will include diverse media solutions (i.e., radio frequency, cell, dark fiber, etc.), and software applications to process data and interact with field devices. In addition, the network will provide a telecommunications channel for distribution automation (“DA”), DER and Demand Response (“DR”).

AMI will benefit customers by providing large volumes of granular usage and event information necessary to optimize value to customers through programs such as DR, energy efficiency, and time-varying pricing (“TVP”) as well as future innovative rate structures. This information will be integrated into customer facing applications that will allow customers to better manage their electricity and gas usage and energy bills and improve situational awareness. Additional benefits include but are not limited to: incremental energy savings from Conservation Voltage Reduction (“CVR”) through distribution system voltage management enhanced by AMI; integration of AMI with the Companies’ Outage Management System (“OMS”) to reduce outage duration and customer outage costs; and the potential creation of innovative energy- and cost-saving programs by customer sharing of high-resolution usage information with third parties.

Given the wide variety of benefits that will result from AMI implementation, both tangible and intangible, the Companies respectfully request that the Commission grant the Companies: 1) authorization for full-scale deployment of AMI; and 2) authorization to immediately establish and implement an AMI Surcharge to recover the costs associated therewith.

The Companies intend to begin the proposed AMI collaborative, discussed in the 2016 Joint Proposal, in January 2017. In addition, the Companies request that the Commission issue its decision on this Petition by the end of the second quarter of 2017.

## **II. AMI BUSINESS PLAN**

The AMI Business Plan, set forth in Section VII of the DSIP, identifies the various investments that comprise AMI, describes how AMI will be deployed by the Companies, and describes the value it will provide to our customers and communities. AMI is the centerpiece of the Foundational Platform Technology the Companies need in order to serve as the Distributed System Platform Provider (“DSPP”) and support the core Distributed System Platform (“DSP”) functions. The AMI Business Plan is addressed in detail in the accompanying testimony of the Companies’ AMI Business Plan Panel.

### **A. Key Aspects of AMI Business Plan**

#### **1. *Customer Engagement***

The Companies plan to engage their customers through a comprehensive Communications Plan which will be developed based on the Companies’ experience gained during similar projects and technology deployments. The Companies will strive to reach out to customers and minimize customer concerns and complaints by educating customers about the AMI process. For example, one goal could be installing AMI meters with less than a five-minute disruption of each customer’s service.

In addition to direct customer outreach, the Companies plan to meet with civic and community leaders prior to the deployment of AMI meters in a new city or town to communicate the benefits of AMI smart meters, describe the overall installation process and keep the community well informed. To further enable the transfer of information to customers and the public, a website will be created to support the smart meter initiative.

The Companies will provide customers an opportunity to opt out of an AMI meter. Prior to installation, affected customers will receive a mailing with instructions for opting out of an AMI meter. The Companies will have multiple venues in place to provide customers with information regarding smart meters and the opt-out process. Resources will be assigned to respond to non-adopters of AMI regarding any concerns about safety, privacy and security. In addition, the Companies will develop appropriate tariffs to charge those customers who opt out.

Finally, as part of the Companies' Customer and Market Engagement Plan, following AMI meter installation, the Companies will provide information to customers and promote use of the Companies' energy portal ("Energy Manager") using a variety of communications channels.

## 2. *Phased Roll-Out of AMI*

As noted in the testimony of the AMI Business Plan Panel, AMI meters and the communication network are planned to be rolled out over a four-year period beginning in 2018 with an anticipated completion in 2021. This phased implementation approach will support the continued provision of reliable electric and gas service to customers as the new services are steadily added and become available. The actual AMI deployment schedule will be flexible and responsive to practical real world factors such as: network technology selection; early integration of DA devices; meter population and density; and potential extension of the Companies' REV demonstration project, the Energy Smart Community ("ESC"), in the Ithaca area.

Many of the new services, processes, and technologies related to AMI meters will be tested in the ESC project established as part of the 2016 Joint Proposal. Specifically, the ESC project will include the installation of 12,000 smart meters in the Ithaca region, along with the

technology necessary to test new rate designs and programs that increase the efficiency of the electric system along the supply and delivery chain, including on customer premises.

A broad array of AMI-enabled products and services will be tested by the ESC project, including TVP and other rate designs, customer access to their usage data through a web portal, and other programs that may be developed. The ESC project plans to include new rate design proposals that will be developed after the Companies and customers gain initial experience. The ESC project will also serve as a test bed for the business use cases of the technology platform, including obtaining granular AMI and network sensor measurements to model and simulate changing load based on complex algorithms and the use of predictive analytics to inform hosting capacity and other models required to perform more effective system planning.

### 3. *Estimated AMI Deployment Costs*

The estimated AMI Deployment costs, set forth in detail in the testimony of the AMI Business Plan Panel and in the AMI Revenue Requirements Panel, include an estimated total deployed system capital cost of approximately \$513.2 million. This \$513.2 million amount includes \$3.3 million in estimated costs for AMI-OMS integration, which estimate was not available at the time the Companies filed the DSIP on June 30, 2016.

**Table 1: AMI Deployment Capital Costs (2017-2022)**

Company and Business Line	Deployment Expenditures (\$000's)	Meters	Cost Per Meter
NYSEG Electric	\$ 266,166	871,588	\$ 305
NYSEG Gas	\$ 63,218	260,574	\$243
RG&E Electric	\$ 111,809	365,490	\$306
RG&E Gas	\$72,028	296,533	\$243
All Companies and Business Lines	\$513,221	1,794,185	\$286

#### 4. *Cyber Security and Privacy Plans*

To address physical and cyber risks, the Companies are developing an AMI-specific Cyber Security Plan (“CSP”) that will leverage existing government standards and the Companies’ existing cyber security policies and procedures. These plans are discussed in greater detail in the testimony of the AMI Business Plan Panel. The objective of the CSP is to integrate cyber security controls and requirements into day-to-day work activities to safeguard against cyber threats. The Companies plan to use the National Institute of Standard and Technology risk-based assessment approach to select the cyber security controls that will be implemented for the AMI system and the CSP. In addition, a training plan will be developed that will raise awareness of the risks of cyber threats, train personnel to detect and recognize threats as they occur, and educate personnel on their roles and responsibilities in the case that cyber security incidents materialize.

#### 5. *Metrics for Measuring the Success of AMI*

Pursuant to the Order Adopting Distributed System Implementation Plan Guidance issued on April 20, 2016 in the REV Proceeding,<sup>5</sup> the Companies have developed metrics to measure the value associated with AMI deployment as well as track and evaluate program performance, costs, and benefits. Specifically, the Companies have identified a set of impact metrics designed to track the benefits expected to be realized from full-scale deployment of AMI and have divided them into three primary categories: 1) AMI Deployment which will track the progress of AMI deployment with respect to installed units, correctly functioning technology, and budget performance; 2) Customer and Environmental Impacts which will assess the participation of, and benefit to, customers as well as the environment benefits associated with AMI deployment; and

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<sup>5</sup> Case 14-M-0101 - Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Adopting Distributed System Implementation Plan Guidance (Aug. 20, 2016) (“DSIP Order”).

3) Operations and Maintenance (“O&M”) Impacts which will address the DSIP Order’s directive for metrics tracking outage management and system operations by allowing the Companies to accurately track, monitor, and evaluate system operations.

B. Benefits of AMI

AMI benefits customers by empowering them with control, choice, and convenience. AMI will provide information that affords customers the opportunity to participate in DR and energy efficiency programs, as well as innovative rate structures, allowing them to better manage electricity consumption and bills and drive overall system efficiencies. Moreover, AMI will facilitate customer access to value-added products and services provided by third parties such as Energy Service Companies (“ESCOs”).

AMI also supports the Commission’s REV policy objectives by promoting clean energy innovation and investment as well as improving customer choice and affordability. The Companies’ AMI full implementation proposal will help meet REV goals by providing products, technology, and incentives for customers to participate in energy markets, and control energy usage and thereby control their monthly utility bills. In addition, when integrated into the digital energy marketplace envisioned under REV, AMI data will assist both customers and DER providers as they bundle various products and services to meet unique customer needs while providing scalable solutions.

**III. AMI BENEFIT - COST ANALYSIS**

As part of the DSIP, the Companies conducted an extensive assessment of the benefits and costs of their AMI proposal which is set forth in Appendix G of the DSIP. Additional details regarding the benefits and costs are set forth in the testimony of the AMI Business Plan Panel. Specifically, the DSIP and Appendix G thereto detail the present value of benefits, costs, net benefits, and the benefit/cost ratio for five specific and quantifiable benefit streams that AMI

makes possible: operational savings; reduction in outage duration and customer costs associated with AMI-OMS integration; and reduction in capacity and energy costs and carbon emissions from implementation of opt-in TVP, behavioral conservation programs such as usage alerts and incremental savings from CVR/Volt Var Optimization (“VVO”) that can be achieved when AMI is present. Implementation of AMI and AMI-enabled programs and services is estimated to produce operational and societal benefits of \$708 million in present value terms over the first 20 years of the investment at a total cost of \$584 million.<sup>6</sup> As the AMI Business Plan Panel testifies, the net benefits of \$124 million produce a benefit cost ratio of approximately 1.2 using the Societal Cost Test, indicating that the Companies’ AMI plan presents a sound investment. A comprehensive discussion of the AMI System Benefit Cost Analysis can be found in Appendix G to the Companies’ DSIP, which is attached as Exhibit \_\_ (AMI-2) to the Companies’ AMI Business Plan Panel Direct Testimony.

A. Costs of the Proposed AMI Program

In February 2016, the Companies distributed a Request for Information (“RFI”) to AMI technology vendors to better understand the likely costs associated with system-wide AMI deployment in the Companies’ service territories. The deployment cost elements summarized below (which are described in greater detail in Section C of Appendix G to the DSIP) were derived from the RFI responses:

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<sup>6</sup> The cost estimate of \$584 million differs from the \$513.2 million in Table 1 herein because the Table 1 value represents cash flows (not present value) over the deployment period from 2017-2022 whereas the \$584 million value represents the present value of expenditures over the life of the investment from 2017-2036. In addition to the inclusion of IT capital costs for OMS-AMI integration, several other changes to the deployment capital cost estimates have been included. The other changes, which have a net effect of increasing the deployment capital cost estimate included in the DSIP filing by \$6.1 million, include the addition of sales tax on software licenses, the reduction of expenditures for electric meter seals, and some increases in labor costs during deployment due to a change in project schedule which has delayed the start by 6 months, relative to the planning assumptions included in the DSIP. The benefits of \$708 million and costs of \$584 million reported here also differ from the values presented due to the updates noted above.

- 1) Hardware and installation costs of \$268.7 million which account for nearly half of the 20-year Net Present Value (“NPV”) of AMI deployment costs. This category includes new replacement meters; a telecommunications network with hardware components for transmitting information throughout the distribution network; and engineering and installation labor costs.
- 2) The Information Technology (“IT”) budget of \$112.9 million (20-year NPV) includes forecast hardware, software, and integration costs. These costs include Head-End System and Meter Data Management System hosting, implementation of a Customer Relationship Management and Billing System upgrade, and provision and support for a customer web portal.
- 3) The Project Management Organization (“PMO”) costs \$58.0 million (20-year NPV) and includes labor costs for personnel that will be needed for approximately 5 years (the 4-year deployment plus pre- and post-deployment periods).
- 4) O&M costs of \$97.2 million (20-year NPV) include marketing and customer communications, fixed overhead, any incentives for customers enrolling in specific programs, and other variable costs of the AMI deployment.
- 5) Refresh capital totaling \$19.7 million over 20 years includes the cost of device failures that are expected to occur on approximately 0.5% of AMI meters due to electronic malfunctions. It also covers planned replacement of network devices throughout the 20-year life of the AMI system, and periodic refreshes of the IT hardware supporting the AMI system.
- 6) Other items, including Opt-In TVP, Usage Alerts and AMI-OMS Integration ,which will be implemented, totaling \$27.3 million.

B. Benefits of Proposed AMI Program

The benefits of the proposed AMI Program are also described in detail in Appendix G to the DSIP, which is attached as Exhibit \_\_ (AMI-2) to the Companies’ AMI Business Plan Panel Direct Testimony. As noted above, benefits were broken down into five main categories: Operational Savings; Opt-In TVP; Behavioral Conservation; CVR; and AMI-OMS Integration.

Operational savings of \$410.3 million are derived from lower costs associated with AMI meter reading, field services, and billing and call center costs; avoided AMI meter replacement costs (i.e., replacement of legacy meters with like technology); reduced major storm restoration costs; reduced cash requirements; and lower losses as a result of more efficient meters.

The Companies' AMI system will provide opportunities to improve economic efficiency and support the objectives of REV by offering TVP options and information feedback services to consumers (e.g., "usage alerts"). TVP improves economic efficiency by inducing changes in the timing of energy use through more accurate prices signals and also gives consumers greater opportunities to reduce their energy bills by shifting from higher to lower cost time periods. The present value of estimated benefits over 20 years for an opt-in TVP program that enrolls 15% of the residential population are estimated to equal \$67.6 million.

AMI also supports implementation of behavioral conservation programs, such as weekly delivery of usage alerts to both gas and electric customers. The present value of benefits from a usage alert program offered on a default basis to roughly half of the Companies' residential customers is estimated to equal \$51.8 million over 20 years. These benefits derive from reductions in energy use, reduced need for capacity additions and reductions in greenhouse gas emissions.

CVR is made possible through advances in sensors, telecommunications, optimization models, and control technologies that monitor voltage and adjust voltage regulator equipment and capacitor banks in near-real time while ensuring that voltage levels remain within the desired range for all customers. Conservation savings from CVR are greater when full deployment of AMI is present. The incremental benefit of CVR given AMI is estimated to equal \$106.9 million in net savings over 20 years. These benefits derive primarily from reductions in generation capacity and energy use and avoided carbon emissions.

The integration of AMI with OMS shortens outage duration by providing quicker notification of when and where outages occur. Shorter outage duration, in turn, reduces customer outage costs. Based on a careful review of historical outage types, locations and

durations, the Companies estimate that outage costs to consumers can be reduced by an amount equal to \$71.3 million in present value terms over 20 years.

C. Customer Benefits Not Reflected in the Societal Benefit-Cost Analysis

The Companies' AMI plans will result in additional savings not quantified in the Benefit-Cost Analysis set forth in the Companies' DSIP. Specifically, AMI deployment may potentially address certain inequities in such a way as to align costs that are currently socialized across all customers. Social costs that AMI may address include:

- 1) **Theft of Service:** Currently, lost revenue resulting from theft of service in the Companies' service territory is effectively socialized and collected from those customers who pay for the service they receive. AMI may solve this inequity issue by providing tamper alarms and measuring usage profiles at the customer level that can be reviewed for reasonableness to identify and address potential theft.
- 2) **Meter Inaccuracy:** Some of the existing electromechanical meters in the Companies' service territory do not accurately measure all the electricity delivered to customers. Customers with these "slow" meters are not billed for all the energy they receive and the shortfall from these customers is socialized over the entire customer base. New AMI meters would reduce the frequency of meter inaccuracy and malfunction problems.
- 3) **Write-offs and Consumption on Inactive Meters:** The Companies currently write off bills for customer non-payments. The Companies must also cover energy use on inactive accounts where deliveries occur, but no customer of record exists to charge for such service. In both of these cases, the Companies socialize the revenue shortfall. AMI will enable the Companies to identify and process inactive accounts and shut-offs for non-payment more efficiently.

In addition, other areas of customer benefit could not be readily quantified and are thus not reflected in the societal Benefit-Cost Analysis. These include:

- 1) The benefits provided by the new advanced customer portal which allows customers to:
  - a) monitor energy usage in near real time; and
  - b) view more detailed and actionable information to help active energy consumers control usage and costs;
- 2) Customer access to wholesale market benefits due to changing patterns;
- 3) Increased customer convenience through:
  - a) elimination of the need for indoor meter reads;
  - b) customized choices in billing dates that better align with individual financial needs;
  - c) fewer estimated bills and billing disputes due to higher meter reading accuracy;

- d) easier service activation or transfer through remote meter service switch; and
- e) monthly bills.

#### IV. AMI REVENUE REQUIREMENT AND UNDERLYING ASSUMPTIONS

##### A. Overview of Revenue Requirement

The Companies have projected calendar year revenue requirement increases/decreases associated with AMI deployment and operation for each business (i.e., NYSEG Electric, NYSEG Gas, RG&E Electric and RG&E Gas) for the period of 2018 through 2022<sup>7</sup> as shown in Table 2 below.<sup>8</sup>

**Table 2: Revenue Requirement Increases/Decreases (\$000s)**

	2018	2019	2020	2021	2022
NYSEG Electric	3,764	18,700	8,012	(2,090)	(5,489)
NYSEG Gas	850	5,037	1,605	(669)	(899)
RG&E Electric	976	7,574	4,109	853	(1,712)
RG&E Gas	603	5,961	2,745	525	(437)

The AMI revenue requirement has been calculated to reflect: 1) total AMI costs and operational benefits as set forth in Exhibit \_\_ (RR-3) to the Direct Testimony of the AMI Revenue Requirements Panel Testimony; 2) common costs only (i.e., information technology (“IT”) hardware and software) as set forth in Exhibit \_\_ (RR-4) to the Direct Testimony of the AMI Revenue Requirements Panel Testimony; and 3) certain other costs and operational benefits (i.e., smart meters and network investments) as set forth in Exhibit \_\_ (RR-5) to the Direct Testimony of the AMI Revenue Requirements Panel Testimony.

For the first few years after full-scale deployment, delivery rates as well as total rates (delivery plus commodity) will increase, but will then begin to decrease as the benefits of AMI

<sup>7</sup> The AMI-related revenue requirements are for the 2018-2022 period after which AMI costs and benefits would be incorporated into any subsequent new rate filing. The revenue requirement reflects initial investment which begins in 2017.

<sup>8</sup> The projected AMI revenue requirements shown in Table 1 do not include costs associated with ESC project-related AMI which are set forth in the 2016 Rate Order.

are realized. Table 3 below summarizes the projected delivery revenue and total revenue increases for the 2018-2022 period.

**Table 3: Delivery Revenue (“DR”) and Total Revenue (“TR”) Increases/Decreases**

	2018		2019		2020		2021		2022	
	DR	TR	DR	TR	DR	TR	DR	TR	DR	TR
NYSEG Electric	0.5%	0.3%	2.4%	1.6%	1.0%	0.7%	(0.3)%	(0.2)%	(0.7)%	(0.5)%
NYSEG Gas	0.4%	0.2%	2.3%	1.4%	0.7%	0.4%	(0.3)%	(0.2)%	(0.4)%	(0.2)%
RG&E Electric	0.2%	0.1%	1.6%	1.1%	0.8%	0.6%	0.2%	0.1%	(0.3)%	(0.2)%
RG&E Gas	0.3%	0.2%	3.1%	1.8%	1.4%	0.8%	0.3%	0.2%	(0.2)%	(0.1)%

**B. Revenue Requirement Assumptions and Cost Estimates**

The AMI revenue requirement includes all capital cost and expense increases resulting from AMI deployment and operation, as well as AMI-related reductions to the Companies’ future expenses that impact delivery rates. Specific details are set forth in the testimony of the AMI Revenue Requirements Panel. Cost estimates were developed as follows:

- 1) Cost estimates for IT hardware and software were developed by IT professionals at the Companies using a combination of vendor quotes and experience from AMI deployment at the Companies’ affiliate Central Maine Power (“CMP”) in 2010-12. An allocation calculation was then performed to allocate the specific cost between NYSEG and RG&E using the relative meter counts at each Company.
- 2) AMI meter costs were developed, in large part, from vendor responses to the February 2016 RFI. After reviewing all responses, the Companies chose representative responses upon which to model AMI meter and installation costs.
- 3) Network hardware costs were developed from a representative response to the February 2016 RFI and installation costs were estimated based on the experience of CMP. Direct network costs and related expenses were allocated between NYSEG and RG&E based on meter counts.
- 4) PMO costs were based on the PMO resources for CMP’s AMI deployment which were expanded to support the larger deployment necessary for AMI at the Companies. The assumed AMI technology vendor support services fee included in PMO costs is based on a representative vendor RFI response used to inform AMI meter costs and network costs.

- 5) Incremental O&M costs derive from changes in business operation and procedures required to support AMI operations and from implementation of new tariffs and programs enabled by AMI, such as TVP and behavioral conservation. Estimates of incremental O&M for AMI operations are based in part on an evaluation of incremental O&M at CMP, adjusted to reflect conditions in New York, and adjusted to the representative AMI technology used to model technology costs. The overall cost of the AMI operations center is allocated to the Companies based on meter counts.

The revenue requirement calculations do not include: 1) any AMI-related benefits that do not impact delivery rates, (e.g., reductions in customer electric and gas commodity expenses or emissions) which will flow back to customers outside of the traditional rate making process; and 2) any reductions in future non-AMI capital costs will be addressed through the Net Plant Reconciliation (“NPR”) established under the 2016 Joint Proposal.

In addition, the Companies’ projected AMI costs conservatively assume the replacement of ESC smart meters to reflect the potential selection of a different AMI vendor for the system-wide roll-out from the vendor selected and available for the ESC project. The Companies cannot predict whether the same AMI vendor as that used for the ESC project will be selected for the system-wide roll-out. In the event that a different vendor is selected, the two AMI systems offered by the different vendors will likely differ and may be incompatible as currently no industry-wide standard for AMI technology exists. Had the Companies assumed the same vendor and technology, the current cost estimate would be reduced accordingly.

#### C. Items Included in AMI Revenue Requirement

The revenue requirement includes capital investments and incremental O&M minus the reduction in T&D operating costs realized through full-scale AMI deployment.

Capital costs include costs associated with: 1) the purchase and installation of IT hardware and software; 2) AMI meters; 3) network/telecommunications which includes the equipment and installation costs for the communications system to link AMI meters to the AMI Control Center; 4) overhead conductors and devices; 5) IT hardware purchase and installation

refresh; 6) network/telecommunications refresh; and 7) PMO costs which include the internal and external resources necessary to manage and also support the Companies' full-scale deployment of AMI.

The Companies' total projected capital investment for initial deployment of AMI is \$513.2 million allocated among each business as follows: 1) NYSEG Electric: \$266.2 million; 2) NYSEG Gas: \$63.2 million; 3) RG&E Electric: \$111.8 million; and 4) RG&E Gas: \$72.0 million.

D. Other Assumptions

The projected revenue requirement also reflects a number of other assumptions, including that:

- 1) AMI meters and the communications network will be deployed across the Companies' service territory over a five-year period beginning in 2018;
- 2) Book depreciation rates are consistent with the current Rate Plan and the predicted useful life of AMI components;
- 3) The allowed weighted average pre-tax costs of capital at Rate Year 3 of the current Rate Plan (i.e., 9.60% for NYSEG and 10.27% for RG&E) will be applied which incorporate a 9.0% return on equity and a 48% equity ratio;
- 4) Federal tax depreciation rates reflect 40% and 30% bonus tax depreciation for plant additions placed in-service in 2018 and 2019, respectively, pursuant to Federal statute;
- 5) The property tax rate is based on the average ratio of total Company property tax expense projections to total Company gross plant projections over the three years of the current Rate Plan;
- 6) Property tax expense equals the AMI gross plant times the property tax rate; and
- 7) AMI Meter investments will be placed in-service using a mid-year in-service convention.

**V. PROPOSED RATE DESIGN AND BILL IMPACTS**

As detailed in the Direct Testimony of the AMI Rate Design Panel and accompanying exhibits, the Companies propose gas and electric AMI Surcharges which are designed to collect

the costs associated with full-scale deployment of AMI. The Companies also propose charges, both one-time and recurring, for those customers who choose to opt out of AMI.

## **VI. OTHER CONSIDERATIONS**

### **A. Sub-Metering**

The Companies do not have a significant sub-metered customer population and have therefore not addressed any sub-metering issues at this time.

### **B. Net Plant Reconciliation**

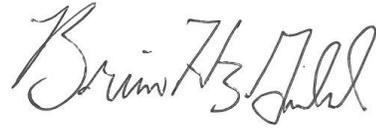
The AMI capital expenditures will remain outside the NPR approved in the Companies' recent rate cases.

## **VII. CONCLUSION**

For the reasons set forth above, the Companies request that the Commission approve this Petition by the end of the second quarter of 2017 and authorize the Companies to: 1) begin implementation of full-scale AMI across their respective service territories; and 2) establish an AMI Surcharge effective January 1, 2018 to recover the costs associated with the same. The Companies will also conduct an AMI collaborative with interested stakeholders as set forth in the 2016 Joint Proposal.

Dated: December 20, 2016

Respectfully submitted,



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Brian T. FitzGerald  
Gregory G. Nickson  
Cullen and Dykman LLP  
99 Washington Avenue, Suite 2020  
Albany, New York 12210  
Tel: (518) 788-9440  
bfitzgerald@cullenanddykman.com  
gnickson@cullenanddykman.com

Noelle M. Kinsch  
Avangrid Networks  
General Counsel  
99 Washington Avenue, Suite 2018  
Albany, New York 12210  
Tel: (518) 434-4977  
noelle.kinsch@avangrid.com

Attorneys for New York State Electric & Gas  
Corporation and Rochester Gas and Electric  
Corporation