NYSEG RG&E

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Vice President · Rates and Regulatory Economics

March 31, 2014

VIA ELECTRONIC MAIL

Honorable Kathleen H. Burgess, Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

Re: Case 07-M-0906 - New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation - Compliance Filing - Five-Year Capital Expenditure Forecasts

Dear Secretary Burgess:

Pursuant to Appendix 2, Paragraph 2(d) of the New York State Public Service Commission's Order Authorizing Acquisition Subject to Conditions in Case 07-M-0906, New York State Electric & Gas Corporation ("NYSEG") and Rochester Gas and Electric Corporation ("RG&E") (together the "Companies") hereby file a Five Year Capital Investment Plan ("Plan") that contains respective five-year forecasts of their planned electric system and gas systems[1]. This Plan document presents a comprehensive capital investment plan for the electric transmission, distribution and generation and the gas transmission and distribution businesses of NYSEG and RG&E for the period 2014 through 2018. This Plan positions NYSEG and RG&E to continue to provide safe and reliable service to customers.

Because the attached report provides an assessment of the Companies' transmission and distribution system, including certain contingency situations, the Companies are concurrently submitting a request to the Record Access Officer of the State of New York Department of Public Service for trade secret protection for redacted data pursuant to 16 NYCRR XX 6-1.3.

[1] The variance information requirement noted in Appendix 2, Paragraph 2(d) was fulfilled with the Companies March 1, 2012 filing in Cases 09-E-0715, 09-G-0716, 09-E-0717, 09-G-0718.

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The Companies welcome the opportunity for dialogue with Staff on the contents of this Plan. If you have any questions concerning this filing, please contact Jeffrey McKinney at (607) 762-7469.

Respectfully submitted,

James A. Lahtinen

Enclosure

cc: Active Party Service List (via e-mail)
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NYSEG and RG&E Capital Investment Plan 2014-2018

IBERDROLA USA

March 31, 2014

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EXECUTIVE SUMMARY

This document presents a comprehensive Capital Investment Plan for the electric transmission, distribution, generation, and gas businesses of Iberdrola USA New York operating companies, New York State Electric & Gas ("NYSEG") and Rochester Gas and Electric ("RG&E"), for the period 2014 through 2018 (the "Plan"). This Plan positions NYSEG and RG&E (the "Companies") to continue to provide safe and reliable service to customers. This Plan is consistent with the vision expressed in the Code of Ethics of Iberdrola and its group of companies and the mission of Iberdrola USA, as adopted by NYSEG and RG&E, both shown below:

Iberdrola Code of Ethics:

> "We aspire to be the preferred global energy company because of our commitment to the creation of value, quality of life, the safety of people and of supply, the protection of the environment and customer focus."

Iberdrola USA Mission:

> "Iberdrola USA is a team of dedicated individuals working as one to deliver value to our customers, employees and shareholders. By providing outstanding customer service and exceptional reliability, while holding safety and the environment in high regard, we aspire to be a world-class energy company."

This Plan is a step towards meeting the Iberdrola USA mission. To that end, the Companies propose investing $2.17 billion in the electric delivery system and generation projects and $0.56 billion in the gas delivery system over the five year period.

The projects and programs proposed in this Plan are what the Companies have determined today is needed to deliver safe and reliable service to customers. The Companies continually reevaluate and reprioritize projects and system needs due to the continually changing environment in which the Companies operate.

Many electric projects reduce the risk of service outages in the event of contingency situations. The gas projects continue to include replacement of leak prone mains and services. In addition,

there are several projects that continue the process of bringing the electric and gas delivery systems up to current day standards by installing modern equipment, employing software and IT platforms and expanding automation of the network.

This Plan is for a five year period and contains projects that will help achieve the following strategic objectives of NYSEG and RG&E:

- Meet the electrical and natural gas needs of our customers
- Achieve service reliability and quality targets
- Optimize replacement of obsolete equipment and facilities
- Improve system effectiveness and efficiency
- Sustain the environment
- Improve safety

This Capital Investment Plan will remain flexible to meet the needs of our customers, regulators, and other stakeholders.

1 INTRODUCTION

TABLES

FIGURES

This Plan contains projects and programs needed for the Companies to deliver safe and reliable service to customers. Included in this Plan are so-called Appendix L projects, with updated costs and schedules, and additional projects and programs that work toward the accomplishment of the strategic objectives. Reassessing needs and reprioritizing to ensure that investments achieve the strategic objectives, cost effectively for customers, continues to be an ongoing process.

Table 1.1 Capital Investment Plan by Year ($000)

	2014	2015	2016	2017	2018	TOTAL
NYSEG-E	191,424	181,941	180,698	312,268	314,668	1,180,999
RG&E-E	122,698	112,117	92,310	220,936	220,694	768,755
RARP	25,735	73,000	122,703	-	-	221,438
Subtotal Electric	**339,857**	**367,058**	**395,711**	**533,204**	**535,362**	**2,171,192**
NYSEG Gas	49,761	50,468	53,006	74,257	74,321	301,813
RG&E Gas	39,175	45,515	49,314	60,540	60,326	254,870
Subtotal Gas	**88,936**	**95,982**	**102,320**	**134,797**	**134,648**	**556,682**
TOTAL	**428,793**	**463,040**	**498,031**	**668,000**	**670,010**	**2,727,874**

The investment amount for 2014 has been approved by the Iberdrola USA Networks Board of Directors. Over the five year period, NYSEG expects to invest approximately $268 per customer per year in its electric system and $230 per customer per year in its gas delivery system, while RG&E expects to invest approximately $534 per customer per year in its electric system and $167 per customer per year in its gas delivery system.

The plan is driven by ongoing review and assessment of the electric and gas delivery systems and a determination of priority projects and programs. For periods after 2014, the amounts reflect projected capital investment needs at this time and will be adjusted appropriately based on continued review and assessment

Chapter 2 describes the **STRATEGIC OBJECTIVES OF THE PLAN** which are to meet the electric and gas needs of our customers, to achieve reliability and service quality targets, to replace obsolete and end of life equipment and facilities, to improve the effectiveness and efficiency of the electric and gas systems through modernization, to sustain the environment, and to maintain and improve system safety.

Chapter 3 describes the **IBERDROLA USA NETWORKS CAPITAL INVESTMENT PRIORITIZATION STRATEGY** to allow the Companies to effectively and efficiently accomplish the key strategic objectives of the plan

Chapter 4 of the Plan presents the electric and gas **TRANSMISSION AND DISTRIBUTION SYSTEMS AND HYDRO GENERATION FACILITIES**, which contains information about the Companies' infrastructure.

Chapter 5 presents the **ELECTRIC CAPITAL INVESTMENT PLAN** – the projects and programs necessary to achieve the strategic objectives. There are a number of significant projects that the Companies have undertaken or will undertake during the Plan term. These projects are high priority projects that result from a prioritization approach that considers, among other, the number of customers, system load, and hours of exposure as metrics. In addition, the Companies plan to invest in modernization of its delivery systems and in network automation, in order to operate more effectively and efficiently, provide added benefits to customers and promote the safe operation of the network. The modernization investments include:

- New standards in equipment and substation schemes.
- Improvements in network infrastructure to reduce the exposure of outages, in the event of failures in transformers at substations and circuits, (N-1).
- Replacement of obsolete and end of life equipment in substations and poor condition poles, wires, and other line devices.

Chapter 6 presents the **HYDRO GENERATION FACILITIES CAPITAL INVESTMENT PLAN** – the projects and programs necessary to achieve the strategic objectives. There are a number of significant projects that the Companies have undertaken or will undertake during the Plan term

Chapter 7 presents the **GAS CAPITAL INVESTMENT PLAN** – the projects and programs necessary to achieve the strategic objectives. There are a number of significant projects that the Companies have undertaken or will undertake during the Plan term. The Companies key gas business strategies are:

- Safely operate the delivery system
- Achieve all New York Public Service Commission gas service quality performance measures
- Minimize leaks through corrosion control, leak repair, and replacement of leak prone mains and services, including an enhanced replacement effort
- Provide innovative, cost-effective, and timely planning, engineering and design services that meet or exceed customer expectations

Chapter 8 presents the **COMMON CAPITAL INVESTMENT PLAN** – the projects and programs that are used by and support more than one of the Companies' business and necessary to achieve the strategic objectives.

Include:

- Facility Projects
- Customer Service
- Fleet
- IT Infrastructure

1.1 OPPORTUNITIES AND CHALLENGES

The Companies face the following opportunities and challenges as they implement this Plan:

1. Enhanced asset management capabilities: The Companies continue to develop enhanced competencies in asset management including recommendations made in the Companies' Management Audit. Improvements are being made to both the way in which the Companies determine asset replacements and the methods used to optimize the portfolio of projects and programs. A capital investment prioritization strategy has been completed and implemented with this Plan. As this Plan proceeds, the Companies will reassess needs and reprioritize projects using these improved asset management approaches.
2. In 2011 the Companies reorganized its engineering function into two groups: Asset Management and Planning and Engineering and Project Delivery. This reorganization has improved the planning and delivery of capital investment projects and programs. Asset Management and Planning continues to be responsible for developing the capital investment plan, recommendations for replacing assets near end of life based upon the new asset

management competencies described above, and the asset maintenance programs. The Companies are continually improving the capital investment planning approach and processes. One such way is through participating in a global asset management effort to determine best practices in the Iberdrola family.

Engineering and Project Delivery continues to be responsible for the project management, engineering, and effective delivery of all of the larger capital investment projects. The groups have developed enhanced project and program tracking processes that enable more effective prioritization of projects and are developing a more structured Project Management Office that provides a more consistent approach to the management of capital investment projects. The Companies continue to use owners' engineer project management services to help execute this Plan.

3. The Companies have undertaken a focused review of the worst performing distribution circuits. These circuits were reviewed for betterments and opportunities to better isolate faults in order to lessen the number of customers out during an outage event. The Companies expect to continue this process and undertake priority betterments during the term of this Plan as a result of this focused review.
4. FERC Brightline: Under FERC's Order No. 773, issued December 20, 2012, there is a change in the definition of Bulk Electric System. The Companies need to meet more stringent reliability criteria, thus requiring mitigation and upgrades in facilities, particularly 115 kV facilities, not currently considered part of the Bulk Electric System. The projects for such upgrades, which scopes will be developed, are not included in this Plan.
5. Technological advancements: The Companies are making technological changes and innovations, including standardization, modernization and automation of the Companies facilities.
    - Standardization of design and equipment will result in:
        - Cost reduction in project design and construction. For instance, the implementation of the IEC 61850 protocol in new substations and substation renovations will lessen the hours needed for wiring the protection systems of the equipment.
        - Use of advanced technology, quality, and standardized equipment will improve service quality and reduce the need for spares. For example, new breakers, with SF6 as insulating medium will require less maintenance than that needed for conventional oil-filled breakers.

- As a result, the number of hours to construct green field substations potentially can be reduced by up to 14%. The number of hours to construct brown field substations potentially can be reduced by up to 6%.

- Improvements to system control: The Companies have included system control, and substation and other system automation projects to provide operational benefits by bringing the Companies' electric system up to modern day standards. These include:
  - A new Energy Control Center at NYSEG and RG&E. Each one will backup the other and the new Energy Control Center will be equipped to address expected additional NERC and FERC requirements.
  - New and increased numbers of remote terminal units (RTUs).
  - Increasing telecommunications capability for remote control of devices on the system, particularly the distribution system.

  System automation will be compatible with the future implementation of a smart grid.

- All the new substations, or renovations in substations, will be done according to the new standards. These standards include voltage monitoring, measures of power quality and oil containment.

6. Rochester 11kV system: Today the 11 kV system in Downtown Rochester is operated as a transmission system. With current technology, it is possible to operate the system as a distribution system with the same reliability. We plan to install new digital relays, integrated system controls and new software applications that will enable RG&E to operate the network more efficiently. A system assessment to evaluate the different improvement opportunities is in progress.
7. The Companies are putting in place new framework agreements with different Iberdrola-wide manufacturers. With these multi-year agreements, the Companies expect to improve the cost of purchasing equipment.
8. Generator Retirement: The Companies continue to address the numerous reliability concerns associated with past and current generation retirement and mothball notices. Cooperation continues with the NYISO and other neighboring utilities in studying and determining the most efficient and effective reinforcements needed to address the generation reductions.

Planning studies continue to evaluate concerns on the system due to *potential* retirement and mothball notices as well and remain poised to address appropriate actions if needed.

9. Utility 2.0. Across the industry, there is discussion about shifting utility business model and its implications for utilities. The Companies believe that while the factors driving this change are present in its territories, it also needs to consider its unique position with regard to its system and customers. As such, the Companies are taking cautiously proactive stance to change, embracing the opportunity to actively participate in market evolution, while maintaining a pragmatic approach to execution, ensuring alignment with its customer base, and managing investment risk. While regulatory philosophies and environmental factor differ in its operating jurisdictions, the Companies desired role in the future model is that of the "smart integrator", providing the sophisticated energy grid enabling the future market, including relevant expanded products and services, and acting as trusted broker for customers in the more complex ecosystem.

1.2 SUMMARIES

This section contains various summaries of the Capital Investment Plan. In addition, a detailed list is included in Attachment 1. Attachment 2 contains a reconciliation of electric Appendix L Projects and Programs contained in this Plan to those contained in Appendix L to the Rate Order.

The following table and chart provide a summary of the Plan by Type of Investment for the period 2014-2018.

Table 1.2 Summary of Capital Investment Plan by Type of Investment 2014-2018

($000)

Company	Transmission	Distribution	Gas	Generation	Common	Total
NYSEG	433,328	605,467	269,373	19,431	155,212	**1,482,812**
RG&E	475,480	401,255	213,661	36,927	117,738	**1,245,062**
TOTAL	**908,808**	**1,006,722**	**483,035**	**56,358**	**272,951**	**2,727,874**

Below is a chart depicting the above categorization.

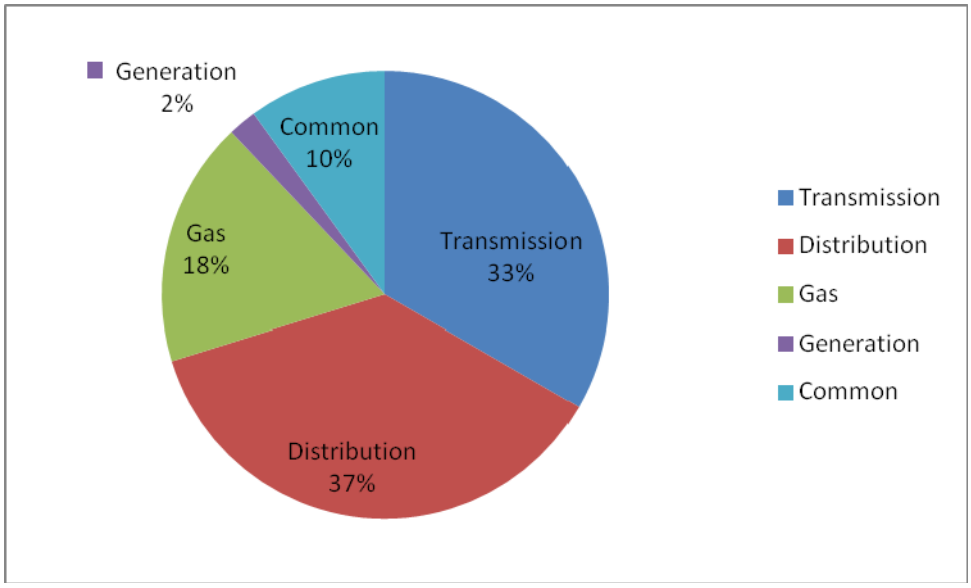


Figure 1.1 Summary of Capital Investment Plan by Type of Investment 2014-2018

1.2.1 Electric Summary

This section contains various summaries of the electric portion of the Capital Investment Plan.

Table 1.3 Summary of Electric Capital Investment Plan by Category (dollars in 000s)

NY Electric	2014	2015	2016	2017	2018	TOTAL
Mandatory -Transmission	111,683	131,867	152,102	64,941	84,137	544,730
Mandatory -Distribution	68,298	57,779	46,040	51,781	53,299	277,197
Mandatory -Generation	2,465	5,200	5,200	7,525	5,151	25,541
Mandatory - Common (Elec)	6,863	7,074	6,645	4,402	5,289	30,272
Total Mandatory	**189,309**	**201,921**	**209,986**	**128,649**	**147,876**	**877,741**
S. Capacity -Transmission	4,706	12,679	13,039	18,538	10,884	59,847
S. Capacity -Distribution	7,669	20,273	42,552	145,044	96,909	312,446
S. Capacity -Generation	180	3,419	2,106	7,376	9,551	22,632
Total System Capacity	**12,555**	**36,371**	**57,697**	**170,957**	**117,345**	**394,925**
Reliability R -Transmission	12,302	9,022	11,541	70,380	102,908	206,153
Reliability R- Distribution	8,129	7,659	9,854	23,759	20,693	70,093
Reliability R -Generation	413	700	1,302	1,584	1,800	5,799
Reliability R- Common	53	67	33	83	89	325
Total Reliability Risk	**20,896**	**17,449**	**22,730**	**95,806**	**125,489**	**282,369**
Group Initiatives - Common	19,010	4,477	1,499	1,737	3,214	29,937
Total Group Initiatives	**19,010**	**4,477**	**1,499**	**1,737**	**3,214**	**29,937**
Efficiency -Transmission	123	13	99	1,320	3,102	4,656
Efficiency -Distribution	11,112	10,367	7,962	11,634	11,224	52,298
Efficiency -Common	1,492	8,343	6,084	6,470	7,024	29,414
Total Efficiency	**12,726**	**18,723**	**14,145**	**19,425**	**21,350**	**86,369**
Asset -Transmission	16,375	11,170	12,096	25,654	28,129	93,423
Asset -Distribution	52,315	50,500	53,453	61,367	62,553	280,187
Asset -Generation	686	-	1,000	700	-	2,386
Asset - Common	15,662	26,449	23,104	23,409	20,407	109,030
Total Asset Condition Replacement	**85,037**	**88,118**	**89,652**	**111,131**	**111,088**	**485,026**
Strategic -Distribution	-	-	-	5,500	9,000	14,500
Strategic -Common	324	-	-	-	-	324
Total Strategic	**324**	**-**	**-**	**5,500**	**9,000**	14,824
TOTAL	**339,857**	**367,058**	**395,711**	**533,204**	**535,362**	**2,171,192**

Below is a chart depicting the above categorization.

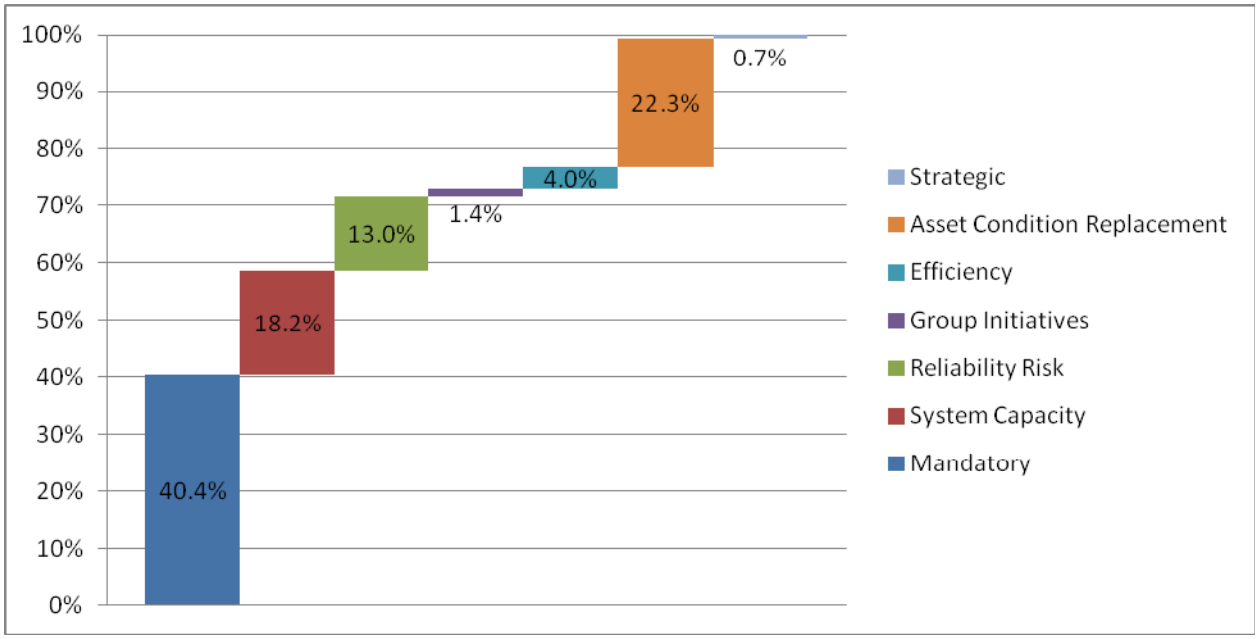


Figure 1.2 Summary of Electric Capital Investment by Category

1.2.2 Gas Summary

This section contains various summaries of the natural gas portion of the Capital Investment Plan. In addition, a detailed list is included in Attachment 1.

Table 1.4 Summary of Gas Capital Investment Plan by Category

NY Gas	2014	2015	2016	2017	2018	TOTAL
Mandatory - Gas	59,238	53,851	59,411	84,507	80,508	**337,515**
Mandatory - Common	2,507	2,387	2,063	1,501	1,735	**10,193**
Total Mandatory	**61,745**	**56,237**	**61,474**	**86,008**	**82,243**	**347,707**
System Capacity - Gas	5,368	14,287	14,433	16,986	19,368	**70,442**
Total System Capacity	**5,368**	**14,287**	**14,433**	**16,986**	**19,368**	**70,442**
Reliability Risk - Gas	3,081	7,700	6,850	3,500	4,500	**25,631**
Reliability Risk - Common	28	36	18	45	48	**175**
Total Reliability Risk	**3,172**	**7,736**	**6,868**	**6,545**	**4,548**	**28,868**
Group Initiatives - Gas	2,307	-	-	-	-	**2,307**
Group Initiatives - Common	6,560	1,417	467	607	1,127	**10,178**
Total Group Initiatives	**8,867**	**1,417**	**467**	**607**	**1,127**	**12,485**
Efficiency - Gas	390	515	1,386	5,986	1,986	**10,263**
Efficiency - Common	558	2,956	2,284	2,453	2,615	**10,866**
Total Efficiency	**886**	**3,471**	**3,670**	**5,440**	**4,601**	**18,067**
Asset Condition - Gas	2,858	2,964	6,314	9,774	14,968	**36,877**
Asset Condition - Common	5,955	9,870	9,095	9,438	7,792	**42,150**
Total Asset Condition Replacement	**8,813**	**12,834**	**15,409**	**19,212**	**22,760**	**79,028**
Strategic - Common	86	-	-	-	-	**86**
Total Strategic	**86**	**-**	**-**	**-**	**-**	**86**
TOTAL	**88,936**	**95,982**	**102,320**	**134,797**	**134,648**	**556,682**

Below is a chart depicting the above categorization.

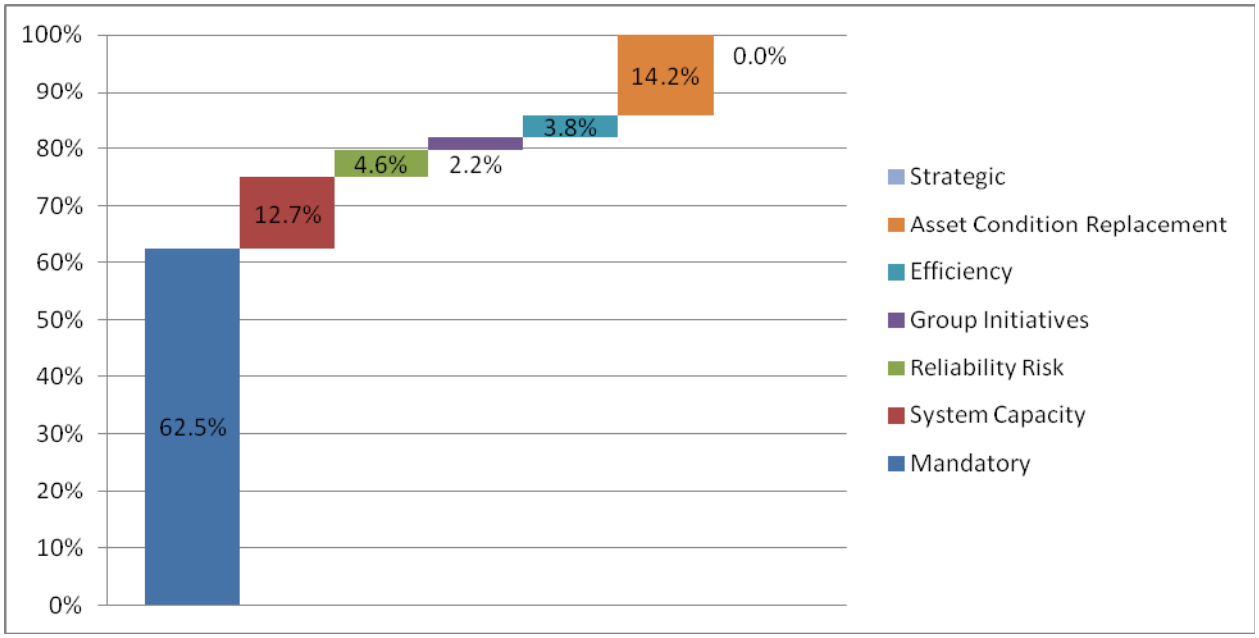


Figure 1.3 Summary of Gas Capital Investment by Category

2 STRATEGIC OBJECTIVES OF THE PLAN

The Companies will deliver this Capital Investment Plan effectively and efficiently, while accomplishing the following strategic objectives:

Objective 1: Meet the electrical and natural gas needs of our customers

The Companies have an obligation to meet the energy needs of customers. The rate of growth in electrical usage and natural gas usage has decreased from that experienced during more robust economic times. The Companies continue to experience increases in the number of customers, and the Companies expect usage per electric customer to increase by 0.5% to 1.0% per year and usage per gas customer to remain at current levels.

The Companies typically provide electric service to approximately 4,500 new electric customers and 1,500 new natural gas customers, annually. The Companies also need to provide reliable and dependable service to larger commercial and industrial customers, often requiring the upgrading of facilities, the costs of which in certain cases may be all, or partially, offset by contributions from customers pursuant to the Companies line extension policies. The Companies must interconnect large and small generation projects to its transmission and distribution system. In addition, NYSEG plans to add an additional natural gas pipeline in order to mitigate commodity costs for customers.

Objective 2: Achieve service reliability and quality targets

The Plan achieves this strategic objective by the following actions:

- Reduce problems of overloads in lines and transformers under normal operating conditions at peak demand;
- Reduce problems under contingency situations (N-1) and (N-1-1); and
- Enhance operation and restoration of the system through replacement and modernization of end of life equipment.

Objective 3: Replace obsolete equipment and facilities - modernization

During the period 2014-2018, the Companies propose to undertake continued plans to replace near end-of-life equipment and facilities. The Companies are enhancing asset management competencies and include the following criteria to determine the facilities to be replaced:

- Equipment and facilities with high failure rates;
- Technological obsolescence (inability to obtain spare parts);
- Facilities that are in poor condition, and maintenance of such equipment is no longer cost effective;
- Equipment with high maintenance costs;
- An assessment of risk of failure on safety, reliability, and the environment and
- Other indicators of asset health.

The Companies inspect equipment and facilities and will replace any equipment and facilities that have reached their end of life. The Companies expect such replacements may well increase as the Companies continue their enhanced distribution inspection program whereby 20% of all distribution line facilities will be inspected annually, and equipment replaced according to priority. The enhanced asset management competencies are improving the prioritization of assets needing replacement by assessing asset health and including an assessment of the risks related to the assets. The asset health is based upon both condition assessments done during physical inspections and from equipment operation information. The Companies have in place a transmission line wood pole inspection and treatment program that extends the life of wooden poles. The Companies also inspect their transmission circuits by helicopter; as such visuals show crossarm, insulator and other wear that is not visible from the ground. The Companies continue more rigorous analyses of failed equipment to aid improving maintenance practices and asset replacement practices.

The Companies have a zero accident culture. Accordingly, the Companies make improvements in their facilities to enhance safety for their employees and the general public.

Objective 4: Improve effectiveness and efficiency of the network

The Companies continually look for ways to make operations more effective and efficient. One of those ways is through network automation. The Companies plan to modernize the operations of their systems, which will enhance the effectiveness with which we serve customers, enhance reliability, and help the Companies to become more efficient.

Automation is used to control the substation switches, breakers, transformers, and other equipment of the electric system, providing real time information to the Energy Control Center regarding voltages, loads, oil temperature of transformers, on or off positions of breakers and sectionalizers, and alarms when there is a failure in the system.

The primary customer benefic resulting from automation is that the Companies' will be able to response more quickly and effectively to outages resulting from problems in distribution circuits. The crews restoring service can receive notification of an outage sooner than with the current system of notification (receiving a call from a customer notifying us of the outage). Adding reclosers on distribution lines likely will reduce the number of customers out of service during an outage and will facilitate information about the location of the damage in the lines. The remote control of breakers will also increase the efficiency of the crews by reducing their travel time.

Investments in automation will be compatible with technologies required for the future development of a smart grid.

Investments in automation in the Plan include:

1. NYSEG and RG&E Energy Control Center Project. The design and installation of a fully integrated EMS/SCADA/DMS/OMS system that replaces the existing EMS/SCADA systems and current "Smartmap" Outage Management System.

   The Energy Control Center Project will resolve the following issues and will result in the following benefits:

- One integrated control center platform for NYSEG and RG&E
  - o Improve efficiency with a single system that is deployed across all of the Companies' systems.
  - o An integrated Energy Management System, SCADA, distribution management system, and outage management system
  - o Deployment across 100% of the transmission and distribution network.
- The integration of the EMS/SCADA system with the OMS provides real time transmission, substation, and distribution situational awareness for dispatchers and operators:
  - o Improves the identification of interrupted equipment/circuits
  - o Decreases outage restoration times
  - o Improves accuracy of outage analysis engine
  - o Increases general public and utility crew safety
- New infrastructure that facilitates increased automation on the transmission and distribution system while providing a robust foundation for additional automation of the system.
  - o Supports substation and distribution automation:
    - ▪ Capability to monitor many more data points
    - ▪ Simplifies new RTU additions
    - ▪ Growing penetration of distributed generation, requiring better coordination of distribution-transmission to manage distributed generation upstream power flows.
    - ▪ Stronger demand-side participation and electric vehicles potentially gaining popularity.
    - ▪ Outage management based on a variety of integrated inputs, including customer calls, SCADA and other devices.
    - ▪ Enterprise Geographic Information System (GIS) Integration:
  - o Provide customers a web-based customer information portal providing full interactive services for outage management information.
  - o Customer data available to operators and dispatchers
  - o Decrease data entry errors and database reconciliation delays
  - o Safe & secure operation and maintenance of the bulk power and sub-transmission systems in full compliance with all FERC/NERC/NPCC /ISO and State regulations.
  - o Accommodates FERC's Bright Line ruling

All these systems will be combined and integrated into one Energy Control Center system. This project will replace the current system at NYSEG and upgrade the current Siemens

system at RG&E to the Siemens Spectrum system. Each new Energy Control Center system will be the backup for the other.

Energy Control Center systems need regular updates and improvements to remain compliant with NERC Critical Infrastructure Protection Standards (CIPS). The Companies currently have two energy control center systems with two unique SCADA systems. With the increase in distributed generation, distribution automation, and distribution control, the Companies will be modifying these existing systems to incorporate integrated distribution management systems.

2. Modernization and automation of substations. The substation modernization program will prepare substations for automation through new standards of design and equipment. New controls with microprocessor based relays and with high speed connections to the Energy Control Center allow for immediate indication of system disturbances and outages, reducing outage detection time by up to 30 minutes, and maintenance cycles for some equipment may be extended. In addition to the reduced outage duration time, the microprocessor based relaying will have remote connection so that employees will have access to event reports and system data in a few minutes rather traveling to the station to investigate events. This may further reduce overall restoration time depending on the event that occurred. Microprocessor relays and new breakers also have faster fault clearing times, as little as one-half the time of existing equipment, which enhances the safety of the crews and public. The Companies are standardizing the design and equipment in substation that will ultimately result in reduced construction costs. As mentioned previously, the Companies are implementing the IEC 61850 protocol in new substations and substation renovations which will lessen the hours needed for wiring the protection systems of the equipment. The Companies are using advanced technology, quality and standardized equipment which will improve service quality and reduce the need for spares. For example, new breakers, with SF6 as insulating medium, will require less maintenance than that needed for conventional oil-filled breakers. As a result, the number of hours to design and construct brown field substations potentially can be reduced by up to 6%.

3. Remote Terminal Unit (RTU). Additional and upgraded RTU communication connectivity with substations and switching devices to resolve the following issues:

- Provides the ability to remotely monitor and control substation devices.
- Reduces outages and improves response time through increased real time situational awareness.
- Current radio RTUs have no additional capacity, are outdated and must be replaced to accommodate automation projects.

This project, together with the telecommunications infrastructure below, will provide the backbone to remotely operate sectional devices and reduce outage times. At RG&E additional smaller radio RTUs will be installed on switching equipment at customer substation locations so there will be better visibility of the stations' operations.

4. Telecommunications for remote control. The Companies plan to build or lease the telecommunications infrastructure necessary for the projects described in this section. This involves the strategic addition of fiber optic, microwave links and digital radio capability, depending on security and cost effectiveness. This will include erection of towers needed to communicate from remote locations to the Energy Control Center. The Companies will work with telecommunication providers to determine the least cost approaches to achieving the objectives. These communication links are vital to gain the benefits from automating the substations and distribution system as described in this section.

5. Reclosers. The Companies plan to add electronic reclosers to increase the ability to sectionalize more of the distribution system. These reclosers will reduce the number of customers out of service and facilitate the location of the fault in the lines.

6. Gas SCADA System. NYSEG's Gas SCADA System (GSS) monitors and controls the primary gate stations for the gas distribution systems for NYSEG and RG&E. The system is critical to safe and reliable gas operations and needs to be upgraded for the following reasons:

- The GSS is well beyond its expected eight year life and has been exhibiting an increased number of hardware failures. The last major upgrade was completed in 1999.

- The current server hardware, operating systems, software and security patches are unavailable because they are no longer manufactured or supported by the respective vendors.

Objective 5: Sustain the environment

The Companies comply with all environmental laws and regulations in carrying out its electric and gas delivery services.

NYSEG and RG&E will make decisions today to deliver positive long term results. Operating in an ethical manner and demonstrating a respect for the environmental are pillars of the business.

The details described in the Plan support this statement. Reducing the amount of leak prone natural gas mains and services will reduce methane emissions, a known greenhouse gas. Replacing outdated and near end-of-life electrical equipment presents opportunities to recycle both the metal and oil while minimizing the use of landfills. New electrical equipment purchased will also be more energy efficient than present equipment and will also reduce the risk of an oil spill caused by equipment failure.

The tasks in this Plan will take into account environmentally sensitive areas, from the selection of new right-of-ways to the restoration of disturbed areas.

Finally, improvements to the hydro generation facilities will allow the Companies to continue to provide a source of clean, renewable, green electric energy to our customers.

Objective 6: Safety & Security

Safety is the Companies' number one priority. The Companies place much emphasis on the safety of their employees and the public. The Companies operate a zero accident culture and will continue to make investments in order to assure the safe and reliable operation of the system.

No aspect of the Companies' operations is more important than accident prevention. Safety is a value that does not change. There is no job so important that established safety rules are ever compromised. Management strives to provide a hazard-free work environment, to comply with

all applicable health and safety laws and regulations, and to educate employees, customers and the public about health and safety hazards associated with our operations. Further, management is committed to the recognition, assessment, and control of health and safety hazards related to our facilities and operations.

The Companies continue to address the integration of systems and services, the Companies are taking steps to evolve its systems and cyber security programs.

3 IBERDROLA USA NETWORKS CAPITAL INVESTMENT PRIORITIZATION STRATEGY

The following categories listed in general order of priority are going to be used to define the plan:

- Mandatory Compliance – Statutory, regulatory, code, and industry standard requirements
- System Capacity – Organic demands to serve customers
- Reliability Risk – Continuity and quality of service to meet service targets
- Group Initiatives – Business-driven projects/programs approved by the CEO
- Efficiency – Improvements in the delivery of energy, and business processes
- Asset Condition Replacement – End of life replacement
- Strategic – Business growth and goodwill

Mandatory

Projects and programs identified as mandatory compliance will be the base of the capital investment plans for all Companies. Safety and environmental compliance lead this classification. Meeting formal legal and regulatory requirements, as well as industry standards, thereby protecting the Companies against violations are in this category. Examples include projects needed to meet the National Electric Safety Code (NESC), North American Electric Reliability Corporation (NERC), and other State and Federal requirements.

Projects associated with regulatory requests and market conditions such as generation retirements fall under the mandatory classification. Other examples include facility relocations related to public works projects such as highway relocations, responding to requests for new electric or gas service by a retail or wholesale customer, installation of street lighting, generator interconnects, projects required by contractual agreements, and projects approved and committed to under approved rate cases.

System Capacity

Projects and programs in this category ensure the system has sufficient capacity, resiliency, and operability to meet the demands of the customers. Projects addressing overloads and system

capacity that accommodate organic growth associated with changes in existing services of customers are in this category. Examples include electric and gas distribution, gas transmission, and electric radial transmission upgrades required to meet system capacity requirements under normal system operations, including overload mitigation.

Reliability Risk

Projects under this classification generally include those that fall under the IUSA Networks planning criteria and do not fall under the NERC standards – generally transmission, subtransmission, and substation facilities under 100kV. These projects are required to provide safe, reliable service, including meeting basic regulatory service targets such as SAIFI, CAIDI, and customer service. Examples of programs and projects under this category include improvements to worst performing circuits and gas systems, transmission, distribution, and substation hardening, power quality, line inspection mitigation, and gas system operating pressure. Power quality includes projects or programs proposed to correct or maintain regulated voltage levels to meet guidelines. These projects associated with power quality include work on distribution, transmission, and substation facilities and is responsive to harmonics, low voltage, high voltage, or flickering light situations. Gas system operating pressure includes projects or programs to correct or maintain operating pressures on design day conditions to meet IUSA Networks planning criteria. The projects associated with gas system operating pressure include work on distribution, transmission, regulator and gate station facilities and is responsive to improving pressure conditions and gas supply.

Group Initiatives

Projects and programs in direct support of Iberdrola group strategies and are approved by the CEO or IUSA Networks Board of Directors (BOD). Examples include expansion of service territories, business growth, and global standards that improve efficiencies.

Efficiency

Projects and programs primarily focused on improving the efficiency of business operations either through the direct reduction of costs, improvement of operational output or quality.

Examples of projects in this category include automation through technologies, business process improvements, and system operability improvements.

Asset Condition Replacement

This category of projects and programs are based on an analytically determined optimal approach to the replacement of assets, based on a determination of an asset's health and anticipated end of life. "End of life" can be driven by the risk and consequence of failure, obsolescence, lack of replacement parts, and other technical issues. Consideration is given to the cost associated with on-going repair and availability of repair parts versus asset replacement, asset's probability of failure, criticality of the asset, and the risk associated with the failure of the asset. Asset replacement programs also consider the asset population demographics and give consideration to leveling replacement requirements so as to use resources effectively. Projects and programs in this category may include gas and electric infrastructure, generation, fleet, computers, and office facilities.

Strategic

The final classification of programs and projects addresses corporate strategic direction. Projects in this category could include the support of new technologies such as SmartGrid and AMI, franchise expansion, green initiatives, Transco development, improvements beyond compliance in areas such as environmental and safety, and system reliability improvements beyond regulatory requirements such as SAIFI, CAIDI, and customer service.

4 TRANSMISSION AND DISTRIBUTION SYSTEM AND HYDRO GENERATION FACILITIES

TABLES

FIGURES

New York State Electric and Gas Corporation is a combination electric and gas utility serving approximately 882,000 electric customers and 261,000 gas customers in an area of approximately 18,400 square-miles and a population of 2.2 million people in New York State. Rochester Gas and Electric Corporation is a combination electric and gas utility serving approximately 371,000 electric customers and 306,000 gas customers within a 2,700 square-mile service territory with a population of approximately 1.0 million people in upstate New York.

4.1 ELECTRIC SYSTEM

Figure 4.1 on the next page is a map of the areas in which the Companies provide electric service in New York State.

NYSEG and RG&E provide electric delivery services to over 1.2 million customers in New York State. In 2013, the Companies delivered over 23.7 billion kWh of electricity to these customers. The highest peak demand experienced by the Companies was 5,117 MW which occurred in the summer of 2011. The most recent seasonal peaks were 3,298 MW in the summer and 2,950 MW in the winter for NYSEG, and 1,685 MW in the summer and 1,192 MW in the winter for RG&E. The growth in customer demand over the next five years is estimated to be slightly above 1% per year.

Table 4.1 provides information on the Electric Service Areas and Customers:

Table 4.1 Electric Service Areas and Customers

	area square miles	# cities (> 20,000 population)	# customers (000)	MWh 2013	MW peak load (2013)
NYSEG	18,359	6	882	16,041,856	3,298
RG&E	2,700	3	371	7,669,577	1,685
TOTAL	**21,059**	**9**	**1,253**	**23,711,433**	**4,983**

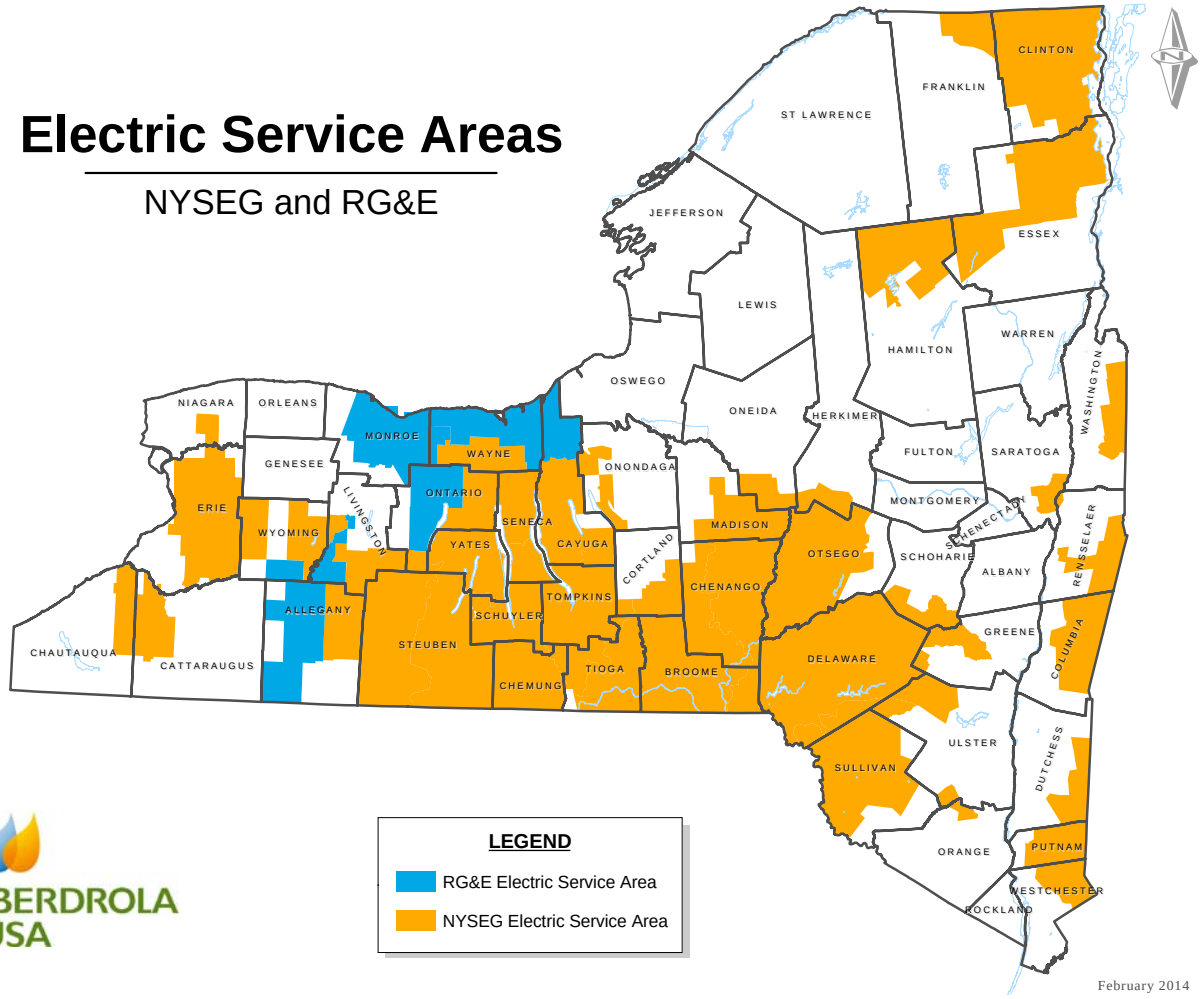


Figure 4.1 Electric Service Areas

4.1.1 Electric System Infrastructure

The Companies electric system infrastructure is summarized below by system - transmission and distribution

Table 4.2 Transmission Infrastructure

	NYSEG	RG&E	TOTAL
Lines (circuit miles)	4,562	1,120	**5,682**
Substations #	88	20	**108**
Transformers #	181	40	**221**
MVA	11,139	4,419	**15,558**
Switching Stations	95	66	**161**
Breakers (T&D) #	2,286	1,691	**3,977**
Circuits #	422	140	**562**
RTU' s #	92	59	**149**

Table 4.3 Distribution Infrastructure

	NYSEG	RG&E	TOTAL
Lines (circuit miles)	34,626	8,897	**43,523**
Substations #	347	138	**485**
Transformers #	1,006	295	**1,301**
MVA	5,816	3,763	**9,579**
RTU' s #	214	268	**482**
Circuits #	1,264	574	**1,838**
Reclosers #	675	187	**862**
Line Transformers (#000)	318	80	**398**
Stock Transformers (#000)	15	18	**33**
Poles & General structures (#000)	843	219	**1,062**

NOTE: *Substation Totals*: In 2013, the Substations currently listed for each OPCO have been researched and re-evaluated the way they were previously listed. As a result, the number of Transmission stations has lowered and the number of Distribution stations has increased.

NYSEG

The NYSEG electric system consists of 13 divisions that are supplied from 345 kV, 230 kV, and 115 kV transmission facilities with a total capability of approximately 11,000 MW, including approximately 71 MW of NYSEG operated generation (61.4 MW of hydroelectric, 7.3 MW natural gas unit; 1.8 MW diesel unit). The historical all-time peak load for NYSEG is 3,352 MW reached in the summer of 2011.

NYSEG is a member of the New York Independent System Operator (NYISO). Facilities designated in the NYISO-Transmission Owners Agreement filed and approved in FERC Docket No. ER97- 1523-000 are under the operational control of the NYISO, and NYISO provides transmission services on all NYSEG transmission facilities pursuant to the NYISO Open Access Transmission Tariff.

The reliability results for NYSEG since 2004 are included in Figure 4.2 below, as measured by the System Average Interruption Frequency Index ("SAIFI") and Customer Average Interruption Duration Index ("CAIDI").

RG&E

The Rochester electric system is supplied by three sources that provide a total transmission system capability of approximately 2,507 MW and by RG&E's hydroelectric plants having a rating of approximately 58MW. The transmission sources are:

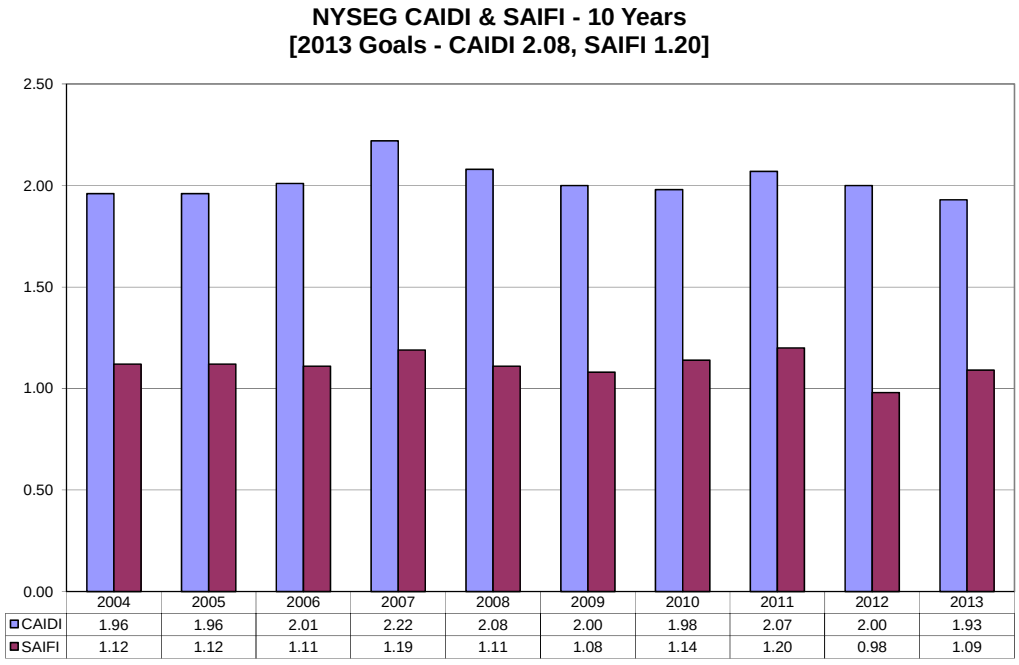
- Four bulk power transformers at Station 80, which connect to the NYPA-owned 345 kV bulk transmission system, providing approximately 1,221 MW.
- Three bulk power transformers at Station 122, which connect to the NYPA-owned 345 kV bulk transmission system, providing approximately 670 MW.
- Ginna Station, owned by Constellation Energy Nuclear Group, which can supply up to 610 MW, connects into several local RG&E 115 kV substations and directly into the 345 kV bulk transmission system at Station 122. [REDACTED]

The historical all-time peak load for RG&E is 1,765 MW reached in the summer of 2011.

The above bulk transmission sources supply the 115 kV and 34.5kV sub-transmission system that, in turn, feed vast local distribution systems and the 11 kV network transmission system within the City of Rochester.

RG&E is a member of the NYISO. Facilities designated in the NYISO- Transmission Owners Agreement filed and approved in FERC Docket No. ER97-1523-000 are under the operational control of the NYISO, and the NYISO provides transmission services on all RG&E transmission facilities pursuant to the NYISO Open Access Transmission Tariff.

The reliability results for RG&E since 2004 are included in Figure 4.3 below, as measured by SAIFI and CAIDI.



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CAIDI	1.96	1.96	2.01	2.22	2.08	2.00	1.98	2.07	2.00	1.93
SAIFI	1.12	1.12	1.11	1.19	1.11	1.08	1.14	1.20	0.98	1.09

Figure 4.2 NYSEG Service Quality

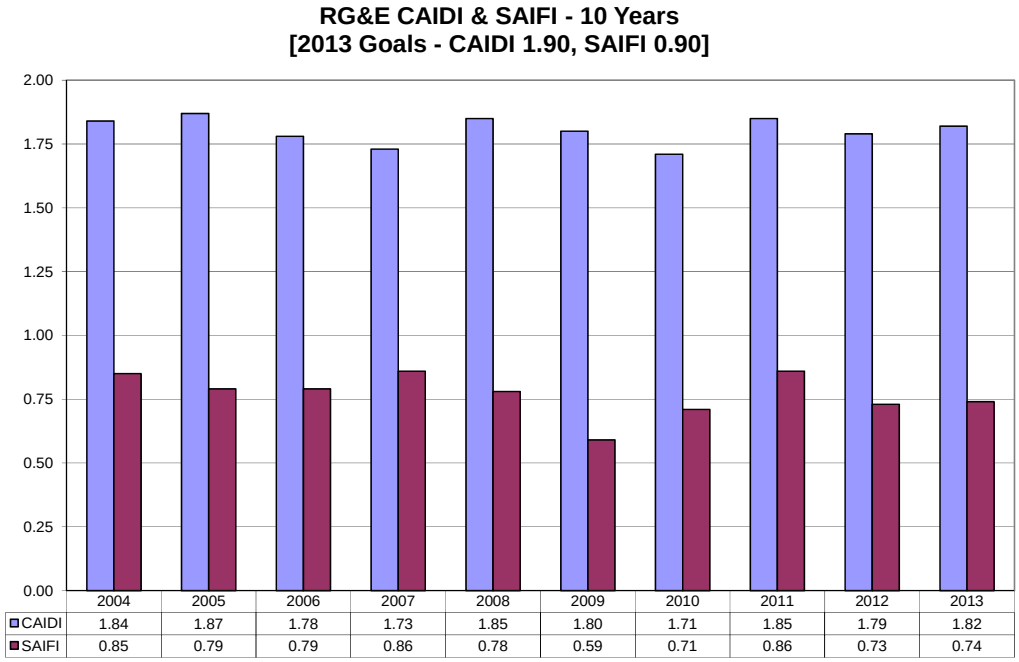


Figure 4.3 RG&E Service Quality

Maps of the Companies' transmission electric systems, showing lines and substations, are provided below in Figure 4.4 and Figure 4.5, with the Rochester City Area provided in Figure 4.6.

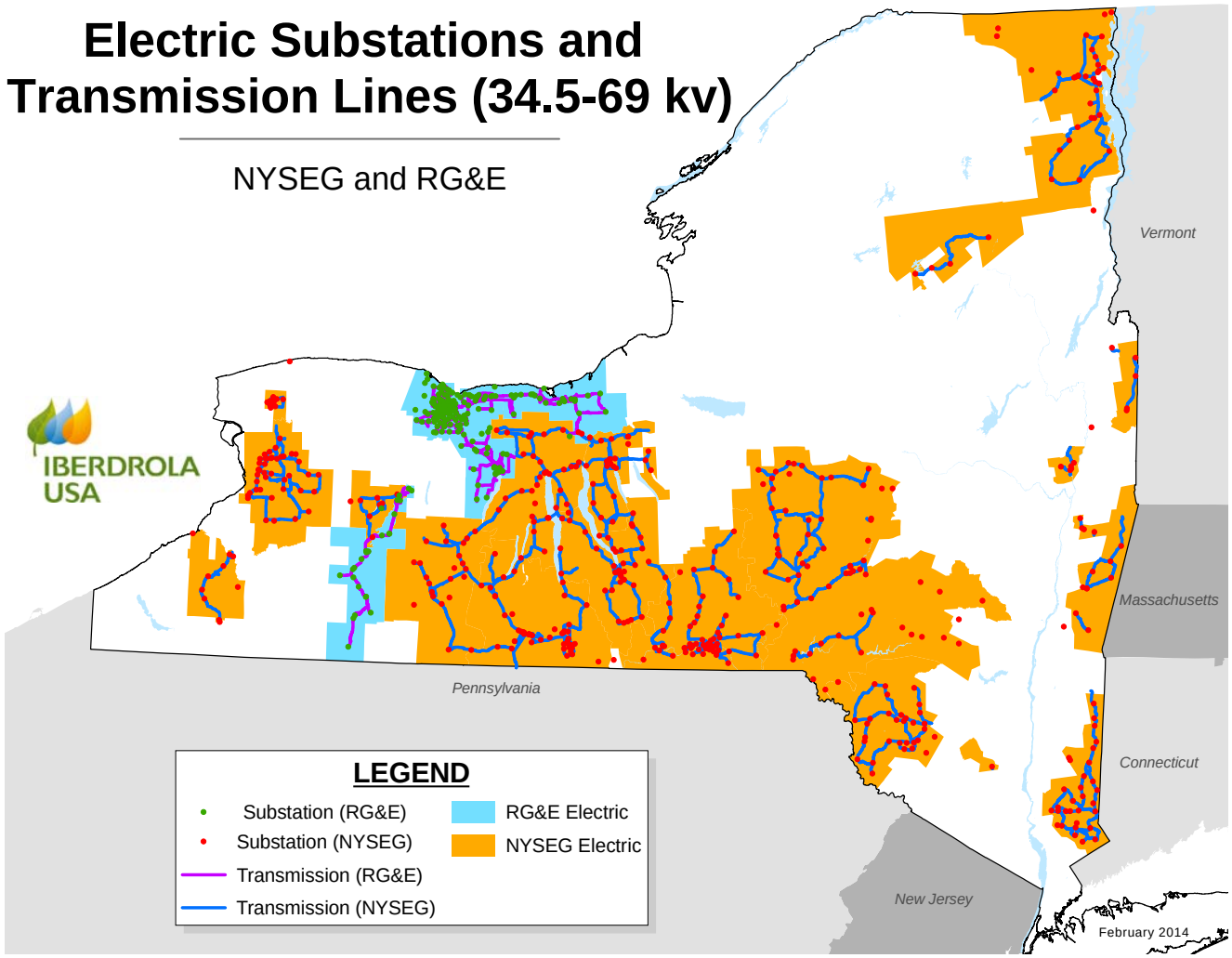


Figure 4.4 Electric Substations and Transmission Lines (34.5kV-69 kV)

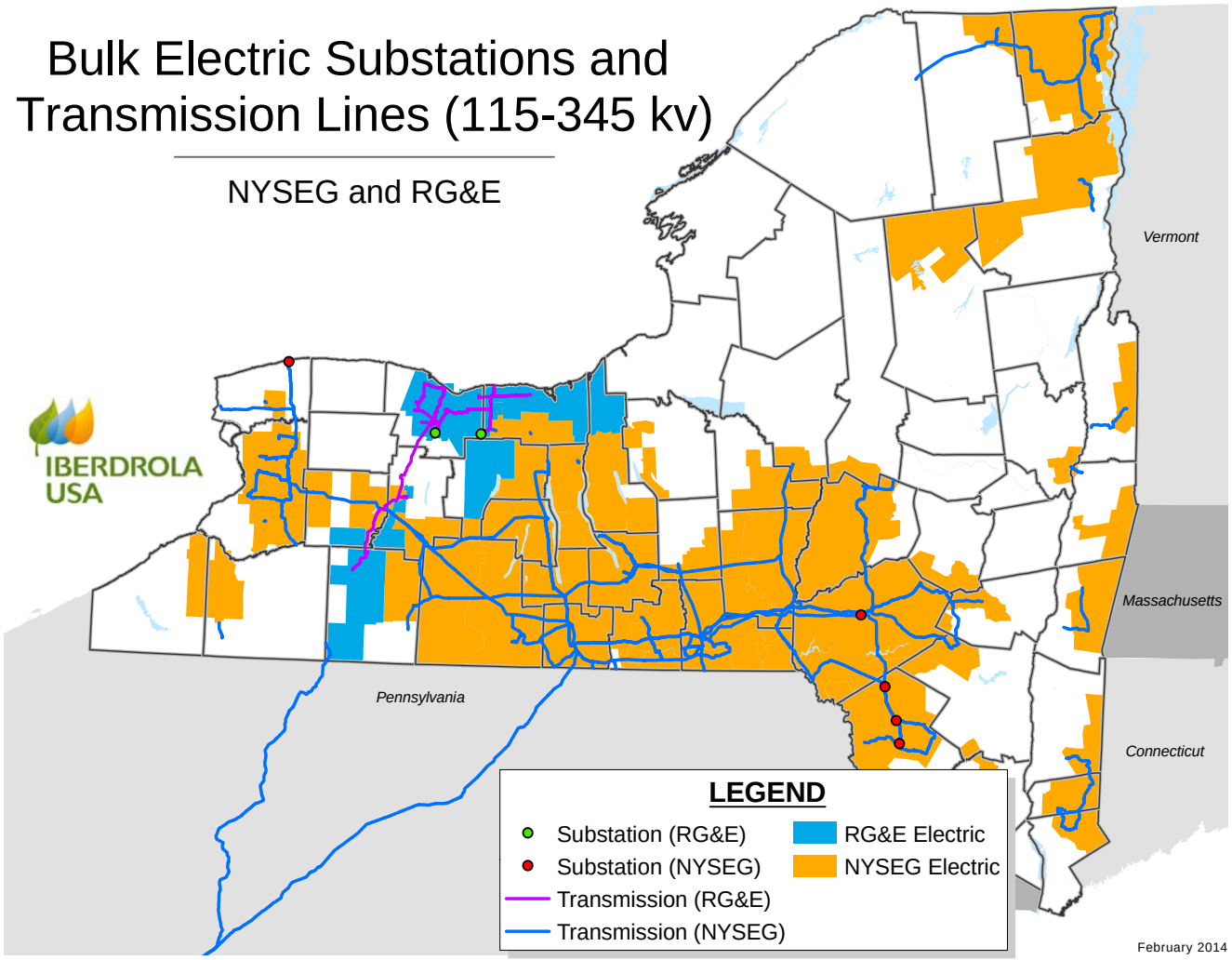


Figure 4.5 Electric Substation and Transmission Lines (115-345 kV)

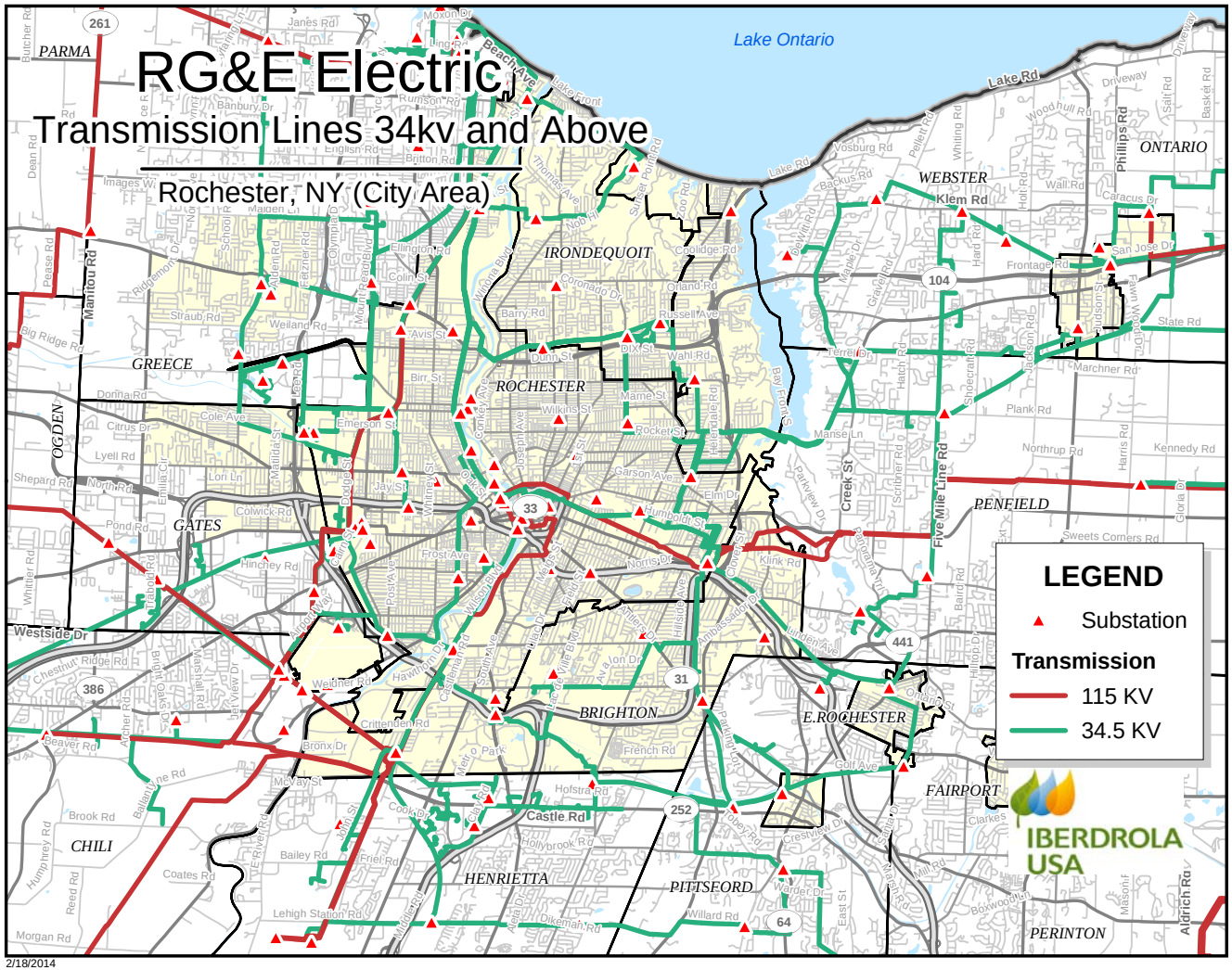


Figure 4.6 Electric Substations and Transmission Lines in Rochester City Area

4.2 GENERATION FACILITIES

The NYSEG and RG&E generating plants located throughout New York State are shown in Figure 4.7, which include twelve (12) hydroelectric and two (2) small fossil-fueled facilities. The hydroelectric plants are located from Plattsburgh in the northeast through the southern tier and in the City of Rochester, and include a total of 24 generating units with individual unit capacities ranging from 0.4 MW to 18.0 MW. They all are run-of-the-river hydroelectric facilities. These facilities have the capacity to produce approximately 600,000 MWh of renewable energy annually.

NYSEG's fossil fueled generating plants include a 7.3 MW natural gas-fired simple cycle (leased) unit in Auburn and a standby diesel generator located at the Harris Lake Substation in the Adirondack State Park having a nameplate capacity of 1.8 MW. This latter unit produces electric energy to serve local customers in the event of a 46 kV transmission line outage. In 2013, the existing 1960's vintage diesel-generator was proposed to be replaced with a new larger unit in order to serve this local load center more reliably, when needed.

The Companies strive to maximize the hydroelectric energy produced for our customers from the water that is available in the respective watershed and to maintain the fossil units so they are available when required to support local load centers / networks as dispatched by the NYISO according to the State's electric system load requirements and/or to provide energy needs during certain T&D network outages.

The Companies' investment strategy is to implement betterment projects that cost-effectively improve unit/station reliability and efficiency, increase capacity, replace aging or obsolete infrastructure/assets, protect the environment and safeguard of employees and the public. Moreover, all of the hydroelectric facilities are under the jurisdiction of the Federal Energy Regulatory Commission (FERC) or the New York Department of Dam Safety. As a result, the Companies also make investments in order to fulfill regulatory obligations.

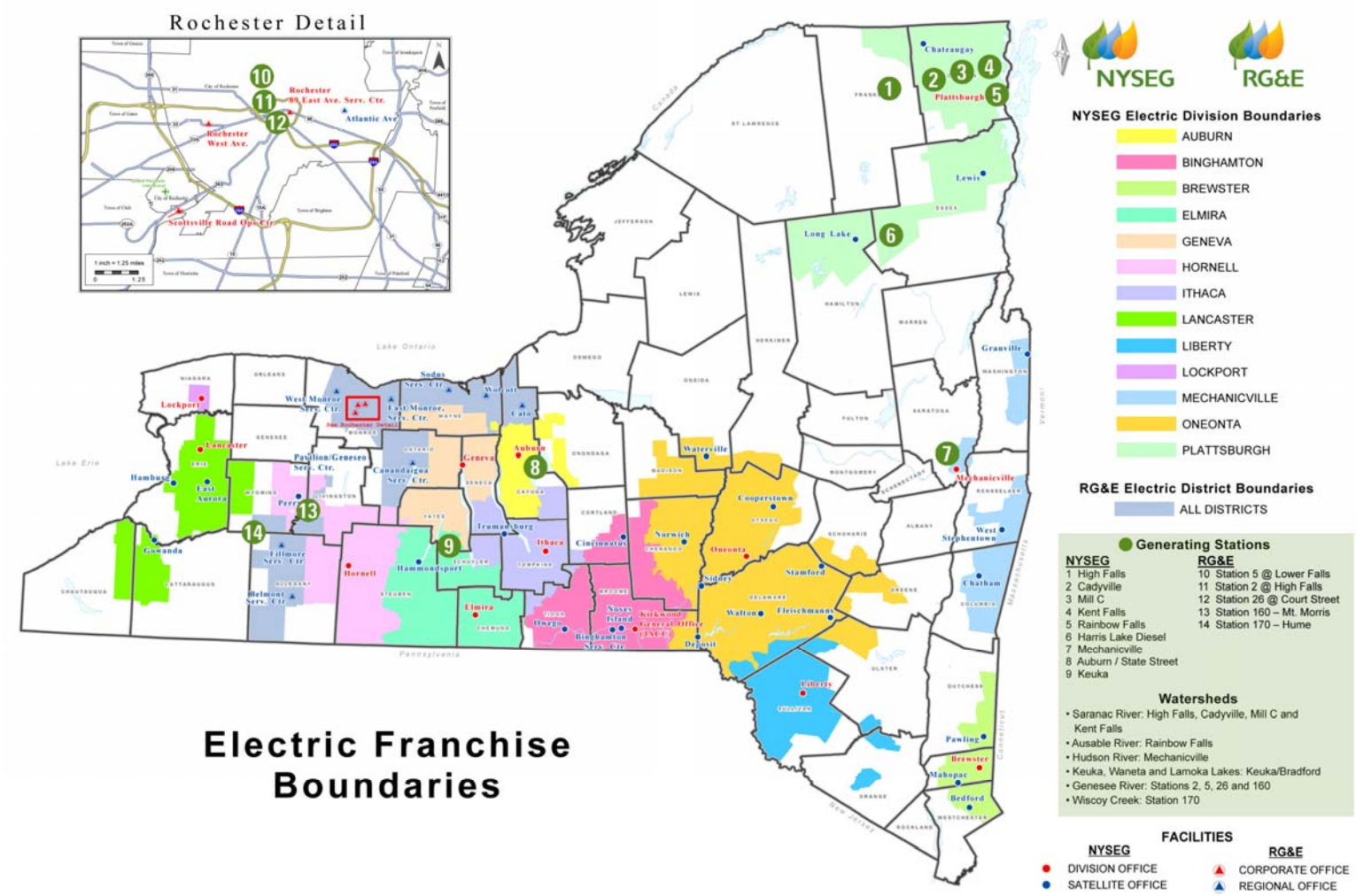


Figure 4.7. Generation Facilities

4.3 NATURAL GAS SYSTEM

Figure 4.8 is a map of the areas in which the Companies provide natural gas service in New York State. NYSEG and RG&E provide gas delivery service to over 568,000 customers in New York State. In 2013, the Companies delivered over 108 million dth of natural gas to these customers, 56 million dth in NYSEG and 52 million dth in RG&E. The growth in overall customer demand over the next several years is estimated to be approximately 1% per year.

The majority of gas is purchased from interstate gas transmission pipelines and received at system gate stations, where gas flow is metered and regulated and the ownership or custody of the gas transfers from the delivering pipeline to the Companies. Gas is odorized at these facilities. The city gate stations reduce the pressure to system pressure. The Companies also receive gas from local well producers at various locations along its infrastructure. The Companies' system transports gas from the system gate stations to the district regulator stations and field regulators where the pressure is further reduced, controlled, and monitored to meet customer needs. Service laterals connect the local distribution system to customers' meters.

4.3.1 Gas System Infrastructure

Table 4.4 contains information about the Companies natural gas transmission and distribution system as of the end of 2013.

Table 4.4 Gas System Infrastructure

Facilities	2013 – Miles or Number		
	NYSEG	RG&E	TOTAL
TRANSMISSION PIPELINE	**15**	**105**	**120**
DISTRIBUTION PIPELINE	**4,743**	**4,788**	**9,531**
REGULATORS STATIONS (include gate stations)	**619**	**323**	**942**
DISTRIBUTION PIPELINE			
Steel – Protected	2,200	2,474	**4,674**
Steel - Unprotected	246	287	**533**
Cast Iron / Wrought Iron	22	65	**87**
Plastic	2,275	1,962	**4,237**
Total DISTRIBUTION PIPELINE	**4,743**	**4,788**	**9,531**
SERVICES -Number			
Steel – Protected	32,792	76,777	**109,569**
Steel - Unprotected	19,569	18,016	**37,585**
Plastic	173,244	173,004	**346,248**
Other	7,634	9,792	**17,426**
Total SERVICES	**233,239**	**277,589**	**510,828**

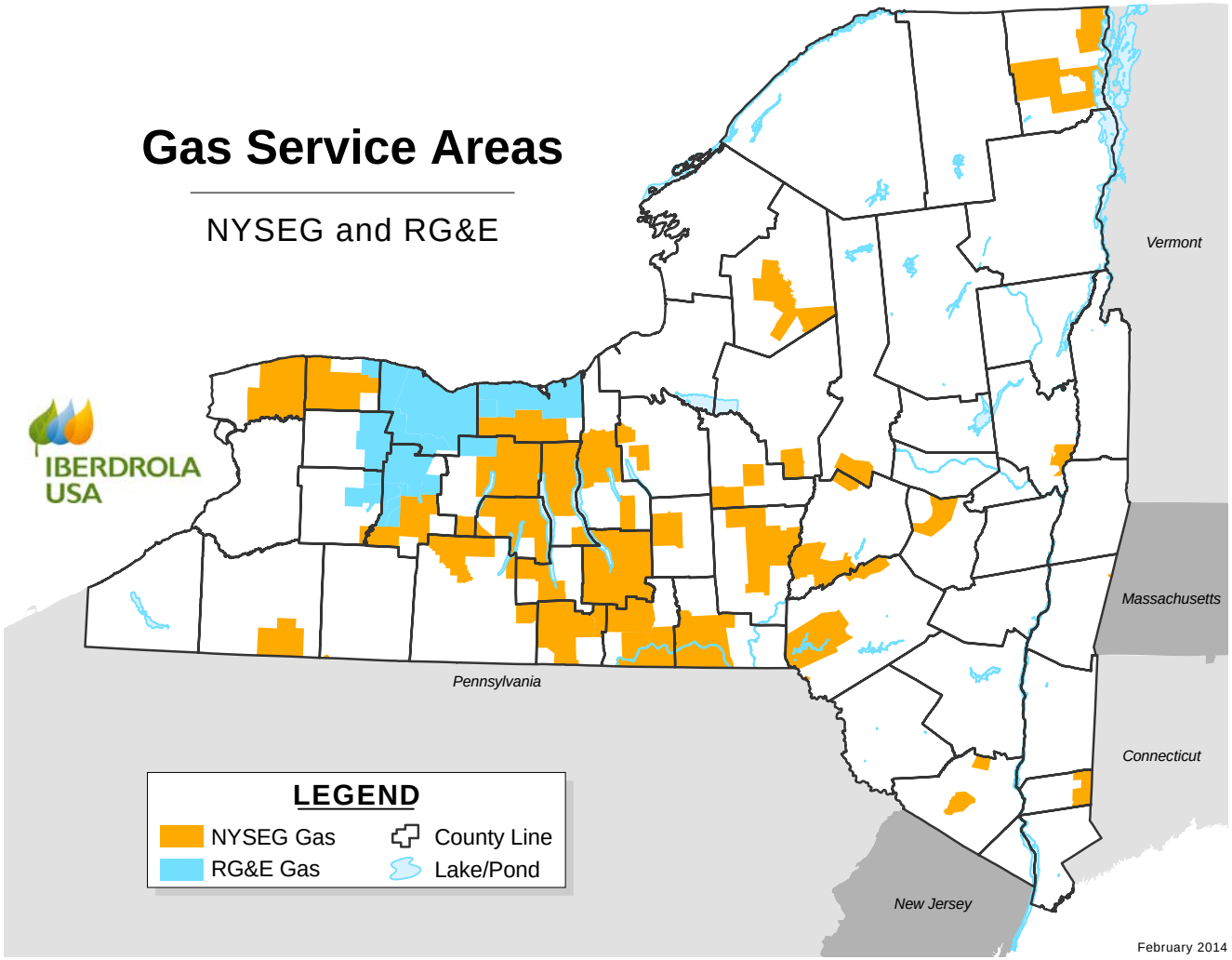


Figure 4.8 Gas Service Areas

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Table 4.5 contains safety and reliability metrics for NYSEG and RG&E for 2013.

Table 4.5 Gas Safety and Reliability Metrics

		NYSEG	RG&E
Measurements - Operations			
Emergency Response:			
Natural Gas Leak Response =< 30 min.	Actual	80.39%	88.93%
	Yr-End Target	75.00%	75.00%
Natural Gas Leak Response =< 45 min.	Actual	95.09%	97.81%
	Yr-End Target	90.00%	90.00%
Natural Gas Leak Response =< 60 min.	Actual	98.97%	99.61%
	Yr-End Target	95.00%	95.00%
Leak Management:			
Pending Leak Measure: Total # of all pending leaks (Type 1, 2, 2A and 3) NYSEG = ≤ 100 RG&E = ≤ 200	Actual	20	122
	Yr-End Target	100	200
Damage Prevention:			
Overall Damages per 1000 Tickets	Actual	1.84	1.85
	Yr-End Target	2	2
Mismarks per 1000 Tickets	Actual	0.43	0.4
	Yr-End Target	0.5	0.5
Co Damages per 1000 Tickets	Actual	0.15	0.13
	Yr-End Target	0.2	0.2
Achieve Gas Regulatory Safety & Reliability Targets			
Bare Steel & Leak Prone Main - miles	Actual	28.3	30.2
	Yr-End Target	24	24
Bare Steel & Leak Prone Services - #	Actual	1,559	1,270
	Yr-End Target	1,200	1,000

A map of the Companies' gas systems, showing transmission mains and supply points, is included as figure 4.9.

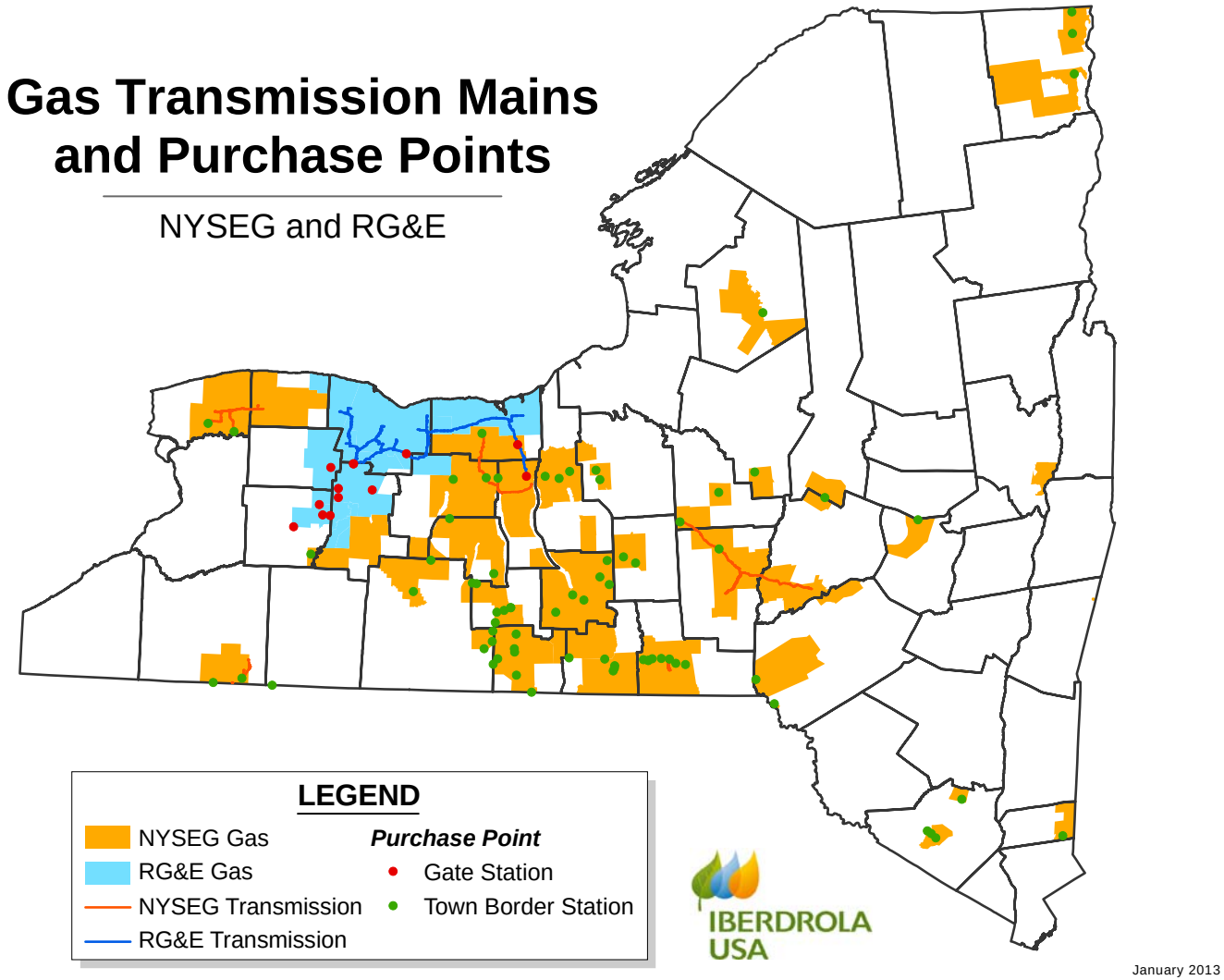

Figure 4.9 Natural Gas System

5 ELECTRIC CAPITAL INVESTMENT PLAN

TABLES

This section contains only descriptions of the electric projects and programs necessary to accomplish the strategic objectives. The hydro generation projects and common project are included in section 6 and 8. The following table summarizes the electric projects and programs capital investment plan for the Companies.

Table 5.1 Electric Projects and programs Capital Investment Plan by Year (Dollars in Millions)

NY- Electric	2014	2015	2016	2017	2018	TOTAL
NYSEG	161,895	148,544	154,341	286,993	287,022	**1,038,795**
RG&E	130,815	162,785	194,396	192,924	195,815	**876,736**
TOTAL	**292,710**	**311,328**	**348,738**	**479,917**	**482,838**	**1,915,531**

The investment amount for 2014 has been approved by the Iberdrola USA Networks Board of Directors. The objective of the Plan is to improve system reliability by reducing risks in the system by increasing system capacity, redundancy, and power quality.

5.1 MANDATORY

This category is related to meeting the electrical requirements of new customers or load additions for specific customer and for projects required by municipalities or other statutory reasons. Also, it is related to objective 5 and 6: sustain the environment and safety.

The following categories are going to be used:

- Safety and Environmental
- PSC/NERC/FERC
- Contractual
- Appendix L (2011-2013)
- Customer Driven

The Companies propose to invest in this category during the 2014 through 2018 as is shown in Table 5.2, which divides the investment into Transmission (T) and Distribution (D):

Table 5.2 Electric – Mandatory ($000)

NY Electric - Mandatory	2014	2015	2016	2017	2018	TOTAL
(Generation and Common not included)						
NYSEG - T	49,034	39,202	28,050	54,725	73,914	244,925
NYSEG - D	36,124	34,111	24,646	27,310	28,094	150,286
Total NYSEG Mandatory	**85,158**	**73,313**	**52,696**	**82,035**	**102,009**	**395,211**
RG&E - T	62,649	92,665	124,052	10,216	10,223	299,805
RG&E - D	32,174	23,668	21,394	24,471	25,205	126,911
Total RG&E Mandatory	**94,823**	**116,333**	**145,446**	**34,687**	**35,427**	**426,717**
TOTAL	**179,981**	**189,646**	**198,142**	**116,722**	**137,436**	**821,927**

Table 5.3 shows the total investment for each company by Category

Table 5.3. Electric – Mandatory categories ($000)

	2014	2015	2016	2017	2018	TOTAL
Safety and Environmental	3,204	1,414	-	-	-	4,620
PSC/NERC/FERC	7,645	7,945	10,741	19,587	38,052	83,970
Contractual	5,450	1,788	1,826	1,866	1,907	12,836
Appendix L	42,960	30,151	25,000	45,000	46,000	189,111
Customer Driven	25,899	32,016	15,129	15,582	16,050	104,674
TOTAL NYSEG	**85,158**	**73,313**	**52,696**	**82,035**	**102,009**	**395,211**
Safety and Environmental	1,018	35	-	-	-	1,054
PSC/NERC/FERC	7,490	6,730	7,480	17,081	17,293	56,074
Contractual	8,568	8,568	8,568	9,362	9,643	44,710
Appendix L	71,220	94,473	122,871	-	-	288,564
Customer Driven	6,527	6,527	6,527	8,244	8,491	36,315
TOTAL RG&E	**94,823**	**116,333**	**145,446**	**34,687**	**35,427**	**426,717**
TOTAL	**179,981**	**189,646**	**198,142**	**116,722**	**137,436**	**821,928**

A list of projects and programs included in Mandatory is provided in Attachment 4.

One of the projects included in Appendix L projects is the Energy Control Center which is described below:

Table 5.4 Energy Control Center ($000)

Project	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	>
Energy Control Center (Appendix L Project)	6,528 *	1,759				
Total Costs: $31,700 *						
Description: The design and installation of a fully integrated EMS/SCADA/DMS/OMS system that replaces the existing EMS/SCADA systems and current "Smartmap" Outage Management System. **Reasons and Benefits:** New infrastructure that facilitates increased automation on the transmission and distribution system while providing a robust foundation for additional automation of the system. See Chapter 2, objective 4 for more information. **Investment Reason:** Efficiency						
Year started: 2010 **Year in service:** Staged 2014- 2015 **Current Status:** System engineering and designs are complete. The system will receive all acceptance testing and come online in 2014. *The 2014 budget will likely increase by $4M which will increase the total cost to $31.7M						

A description of other significant projects is included in Attachment 3.

Division projects included in this category are: streetlight head replacements, establishing services for individual customers, underground residential developments, distribution Line Inspections, commercial services, voltage and highway minor relocate electric facilities. Also included here are meters, capacitors, and voltage regulators.

5.1.1 FERC Bright Line Bulk Electric System

As mentioned in the Introduction, Section 1.1, FERC (Federal Energy Regulatory Commission) has directed NERC (North American Electric Reliability Corporation) to develop a revised definition of the Bulk Electric System (BES) to further ensure the reliable operation of the US interconnected transmission network. FERC has eliminated the regional discretion in determining what is Bulk and has ordered NERC to adopt a definition of the BES that included all non-radial facilities at 100 kV and above (a so-called "bright-line" approach). On November 18, 2010, FERC issued Order 743 requiring NERC to revise its definition of BES to:

- "Eliminate the regional discretion in the current definition"
- "Maintain the Bright Line threshold that includes facilities operated at and above 100 kV"
- "Establish an exception process and criteria for excluding facilities that are not necessary for operating the interconnected transmission network" (e.g., radial facilities).

NERC filed a revised BES definition and transition plan with FERC on January 2012. FERC then issued Order 773 on December 20, 2012, establishing the "Bright Line" as the new BES definition. This FERC order will greatly expand the scope of facilities in New York State subject to the NERC reliability standards and the associated risk of compliance sanctions. NERC submitted a revised "Phase 2" BES Definition for FERC approval in December 2013, and FERC is expected to approve the revised definition before July 2014. The revised BES Definition will become effective July 2014, and all entities must be in full compliance by July 2016. The following table shows the anticipated impact this revised BES definition will likely have on the NYSEG and RG&E system as of March, 2014:

Table 5.5 FERC Bright Line Facility Impacts

	NYSEG	RG&E
Facilities already defined as BES	17 Substations 38 lines	2 Substations 0 lines
Facilities defined as BES under new "Bright Line"	95 Substations 135 lines	31 Substations 47 lines

The Companies are continuing to assess the impact of the new BES definition on its system and the scope of work it will cause to become compliant with NERC's reliability standards.

A preliminary estimate of capital costs due to work necessary to become compliant to FERC Order 773 is included in Table 5.6. These costs include work to conduct a planning study of NYSEG's and RG&E's BES system (referred to as the TPL Study), install Physical Security Systems at BES substations and conduct relay upgrades. The TPL Study, to be conducted to see what projects are required to make the BES system compliant with NERC reliability standards, will identify additional capital projects for substations and transmission lines.

Table 5.6 FERC Bright Line Impacts ($000)

	2014	2015	2016	2017	2018
NYSEG	600	1,400	4,000	12,643	30,900
RG&E	1,010	250	1,000	10,000	10,000
TOTAL	**1,610**	**1,650**	**5,000**	**22,643**	**40,900**

5.2 SYSTEM CAPACITY

This category is related to Objective 1: meet the electrical and natural gas needs of our customers.

The Companies propose to invest in this category during the 2014 through 2018 as is shown in Table 5.7, which divides the investment into Transmission (T) and Distribution (D):

Table 5.7 Electric - System Capacity ($000)

NY Electric - System Capacity	2014	2015	2016	2017	2018	TOTAL
(Generation and Common not included)						
NYSEG - T	4,444	3,989	4,737	11,009	7,048	31,227
NYSEG - D	5,624	9,269	32,310	77,288	62,384	186,876
Total NYSEG System Capacity	**10,068**	**13,258**	**37,047**	**88,297**	**69,432**	**218,103**
RG&E - T	263	8,690	8,302	7,528	3,836	28,619
RG&E - D	2,044	11,004	10,242	67,756	34,525	125,571
Total RG&E System Capacity	**2,307**	**19,694**	**18,544**	**75,284**	**38,361**	**154,190**
TOTAL	**12,375**	**32,952**	**55,591**	**163,581**	**107,794**	**372,293**

Table 5.8 shows the projects included in this category.

Table 5.8 Electric – System Capacity Projects

NYSEG	2014	2015	2016	2017	2018
Organic Growth ECC/XECS systems	-	154,000	138,000	140,000	142,000
System Capacity - Transmission Projects	4,295,956	3,221,767	1,193,536	2,626,316	31,789
System Capacity - Distribution Projects	5,771,946	9,882,605	35,715,783	85,530,738	69,258,470
Grand Total	**10,067,902**	**13,258,372**	**37,047,319**	**88,297,054**	**69,432,259**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
System Capacity - Transmission Projects	40,000	8,400,484	8,060,060	-	-
System Capacity - Distribution Projects	2,266,840	11,293,102	10,484,071	75,284,071	38,361,378
Grand Total	**2,306,840**	**19,693,586**	**18,544,131**	**75,284,071**	**38,361,378**
TOTAL	**12,374,742**	**32,951,958**	**55,591,451**	**163,581,125**	**107,793,637**

A detailed list of projects included in Transmission Projects and Distribution Projects is included in Attachment 5 and Attachment 6 respectively. A description of the most significant projects in this category is included in Attachment 3.

5.3 RELIABILITY RISK

This category is related to Objective 2: Achieve service reliability and quality targets.

The Companies propose to invest in this category during the 2014 through 2018 as is shown in Table 5.9, which divides the investment into Transmission (T) and Distribution (D):

Table 5.9 Electric - Reliability Risk ($000)

NY Electric - Reliability Risk	2014	2015	2016	2017	2018	TOTAL
(Generation and Common not included)						
NYSEG - T	8,693	5,609	6,171	40,026	36,557	97,057
NYSEG - D	5,338	4,926	6,924	11,420	8,449	37,056
Total NYSEG Reliability Risk	**14,031**	**10,535**	**13,095**	**51,446**	**45,006**	**134,113**
RG&E - T	3,608	3,413	5,370	30,354	66,351	109,096
RG&E - D	2,791	2,733	2,930	12,339	12,244	33,037
Total RG&E Reliability Risk	**6,400**	**6,146**	**8,300**	**42,692**	**78,595**	**142,133**
TOTAL	**20,431**	**16,681**	**21,395**	**94,139**	**123,601**	**276,246**

Table 5.10 shows the projects included in this category.

Table 5.10 Electric – Reliability Risk Projects

NYSEG	2014	2015	2016	2017	2018
Distributed outage management and reporting system	1,146,922	1,058,852	-	-	-
Energy Control Center Project in NY, Siemens DMS	-	250,000	700,000	-	-
Mobile Replacement #2 & #4		-	2,000,000	2,800,000	-
Other betterment projects	5,750,000	5,750,000	5,922,500	6,100,175	6,283,180
Red Circuits/WPC	2,400,000	2,400,000	2,472,000	2,546,160	2,622,545
Spectrum based back office solution	496,600	76,600	-	-	-
Reliability Risk - Transmission Projects	4,237,360	1,000,000	2,000,000	40,000,000	36,000,000
Endicott Clark Street 2nd 12kV Circuit	-	-	-	-	100,000
Grand Total	**14,030,882**	**10,535,452**	**13,094,500**	**51,446,335**	**45,005,725**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
Distributed Outage Management and Reporting System	370,174	352,950	-	-	-
Mobile #101 & #34 - 1				2,900,000	2,500,000
Mobile switchgear #1 & #3 -1	24,327			2,240,860	2,000,000
Other betterment projects	1,700,000	1,700,000	1,700,000	1,857,636	1,913,365
Red Circuits/WPC	1,800,000	1,800,000	1,800,000	1,967,000	2,026,000
RG&E Energy Control Center Project in NY, Siemens DMS	-		300,000	-	-
Spectrum based back office solution	153,400	24,400	-	-	-
Reliability Risk-Transmission Projects	2,351,723	2,268,648	4,500,000	27,000,000	68,028,376
Station 51 transformer/facilities upgrade and secondary source addition	-	-	-	6,726,773	2,127,114
Grand Total	**6,399,624**	**6,145,998**	**8,300,000**	**42,692,269**	**78,594,855**
TOTAL	**20,430,506**	**16,681,450**	**21,394,500**	**94,138,604**	**123,600,580**

Distributed outage management and reporting system: These implementations have been determined to be of critical importance to Operations as it pertains to outage management and reporting. They, along with the Spectrum REPOS system (part of Energy Control Center project) comprise the complete integrated Outage Management system solution providing: regulatory reliability and outage summary reporting; more efficient management of crews

assignments through a common user interface; and planned outage scheduling and tracking all of which are vital to our core business operations.

Mobiles: To facilitate major substation rebuilds on the same site. It allows flexibility in construction and will help reduce outages that will be required for substation modifications.

Other Betterments projects: Minor projects in transmission, substation and distribution equipment to maintain system reliability for customers.

Red Circuits/WPC: Projects in distribution circuits with high impact in SAIFI and CAIDI to maintain system reliability for customers.

A detailed list of project included in Transmission Projects is provided in Attachment 5 and a description of the most significant projects in this category is included in Attachment 3.

5.4 EFFICIENCY

This category is related to objective 4: Improve effectiveness and efficiency of the network

It includes the projects and programs to control and monitor the circuits in substations, transformers, and major points of the electric system.

Currently there are many RTUs whose capacity has been exceeded, and much of the distribution delivery system does not have RTUs. The majority of the existing RTUs are also difficult to maintain or to obtain spares, as they are an obsolete technology.

Reclosers need to be installed in the overhead lines to improve quality of service and reduce the number of outages and the duration of outages. They help to achieve a faster localization of faults, a higher level of safety and reduce the number of customers out of service for each distribution line fault.

The communications between substations and the Energy Control Center is presently outdated, so the Companies, in order to support increased automation, must upgrade the communications

with new fiber optic lines, links via microwave, additional channels for digital radio or purchase communication pathways from providers.

The Companies propose to invest in this category during 2014 through 2018 as follows:

Table 5.11 Electric – Efficiency ($000)

NY Electric - Efficiency	2014	2015	2016	2017	2018	TOTAL
(Generation and Common not included)						
NYSEG - T	-	-	-	1,188	2,970	4,158
NYSEG - D	6,777	6,130	3,650	5,082	6,530	28,169
Total NYSEG Efficiency	**6,777**	**6,130**	**3,650**	**6,270**	**9,500**	**32,327**
RG&E - T	123	13	99	132	132	498
RG&E - D	4,335	4,237	4,312	6,552	4,694	24,129
Total RG&E Efficiency	**4,457**	**4,249**	**4,411**	**6,684**	**4,826**	**24,628**
TOTAL	**11,234**	**10,379**	**8,061**	**12,954**	**14,326**	**56,955**

Investments in automation in the Plan include:

Automation of substations. The substation modernization program will prepare substations for the automation through new standards of design and equipment. The Substation Modernization Program currently includes 40 substations at NYSEG and 11 substations at RG&E. Other substations will be identified during the next several years. 10% of the costs of this program are included in this category and 90% is included in Asset Condition Replacement category.

The 40 NYSEG substations included in this program are: Adams Corners, Bedford Hill, Bodle Hill, Canaan, Cayuga, Cincinnatus, Burdett, Clintonville, Colliers, Concord, Chenango Forks, Delhi, Ebenezer, Endicott Railway, Federal Street, Genoa, Gorham, Goulds, Hill Street, Liberty, Marcellus, Milo, Monticello, Montour Falls, New Albion, Norton, O'Brien Road, Orchard Park. Raquette Lake, Rein Road, Sampson, Salem, Snyders Lake, South Owego, Swift Street, Tuttle Place, Valois, West Hill and Wynantskill.
The 11 RG&E substations included in this program are: Station 5, 29, 34, 37, 38, 43, 156, 174, 204, 205 and 210.

Remote Terminal Unit (RTU): Additional and upgraded RTU communication connectivity will be installed in other substations and with switching devices.

Reclosers. The Companies plan to add electronic reclosers to increase the ability to sectionalize more of the distribution system. These reclosers will reduce the number of customers out of service and facilitate the location of the fault in the lines.

Telecommunications for remote control. The Companies plan to build or lease the telecommunications infrastructure necessary for the above projects. This involves the strategic addition of fiber optic, microwave links and digital radio capability, depending on security and cost effectiveness.

Currently the level of Substation automation in the Companies is 56%.

Table 5.12 shows the total investment for each company in projects and programs.

Table 5.12. Electric – Efficiency, projects and programs

NYSEG	2014	2015	2016	2017	2018
Brewster Network Automation	1,750,000	-	-	-	-
Brewster RTU Substation Project	1,000,000	2,430,000	-	-	-
NYSEG - Communications for Automation Initiatives	527,000	500,000	500,000	500,000	500,000
NYSEG Recloser Automation	1,000,000	500,000	500,000	500,000	500,000
NYSEG Telecom - Alarm Monitoring Refresh	-	-	150,000	-	-
NYSEG Telecom - SONET Refresh	-	200,000	-	450,000	-
Telecomm Bridges for new KGO BU Site	-	-	-	20,000	-
Substation Modernization (10%)		-	-	1,800,000	4,500,000
NYSEG RTU Upgrade Program	2,500,000	2,500,000	2,500,000	3,000,000	4,000,000
Grand Total	**6,777,000**	**6,130,000**	**3,650,000**	**6,270,000**	**9,500,000**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
Recloser Automation	1,000,000	1,030,000	1,061,000	1,093,000	1,126,000
RG&E Pilot Wire Replacement Program	36,000	200,000	200,000	1,891,253	
RGE - Communication for Automation Initiatives	500,000	500,000	500,000	1,000,000	1,000,000
RGE - NY Control Center Telephone - Major Capital	-	19,205	150,000	-	-
Efficiency - Transmission Projects	40,000	-	-	-	-
RGE RTU Program - Carryover	2,750,000	2,500,000	2,500,000	2,500,000	2,500,000
Substation Modernization (10%)	131,338	-	-	200,000	200,000
Grand Total	**4,457,338**	**4,249,205**	**4,411,000**	**6,684,253**	**4,826,000**
TOTAL	**11,234,338**	**10,379,205**	**8,061,000**	**12,954,253**	**14,326,000**

5.5 ASSET CONDITION REPLACEMENT

This category is related to objective 3, replacing obsolete equipment and facilities and improving effectiveness and efficiency of the network. The Companies need to replace equipment that is obsolete either because it is at end of life or it is technologically obsolete. Obsolete equipment can cause safety issues, risk of environmental incidents, and lack of reliability, and such equipment is difficult and costly to maintain and to obtain spares. The major types of facilities included in this category are: poles, batteries, AC & DC panels, relays, switches and substation breakers and some indoor substations. This includes the projects and programs done for the following investment reasons:

The Companies propose to invest in projects and programs in this category during 2014 through 2018 as follows:

Table 5.13 Electric – Asset Condition Replacement ($000)

NY Electric - Asset Condition Replacement	2014	2015	2016	2017	2018	TOTAL
(Generation and Common not included)						
NYSEG - T	8,187	8,628	9,016	14,846	15,285	55,962
NYSEG - D	37,674	36,679	38,838	40,098	40,791	194,080
Total NYSEG Asset Condition	**45,861**	**45,307**	**47,854**	**54,945**	**56,076**	**250,042**
RG&E - T	8,188	2,542	3,080	10,808	12,844	37,461
RG&E - D	14,641	13,821	14,615	21,269	21,762	86,107
Total RG&E Asset Condition	**22,828**	**16,363**	**17,695**	**32,077**	**34,605**	**123,568**
TOTAL	**68,689**	**61,669**	**65,549**	**87,021**	**90,681**	**373,610**

Attachment 7 provides the list of programs included in this category.

The description of the most significant projects programs of this category is provided below:

Station 23 Transformer and 11 kV switchgear - Add 11 kV GIS and two 115/11 kV transformers to Station 23. Add double bus configuration to the 115 kV GIS. Transformer replacements are due to poor health - 1T and 2T are leaking and reaching end of life. Two of the four bus sections

of 11 kV are overdutied and need to be upgraded for proper fault current ratings. Bus 3 and 4 are at 96% of rated interrupt capacity.

TDIRP, Transmission, Distribution Infrastructure Replacement Program - Circuit Breaker Replacement Program: A condition assessment performed by Asset Management of circuit breakers found 68 to be in very poor health and 690 to be in poor health at NYSEG, and 99 to be in very poor health and 368 to be in poor health at RG&E. This program addresses these very poor and poor condition circuit breakers. Replacements will eliminate units most at risk of failure and improve reliability of the system.

TDIRP- Battery Replacement Program: This program replaces current lead-acid systems with engineered Ni-Cd replacements as identified by a condition assessment by Asset Management. As a critical component of a substation, battery systems that fail to perform or are in poor working condition can hinder operational capability. These systems are nearing their end of life and are being replaced to reduce risk of failure and negative impacts on system operations.

TDIRP- Distribution Pole Replacement Program: The Companies plan to replace over a five-year period poles greater than 75 years old. A condition assessment performed by Asset Management found 22,836 poles at NYSEG greater than 75 years old. Pole inspections show rejection rates increasing rapidly at 50-60 years. RG&E has 3,832 poles greater than 75 years old. The Companies plan a systematic replacement of these higher risk, older poles.

Portion of Division Projects: Individual projects that are less than $100,000 and not included in other special programs such as TDIRP. Jobs include distribution line, transmission line and substation.

Substation Modernization Program: Rebuild several Downtown Rochester substations and NYSEG substations to current standards. These substations are old with deteriorating structures. They are difficult on which to do maintenance work and are potentially unsafe for employees and the public. 90% of the costs of this program are included in this category and 10% are included in Efficiency.

The Substation Modernization Program includes the modernization of the following substations:

Modernization of 40 substations in NYSEG: Adams Corners, Bedford Hill, Bodle Hill, Canaan, Cayuga, Cincinnatus, Burdett , Clintonville, Colliers, Concord, Chenango Forks, Delhi, Ebenezer, Endicott Railway, Federal Street, Genoa, Gorham, Goulds, Hill Street, Liberty, Marcellus, Milo, Monticello, Montour Falls, New Albion, Norton,O'Brien Road, Orchard Park. Raquette Lake, Rein Road, Sampson, Salem, Snyders Lake, South Owego, Swift Street, Tuttle Place, Valois, West Hill and Wynantskill.

Modernization of 11 substations in RG&E: Station 5, 29, 34, 37, 38, 43, 156, 174, 204, 205 and 210.

Other substations will be evaluated during the next several years.

5.6 STRATEGIC

This category is related to objective 4: Improve effectiveness and efficiency of the network

The Companies propose to invest in projects and programs in this category during 2014 through 2018 as follows:

Table 5.14 Electric – Strategic ($000)

NY Electric - Strategic	2014	2015	2016	2017	2018	TOTAL
(Generation and Common not included)						
NYSEG - D	-	-	-	4,000	5,000	9,000
RG&E - D	-	-	-	1,500	4,000	5,500
TOTAL	**-**	**-**	**-**	**5,500**	**9,000**	**14,500**

NYSEG and RG&E Smart Grid: Within the overall considerations associated with the Utility 2.0 efforts in NY, Iberdrola USA Networks will be developing a Smart Grid Strategy for NYSEG and RG&E. This plan will consider the potential costs, benefits, schedules, and regulatory approaches associated with a range of possible AMI implementation scenarios for the New York electric and gas utilities. Consideration will be given to a base-case implementation in New York similar to the CMP model, and to alternative scenarios that would incorporate technologies

suitable for natural gas meter automation, take into account the capabilities of CCS, identify tariff and system modifications that would facilitate load management by customers, and otherwise accommodate the existing New York infrastructure, the New York customer market, and New York State regulatory policies and practices.

5.7 CUSTOMER BENEFITS

The Companies recognize that there are a number of concerns that could result under a single element failure (in transformers or lines), contingency situations (N-1) at peak demand and a much smaller number of failures that could result under normal operating conditions at peak demand, as shown in the next section.

Many of the Appendix L projects address the following concerns found in the assessment of the system.

5.7.1 Transmission

Transmission System Planning has developed Five-Year Reliability-Based Transmission and Substation Capital Projects in order to solve the concerns shown in Table 5.15.

This Plan has been developed to address the concerns shown in Table 5.15, but some of them require modifications in the network which require several years to complete. Projects to address these concerns are expected to be executed during the 2014 through 2018 period, but some of the projects will be placed in service after 2018.

Table 5.15 Transmission System Concerns 2014-2018

	# Problems			MW			# Customers		
	NYSEG	RG&E	TOTAL	NYSEG	RG&E	TOTAL	NYSEG	RG&E	TOTAL
N-1 in Line	15	14	29	176.7	242.5	419.2	37,277	51,720	88,997
N-1 in Transformer	16	16	32	724.6	578.1	1,302.7	171,907	124,250	296,157
Voltage quality	28	8	36	430.8	126.3	557.1	126,979	34,912	161,891
Transformer overload	3	4	7	41.1	97.6	138.7	10,546	15,441	25,987
Line Overload	2	2	4	26.7	48.4	75.1	11,734	14,017	25,751
TOTALS	**64**	**44**	**108**	**1,399.9**	**1,092.9**	**2,4292.8**	**358,443**	**240,340**	**598,783**

Please note that one customer could have been counted more than one time, if the same customer is affected by more than one problem.

[REDACTED]

[REDACTED]

5.7.2 Distribution

Distribution System Planning has developed a Reliability Based Distribution approach to solve the concerns shown in Table 5.16. This table also shows the distribution concerns that will be solved by projects with total investment less than $100,000 that are part of Division Projects.

This Plan has been developed to address the concerns shown in Table 5.16, but some of them require modifications in the network which require several years to complete. The projects to address these concerns are expected to be executed during the 2014 through 2018 period, but some of the projects will be placed in service after 2018.

Table 5.16 Distribution System Concerns 2014-2018

	# Problems			MW			# Customers		
	NYSEG	RG&E	TOTAL	NYSEG	RG&E	TOTAL	NYSEG	RG&E	TOTAL
Transformer overload	10	5	**15**	39	28	67	14,139	9,908	24,047
Line overload	17	13	**30**	58	44	102	18,643	12,580	31,223
TOTALS	**27**	**18**	**45**	**97**	**72**	**169**	**32,782**	**22,488**	**55,270**

Please note that one customer could have been counted more than one time, if the same customer is affected by more than one problem.

[REDACTED]

[REDACTED]

NYSEG and RG&E have numerous substations serving distribution circuits where the failure of a transformer would result in the loss of customers and load. Prior to the projects which solve the concern being placed into service, the Companies address these distribution risks by installing a mobile substation as a temporary replacement until the permanent transformer is repaired or replaced.

5.8 NEW SUBSTATIONS

The new substations that address the transmission and distribution system problems and that will be added during the 2014 through 2018 period in this category are as follows:

NYSEG

Columbia County Transmission (Klinekill/Valkin Substation 115 kV transmission line project), in service 2018, Mechanicville Division: New 115kV transmission lines in the towns of Chatham, Ghent, and Stockport within Columbia County, New York. The proposed facilities and improvements include a new 115 kV switching station (Ghent Switching Station), 11.1 miles of 115 kV transmission line (Circuit #726 and National Grid Trunk #15 extension), and improvements at the existing Klinekill 115kV/34.5kV Substation. The project will provide a 115 kV source to the service area, thereby eliminating the associated voltage and thermal problems

Perry Center Area Substation Project, in service 2017, Hornell Division: Construct a new three-breaker, 34.5 kV switching station and bring in all three sections of the 591 line into the new substation and close the normally open switch #59186 between Stanton Avenue and Perry Center Substations. Construction of this switching station at Perry Center will allow for adequate voltages and thermal conditions to be maintained in the area in the event of an outage of the Federal Street to Perry Center 34.5 kV line.

Tom Miller Road Substation Project, in service 2015, Plattsburgh Division: A new 46/12.5 kV substation with one 12/16/20 MVA transformer and 3 distribution circuit breakers to relieve a substation transformer overload condition.

Luther Forest Substation (Mechanicville System Reinforcement Project), in service 2015, Mechanicville Division: A new 115/34.5 kV Substation with one 34.5 kV, 30/40/50 MVA LTC transformer and 2 distribution circuits. The objective is to resolve loading issues with the existing Mulberry Substation by transferring load to a new 115-34.5 kV source at Luther Forest.

Waterloo Substation, in service 2017, Geneva Division: On a company owned site south of the existing substation install the 10/12/14 MVA, 34.5/12.5 KV transformer with two distribution circuits as the new Waterloo Substation. Extend the 34.5 KV transmission line from the old substation to the new substation about 1/4 mile to relieve future overload conditions in the area.

RG&E

New Bulk Power Substation (Station 255, part of Rochester Area Reliability Project), in service 2016: A new 345 kV bulk power system station will be constructed and located approximately 3.8 miles west of the RG&E Station 80. The two NYPA 345kV cross-state transmission lines, SR1-39 (Somerset - Rochester) and NR-2 (Niagara - Rochester), will be brought into the new station. The project will meet present and future RG&E load level requirements under any first contingency condition, i.e., a condition involving the loss of any Bulk Power System transformer along with the loss of Ginna Station.

Station 262, in service 2015: A new 115/34.5 kV, 57 MVA substation with one transformer with LTC. The new substation and the new 34 kV line to Station 26 will provide necessary relief to

existing lines and transformers from thermal stress under contingency conditions in the Rochester Central District.

University of Rochester (U of R Project), in service 2014: 115/34.5kV substation with 2-75MVA transformers to serve the University of Rochester load. The new substation will tap the 115 kV transmission circuits #901 and #902. The existing load served out of Station 33 will be transferred to the new substation. This new arrangement will relieve the Station 33 115/34.5 kV transformers of thermal stress and will accommodate present and future load levels.

A description of the most significant projects in this category is included in the Attachment 3.

6 HYDRO GENERATING FACILITIES CAPITAL INVESTMENT PLAN

Listed in Table 6.1 is a summary of the investments that the Companies plan during the period 2014-2018 in its Hydro Generation Facilities. These projects help the Companies meet several strategic objectives including cost-effectively improving unit efficiencies and reliability, increasing capacity, maintaining the infrastructure, safeguarding employees and the public, and addressing hydro/license regulatory mandates and obligations.

Table 6.1 Hydro Generation Facility Investments ($000)

NY Generation	2014	2015	2016	2017	2018	TOTAL
High Falls	85	25	1,085	2,425	1,375	4,995
Cadyville	185	25	25	675	1625	2,535
Mill C	35	25	25	525	200	810
Kents Falls	185	1650	725	125	225	2,910
Rainbow Falls	550	1020	570	125	225	2,490
Mechanicville	110	80	995	1225	925	3,335
Minors	386	219	350	500	901	2,356
TOTAL NYSEG - Generation	**1,536**	**3,044**	**3,775**	**5,600**	**5,476**	**19,431**
Station 2	535	1,750	4,931	8,260	8,133	23,609
Station 5	1,095	2,650	275	2,375	1950	8,345
Station 26	165	1225	125	325	325	2,165
Station 160	0	25	25	25	25	100
Station 170	0	25	25	25	25	100
Minors	413	600	452	575	568	2,608
TOTAL RG&E - Generation	**2,208**	**6,275**	**5,833**	**11,585**	**11,026**	**36,927**
TOTAL Generation	**3,744**	**9,319**	**9,608**	**17,185**	**16,502**	**56,358**

In Table 6.2 is the summary by investment categories:

Table 6.2 Hydro Generation Facility Investments by category ($000)

NY Generation	2014	2015	2016	2017	2018	TOTAL
NYSEG						
Mandatory	850	1,000	2,500	4,000	4,076	**12,426**
System Capacity	50	1,944	600	400	-	**2,994**
Reliability Risk	-	100	675	1,200	1,400	**3,375**
Asset Condition	636	-	-	-	-	**636**
TOTAL NYSEG	**1,536**	**3,044**	**3,775**	**5,600**	**5,476**	**19,431**
RG&E						
Mandatory	1,615	4,200	2,700	3,525	1,075	**13,115**
System Capacity	130	1,475	1,506	6,976	9,551	**19,638**
Reliability Risk	413	600	627	384	400	**2,424**
Asset Condition	50	-	1,000	700	-	**1,750**
TOTAL RG&E	**2,208**	**6,275**	**5,833**	**11,585**	**11,026**	**36,927**
TOTAL Generation	**3,744**	**9,319**	**9,608**	**17,185**	**16,502**	**56,358**

NYSEG

High Falls: High Falls is a run-of-river hydro-electric station located on the Saranac River near Plattsburgh, New York. The powerhouse consists of three units with a total rating of 15,000 kW which based on an historical average water year can produce approximately 86,000 MWh/year of renewable electric energy for the direct benefit of NYSEG customers. Major activities during the forecast period include: Unit 2 and Unit 3 T/G major rebuilds, Units 1, 2 and 3 draft tube stop logs, Units 1, 2 and 3 generator field breakers, installing fire and life safety betterments, and completion of roadwork to the powerhouse.

Cadyville: Cadyville is a run-of-river hydro-electric station located on the Saranac River near Plattsburgh, New York. The powerhouse consists of three units with a total rating of 5,525 kW based on an historical average water year can produce approximately 25,000 MWh/year of renewable electric energy for the direct benefit of NYSEG customers. Major activities during the forecast period include: Unit 1 T/G major rebuild, installing an automatic flood/spill control gate in the dam, installing new plant GIS type switchgear and generator protection, and installing fire and life safety betterments.

Mill C: Mill C is a run-of-river hydro-electric station located on the Saranac River near Plattsburgh, New York. The powerhouse consists of three units with a total rating of 6,050 kW based on an historical average water year can produce approximately 26,000 MWh/year of renewable electric energy for the direct benefit of NYSEG customers. Major activities during the forecast period include: Restoration of Mill C powerhouse exterior, begin Unit 1 T/G major rebuild (2018), and installing fire and life safety betterments.

Kents Falls: Kents Falls is a run-of-river hydro-electric station located on the Saranac River near Plattsburgh, New York. The powerhouse consists of three units with a total rating of 13,680 kW based on an historical average water year can produce approximately 60,000 MWh/yr of renewable electric energy for the direct benefit of NYSEG customers. Major activities during the forecast period include: water conveyance system betterments to replace aging infrastructure (penstock trifurcation, ring girders, and emergency bypass valve removal), installing a motorized raking system and narrower spaced trash racks (regulatory requirement of the FERC hydro license), begin Unit 1 T/G major rebuild (2018) and installing fire and life safety betterments.

Rainbow Falls: Rainbow Falls is a run-of-river hydro-electric station located on the Ausable River near Plattsburgh, New York. The powerhouse consists of two units with a total rating of 2,600 kW based on an historical average water year can produce approximately 20,000 MWh/year of renewable electric energy for the direct benefit of NYSEG customers. Major activities during the forecast period include: Completing the installation of the intake gate gantry system, floodgate upgrades, dam/spillway resurfacing, commissioning of new environmental improvements required of the FERC hydro license (trash racks and trash removal system, and downstream fish bypass), begin penstock replacement (2018), installing fire and life safety betterments, and completing the restoration of the powerhouse that was significantly damaged and taken out of service as a result of the plant flood caused by the Hurricane Irene event on August 28-29, 2011. The capital investment required to restore the powerhouse to service is currently estimated at $5.25 Million. The Company expects to recover approximately $4.0 million through the insurance claim. To date the Company has invested approximately $1.1 million, which has been offset by a $1.0 million insurance payment received in December 2013. An additional $1.5 million insurance payment is anticipated to be received in 2014 and another $1.5 million in 2015.

Mechanicville: Mechanicville is a run-of-river hydro electric station on the Hudson River north of Albany, New York. It consists of two units with a total rating of 18,500 kW which based on an historical average water year can produce approximately 100,000 MWH/year of renewable electric energy for the direct benefit of NYSEG customers. Major activities during the forecast period include: completing the installation of a standby electric generator for station power during a loss of offsite power (i.e., during major storm events), installing a new floor system in the gallery of the dam, resurfacing the spillway, performing relicensing activities, and installing fire and life safety betterments.

RG&E

Station 2: Station 2 is a run-of-river hydro-electric station located on the Genesee River in Rochester, New York. The powerhouse consists of a single unit with a rating of 8,500 kW which produced on average during the period 1984-2012 approximately 37,100 MWh/year of renewable electric energy for the direct benefit of RG&E customers. With the recent plant upgrades and based on an historic average water year, the unit is expected to produce approximately 53,500 MWh/year. Major activities during the forecast period include: Completing construction of a new GIS switchgear adjacent to the powerhouse to interconnect the generator output/facilities to the recently constructed distribution Station 137, replacing intake structures and the penstock, a portion of which is over 100 years old and is nearing end-of-life and installing a new butterfly valve, constructing a small spill gate and SCADA/communications control house adjacent to the Central Avenue Dam, installing a high-efficiency static exciter on Unit 1, and, pending a favorable cost-benefit analysis, continue with the addition of a 6.3 MW generating Unit (No. 2), which includes deepening Brown's Race to provide the required flow to Unit 1 and Unit 2 (race deepening pending construction easement/parcel transfer from the City of Rochester), and installing fire and life safety betterments.

Station 26: Station 26 is a run-of-river hydro-electric station located on the Genesee River in Rochester, New York. The powerhouse consists of a single unit with a rating of 3,000 kW which based on an historical average water year (after the unit major rebuild) can produce approximately 17,500 MWh/year of renewable electric energy for the direct benefit of RG&E customers. Major activities during the forecast period include: completing the Unit 1 major

rebuild (original equipment installed in 1952), new water conveyance system betterments including draft tube stop logs gantry and intake shut off gate mechanism/operator), constructing a new tailrace wall extension, and installing fire and life safety betterments.

Station 5: Station 5 is a run-of-river hydro-electric station located on the Genesee River in Rochester, New York. The powerhouse consists of three units with a rating of approximately 46,000 kW which produced on average during the period 1996-2006 approximately 155,000 MWh/year of renewable electric energy for the direct benefit of RG&E customers. With the recent station upgrades and based on an historic average water year, the plant is expected to produce approximately 219,000 MWh/year. Major activities during the forecast period include: betterments to replace end-of-life infrastructure including spill gate pier and spillway rock stabilizations, crest gate seal replacements, generator control and protection upgrades (inter-related with Station 5 Substation Modernization project), site security enhancements at the powerhouse, civil/structural projects such as rebuilding access roads, surge tank height expansion and concrete betterments, service water improvements at the powerhouse and dam, intake stop log gantry, and installing fire and life safety betterments.

7 GAS CAPITAL INVESTMENT PLAN

TABLES

This section contains descriptions of the gas projects and programs necessary to accomplish the strategic objectives. The common projects are included in section 8. The following table summarizes the gas capital investment plan for the Companies:

Table 7.1 Gas Capital Investment Plan by Year (Dollars in Millions)

Company	2014	2015	2016	2017	2018	TOTAL
NYSEG - Gas	42,365	42,448	47,040	69,058	68,463	**269,373**
RG&E - Gas	30,877	36,868	41,354	51,695	52,867	**213,661**
Subtotal - Gas	**73,242**	**79,316**	**88,393**	**120,753**	**121,331**	**483,035**

7.1 MANDATORY

This category is related to meeting the gas requirements of new customers or load additions for specific customer and for projects required by municipalities or other statutory reasons.

The Companies propose to make investments in projects and programs in this category during 2014 through 2018 as follows:

Table 7.2 Gas - Mandatory ($000)

NY Gas - Mandatory	2014	2015	2016	2017	2018	TOTAL
NYSEG	33,865	30,860	35,115	48,758	40,966	**189,563**
RG&E	25,373	22,991	24,295	35,749	39,542	**147,951**
Total Mandatory	**59,238**	**53,851**	**59,411**	**84,507**	**80,508**	**337,515**

A list of projects and programs included in this category is included in Attachment 8.

Descriptions of the programs included in this category are provided below:

Gas Meter Program: All new and replacement meters as required due to new services and mandated replacement and change out programs.

Gas Regulators Program: All new and replacement regulators as required due to new services and mandated replacement

Leak Prone Main Replacement Program: The replacement of at least 24 miles of prioritized leak prone cast iron and unprotected steel gas main annually at each company. Beginning in 2015, the Companies plan to increase replacements.

Leak Prone Services Replacement Program: The replacement of at least 2,200 prioritized leak prone unprotected steel gas services annually at the Companies. Beginning in 2015, the Companies plan to increase replacements.

Minor Distribution Mains: Install gas mains as required due to main condition (immediate safety), conflicts, code violations, and other miscellaneous field conditions discovered as part of normal operations or other construction and inspection activities. This line item covers safety and code violations discovered during normal operation and maintenance of the gas distribution system.

Minor Services: Install new gas services to new customers in accordance with tariff and replace gas services in conflict with street reconstruction projects in accordance with terms and conditions to occupy public rights-of-way.

Descriptions of the most significant projects included in this category are provided below:

Phelps (South) Transmission Replacement, $8.2M: Rebuild Phelps Tap (South) and replace 25,000 feet of 10" steel gas main (162 psi) with 12" steel gas main (203 psi). Add regulation and controls to Millard Tap.

Kayner and Ertman Rd Stations, Lockport, Customer requirement, $2.7M: Rebuild Kayner and Ertman Road Stations to accommodate larger capacity of 2,300 Mcfh. Replace existing regulators 3" Grove 900TE LD with 4" Mooney FG-41 75% and existing relief valve 4" GR 83 with 6"x8" Flow Safe F-7000 relief assembly (8" pipe, 6" ball valve, 8" stack, 8" opening), existing 6" with 84' of 8" by-pass piping, existing 6" to 8" thru tee.

NYS Route 281 (West Rd), Replace Gas Mains, Cortland, $1.5M: Replace 12,800 feet of 6" leak prone steel gas main in conflict with proposed NYSDOT road reconstruction project with 8" plastic gas main on NYS Route 281 between Luker Rd and Copeland Ave.

7.2 SYSTEM CAPACITY

This category is related to Objective 1: meet the electrical and natural gas needs of our customers.

The Companies propose to make the following capital investments in the natural gas system in this category during 2014 through 2018 as follows:

Table 7.3 Gas – System Capacity ($000)

NY Gas - System Capacity	2014	2015	2016	2017	2018	TOTAL
NYSEG	2,352	6,974	5,739	8,426	13,188	36,679
RG&E	3,015	7,313	8,694	8,560	6,180	33,762
Total System Capacity	**5,368**	**14,287**	**14,433**	**16,986**	**19,368**	**70,442**

Table 7.4 shows the more significant projects included in this category.

Table 7.4 Gas – System Capacity - Projects ($000)

NYSEG	2014	2015	2016	2017	2018
Distribution Mains -System Capacity	2,352	6,974	5,739	8,426	13,188
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
New Empire West Gate Station, Build New Gate Station	2,074	2,700	2,000	-	-
Buffalo Road Rebuild Regulator Station and Replace Gas Main	261	1,140	1,000	-	-
Distribution Mains - System Capacity	681	3,473	5,694	8,560	6,180
Grand Total	**3,014**	**7,313**	**8,694**	**8,560**	**6,180**
TOTAL	**5,368**	**14,287**	**14,433**	**16,986**	**19,368**

A detailed list of projects included in Distribution Mains – System Capacity is included in Attachment 9.

A description of the most significant projects in this category is included in Attachment 10

7.3 RELIABILITY RISK

This category is related to Objective 2: Achieve service reliability and quality targets.

The Companies propose to make the following capital investments in the natural gas system in this category during 2014 through 2018 as follows:

Table 7.5 Gas – Reliability Risk ($000)

NY Gas - Reliability Risk	2014	2015	2016	2017	2018	TOTAL
NYSEG	2,236	2,500	2,700	3,500	4,500	15,436
RG&E	845	5,200	4,150	-	-	10,195
Total Reliability Risk	**3,081**	**7,700**	**6,850**	**3,500**	**4,500**	**25,631**

Table 7.6 shows the projects included in this category.

Table 7.6 Gas – Reliability Risk Projects

NYSEG	2014	2015	2016	2017	2018
Edgett Street Canal Crossing, Newark					500,000
Bradley St, Install Gas Mains, Auburn	-	-	200,000	-	
Robinson Road Gate Station Rebuild, Lockport	1,439,430	1,900,000	-	-	-
Gas Regulator Modernization & Automation Program	796,924	600,000	2,500,000	3,500,000	4,000,000
Grand Total	**2,236,354**	**2,500,000**	**2,700,000**	**3,500,000**	**4,500,000**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
CM1 Replacement Humphrey to Ballantyne Rd, Replace Gas Main	431,243	5,200,000	4,150,000		-
MF42 Henrietta Jefferson Rd Improvement, Install Gas Mains	413,327	-	-	-	-
Grand Total	**844,570**	**5,200,000**	**4,150,000**	**-**	**-**
TOTAL	**3,080,924**	**7,700,000**	**6,850,000**	**3,500,000**	**4,500,000**

Gas Regulator Modernization & Automation program: Utilize standardized templates for regulator station design that considers safety, obsolescence, operability, capacity and future growth. This program will increase the reliability of our pressure systems.

A description of the most significant projects in this category is provided in Attachment 8.

7.4 GROUPS INITIATIVES

Projects and programs in direct support of Iberdrola group strategies and are approved by the CEO and Board of Directors (BOD)

The Companies propose to make the following capital investments in the natural gas system in this category during 2014 through 2018 as follows:

Table 7.7 Gas- Groups Initiatives ($000)

NY Gas - Group Initiatives	2014	2015	2016	2017	2018	TOTAL
Horseheads	2,307	-	-	-	-	2,307
Total Groups Initiatives	**2,307**	**-**	**-**	**-**	**-**	**2,307**

Following a gas incident in the Horseheads area, NYSEG conducted a condition assessment of the gas services in the surrounding area. For Phase 1, it was recommended the replacement of approximately 150 services that were deemed high priority prior December 1, 2013 to avoid potential degradation due to frost and cold weather concerns.

Phase 2 of the project will focus on about 650 additional services. Phase 2 of the project will be carried out in 2014.

A total of $1.3M was spent in 2013

7.5 EFFICIENCY

This category is related to objective 4: Improve effectiveness and efficiency of the network

The Companies propose to make the following capital investments in the natural gas system in this category during 2014 through 2018 as follows:

Table 7.8 Gas- Efficiency ($000)

NY Gas - Efficiency	2014	2015	2016	2017	2018	TOTAL
NYSEG	63	-	871	4,971	1,471	**7,376**
RG&E	327	515	515	1,015	515	**2,887**
Total Efficiency	**390**	**515**	**1,386**	**5,986**	**1,986**	**10,263**

Table 7.9 shows the projects included in this category.

Table 7.9 Gas- Efficiency Projects

NYSEG	2014	2015	2016	2017	2018
Binghamton Gas SCADA System Migration Project	-	-	-	-	-
Gas RTU/Telemetry Replacement	1	-		600,000	600,000
Gas SCADA System Replacement	-	-	-	3,000,000	-
Gas SCADA System Software Upgrade	62,500	-	-	-	-
Remotely Operated Valves Program	-	-	-	500,000	-
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
Gas SCADA System Software Upgrade-RG&E	62,500	-	-	-	-
Gas Telemetry Replacement	-	15,000	15,000	15,000	15,000
Remotely Operated Valves Program -1	-	-	-	500,000	500,000
TOTAL	**389,910**	**515,000**	**1,386,185**	**5,986,185**	**1,986,185**

7.6 ASSET CONDITION REPLACEMENT

This category is related to objective 3: replacing obsolete equipment and facilities and improving the effectiveness and efficiency of the delivery network. The Companies need to replace equipment that is obsolete either because it is at end of life or it is technologically obsolete.

Obsolete equipment can cause safety issues, risk of environmental incidents, and lack of reliability and such equipment is difficult and costly to maintain and to obtain spares.

The Companies propose investments in this category during 2014 through 2018 as follows:

Table 7.10 Gas – Asset Condition Replacement ($000)

NY Gas - Asset Condition	2014	2015	2016	2017	2018	TOTAL
NYSEG	1,542	2,114	2,614	3,403	8,338	**18,011**
RG&E	1,316	849	3,699	6,371	6,630	**18,866**
Total Asset Condition	**2,858**	**2,964**	**6,314**	**9,774**	**14,968**	**36,877**

Table 7.11 shows the projects and programs included in this category.

Table 7.11. Gas – Asset Condition Replacement - Projects and Programs

NYSEG	2014	2015	2016	2017	2018
Distribution Main Replacement, Replace Gas Mains	1,081,560	1,114,007	1,114,007	1,181,850	1,217,305
General Equipment Gas Operations	326,910				
Transmission Casing Replacement Program, NYSEG	133,393	1,000,000	1,000,000	1,121,138	1,121,138
Transmission Main Projects (to be identified)	-	-	500,000	1,100,000	6,000,000
Grand Total	**1,541,863**	**2,114,007**	**2,614,007**	**3,402,988**	**8,338,443**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
Distribution Main Replacement, Replace Gas Mains	339,317	349,497	349,497	370,781	450,000
General Equipment (only Gas)	77,878				
Transmission Mains - projects to be identified - RG&E	-	500,000	3,000,000	6,000,000	6,180,000
MF60 Southwest Perry Segment #1, Replace Gas Mains, Roch			350,000		
Roch Area Exploratory Investigation of Gas Bare Steel Srvces by LP	810,930	-	-	-	-
Elimination of Reg Statn 238 Baird Rd and Midvale Dr	88,089	-	-	-	-
Grand Total	**1,316,214**	**849,497**	**3,699,497**	**6,370,781**	**6,630,000**
TOTAL	**2,858,077**	**2,963,504**	**6,313,504**	**9,773,769**	**14,968,443**

The most significant programs in this category are:

Distribution Main, Replacements: Replacement of gas mains is due to a number of factors including; poor conditions, conflicts with existing or proposed structures, and other miscellaneous field conditions discovered as part of normal operations or other construction and inspection activities.

Transmission Casing Replacement Program: replacing potential corrosion and leaks on gas transmission pipelines.

8 COMMON CAPITAL INVESTMENT PLAN

The Company's Common Capital investments include fleet, improvements to division and office facilities, security, operational efficiency projects and information technology projects. These expenditures are typically for projects that benefit both business electric and gas. At NYSEG common investments are allocated 79.1% to Electric and 20.9% to Gas, and at RG&E common investments are allocated 65% to Electric and 35% to Gas.

The Companies propose to invest in this category during 2014 through 2018 as follows:

Table 8.1 Common ($000)

NY - Common	2014	2015	2016	2017	2018	TOTAL
Customer Services	862	3,170	1,070	650	700	**6,452**
Facilities and General Services	3,782	7,145	4,112	3,795	3,930	**22,764**
General Equipment	91	126	126	126	126	**597**
Fleet-Transportation Equipment	5,048	5,057	5,057	5,057	5,057	**25,275**
Mobile Radio Project	1,614	1,517	2,551	-	-	**5,682**
Operations Technologies	800	632	1,264	1,264	1,896	**5,857**
Information Technology	21,325	18,385	12,037	11,779	14,068	**77,594**
Security	1,867	2,185	2,171	2,039	2,082	**10,344**
Real Estate	-	156	160	164	168	**647**
Total NYSEG -Common	**35,390**	**38,373**	**28,548**	**24,874**	**28,028**	**155,212**
Customer Services	299	1,150	500	500	500	**2,949**
Facilities and General Services	4,623	5,333	4,466	6,690	3,700	**24,812**
General Equipment	151	1,000	1,030	1,061	1,060	**4,302**
Fleet-Transportation Equipment	4,287	4,154	6,197	6,491	4,154	**25,283**
Operations Technologies	800	2,106	2,864	1,635	1,637	**9,042**
Information Technology	11,420	9,702	6,574	7,780	9,147	**44,623**
Security	2,126	1,255	1,110	1,110	1,110	**6,711**
Real Estate	-	4	4	4	4	**16**
TOTAL RG&E - Common	**23,707**	**24,704**	**22,744**	**25,271**	**21,312**	**117,738**
TOTAL NY - Common	**59,097**	**63,077**	**51,292**	**50,146**	**49,340**	**272,951**

In Table 8.2 is the summary by investment categories:

Table 8.2 Common by categories ($000)

NY Common	2014	2015	2016	2017	2018	TOTAL
NYSEG- Mandatory	5,478	6,557	6,982	4,008	5,131	**28,156**
RG&E - Mandatory	3,891	2,904	1,726	1,895	1,894	**12,309**
Total Mandatory	**9,369**	**9,461**	**8,708**	**5,903**	**7,025**	**40,465**
NYSEG - Reliability Risk	-	-	-	-	-	**-**
RG&E - Reliability Risk	81	103	51	128	136	**499**
Total Reliability Risk	**81**	**103**	**51**	**128**	**136**	**499**
NYSEG - Groups Initiatives	16,948	4,581	1,570	1,516	2,779	**27,394**
RG&E - Groups Initiatives	8,623	1,313	396	828	1,562	**12,721**
Total Groups Initiatives	**25,571**	**5,894**	**1,966**	**2,344**	**4,341**	**40,115**
NYSEG - Efficiency	1,129	7,083	4,574	4,751	5,383	**22,920**
RG&E - Efficiency	921	4,217	3,795	4,173	4,256	**17,360**
Total Efficiency	**2,050**	**11,299**	**8,368**	**8,924**	**9,639**	**40,280**
NYSEG - Asset Condition	11,425	20,152	15,422	14,599	14,734	**76,333**
RG&E - Asset Condition	10,192	16,167	16,777	18,248	13,464	**74,848**
Total Asset Condition Replacement	**21,617**	**36,319**	**32,199**	**32,848**	**28,199**	**151,181**
NYSEG - Strategic	410	-	-	-	-	**410**
RG&E - Strategic	-	-	-	-	-	**-**
Total Strategic	**410**	**-**	**-**	**-**	**-**	**410**
TOTAL	**59,097**	**63,077**	**51,292**	**50,146**	**49,340**	**272,951**

Mobile Radio Project: This project is included in Appendix L. It involves replacing the NYSEG Mobile Radio System with a 150 MHz system for 1,500 vehicles, 300 portables and 57 dispatch consoles. The system requires the development of 51 tower sites with connectivity to the ECC and the acquisition the required frequencies. Replacement is required to comply with the new FCC band-width requirements for high-band systems in three divisions and to avoid failure of the current low-band system in 10 divisions. The total cost of this project is $68M. Most of this project has been completed in prior years

Fleet: Purchase of new vehicles is to move toward the industry average ages for specific fleet equipment and to replace older and less reliable vehicles. IUSA is transitioning its historical model of 100% vehicle ownership to a hybrid model of ownership (medium and heavy duty units) and leasing (light duty units – 1,136 total). Phase 1 of this leasing initiative will begin in four locations (Oneonta, Ithaca, Brewster and Liberty – 186 vehicles) and if successful, continue

to be expanded to include the remaining light duty units in subsequent years. Phase 1 of the initiative is expected to reduce fleet O&M for the subject units by more than $200K annually with increased savings as additional vehicles are added. This initiative requires approximately $2M annually of CapEx beginning in 2014 and will likewise grow with additional vehicles added. This leasing of the light duty units is expected to continue, in addition to the replacement of the owned fleet at the end of its useful life. Additional savings and funding requirements will be better known after the implementation and assessment of Phase I.

Facilities and General Services: Improvements to division offices, garages, and other facilities owned or leased by the Companies. Following are the most significant projects, including the total costs (electric and gas portions):

Information Technology: address the Corporation's aging technological infrastructure, critical security requirements, global alignment directives, and the need for enhanced workplace tools to improve effectiveness and efficiency of work. In 2014 these projects include several operational efficiencies programs for the companies and a corporate SAP project ($34 M):

The scope of the project includes the implementation of the Corporate SAP system and its processes. The enhancements to be achieved in the corporate and networks functions are as follows:

- Corporate: implementation of best practices in the areas of Control, Administration, Tax, Purchasing, Finance, and Treasury.

- Networks: integration of the billing system ("CCS") utilized by Iberdrola USA Networks within the Corporate SAP system by developing the required new interfaces. Implementation in the Corporate SAP platform of the current maintenance process, new services and work management system. In addition to this, the Companies will look for improvement and standardization of processes to increase efficiency and productivity: KPIs, measures of labor productivity and service obtained from contractors, analysis of the reliability of the transmission network and substations, improvement of the compatible units and extension to other works in the network and integration of the new system with mobility solutions underway.

Operational Technology: projects to maintain the systems with lifecycle infrastructure replacements, planned system upgrades to support added functionality and remain on supported software platforms for compliance, and accounts for organic growth.

General Equipment: Tools and work equipment that are necessary to support the effective construction and maintenance of the Company's facilities and work processes.

System Security: This program expands the use of video surveillance and access control technologies at hydro generating stations and key substations. In parallel with the expanded use of these technologies, the Companies are upgrading their Information Technology infrastructure to satisfy the need for increased bandwidth. With respect to physical security, the Companies will continue to replace and upgrade the perimeter fencing around substations.

9 2013 INFORMATION

TABLES

9.1 CAPITAL INVESTMENT - 2013

During 2013 the Companies invested $430.3 M in the electric and natural gas delivery systems (including generation and common investments). This represents 112% of the 2013 Plan included in the Five Year Capital Investment Plan dated March 28, 2013.

Table 9.1 below includes 2013 capital investment information by operating company and line of business.

Table 9.1 2013 Capital Investment

	Actual	2013 Plan	%
NYSEG Electric	181.7	154.7	117%
RGE Electric	159.6	153.3	104%
Subtotal NY Electric	**341.3**	**308.0**	**111%**
Appendix L Electric		**318.4**	
NYSEG Gas	53.2	43.1	123%
RGE Gas	35.9	32.1	112%
Subtotal NY Gas	**89.1**	**75.2**	**118%**
Appendix L Gas		**78.5**	
TOTAL	**430.3**	**383.2**	**112%**

9.2 FACILITIES PLACED INTO SERVICE

Table 9.2 shows the facilities related to major projects placed into service in 2013.

Table 9.2 Facilities Placed into Service in 2013

Equipment	Total	Thyristor	12.5kV	15kV	34.5kV	38kV	46kV	115kV	230kV
Breakers	24			2	2		3	17	
Switchgear	3		2		1				
Capacitor Banks	24				69.7MVAR			487MVAR	
Phasor Data Concentrators	7								
Phasor Measurement Units	6								

Line/Cable	Total Miles	34.5kV	46kV	69kV
Transmission Line	14.92	2.5	10.7	1.72
T-Line - ADSS	24.7	24.7		
Distribution Line	1.25	1.25		
Distribution Cable	1.5	1.5		

Transformers	2		345/115kV	420MVA	LTC
	1		115/34.5kV	56MVA	LTC
	2		115kV	230MVA	PST
	1		115/11.5kV	56MVA	LTC
	2		115/14kV	200MVA	LTC
	1		34.5/12kV	22.4MVA	LTC
			34.5/11.5kV	22.4MVA	LTC
	2		46/12.5kV	20MVA	LTC
	1		34.4/4.36kV	11.2MVA	
	12		Total		
Auto Transformers	1		345/115kV	420MVA	LTC
			Total		

Substations	1		46/12.5kV
			34/11kV
	1		Total

Control House Modifications	0
Control Houses	4
Service Building	1

Total cost $131M, over 598MW and over 150,614 customers affected.

10 APPENDIX L RECONCILIATION

Attachment 2 shows Appendix L reconciliation and total amount of additional projects and programs added to Appendix L during the period 2011-2013.

Here is the summary of the key Appendix L topics:

- Permits/Regulatory Proceedings
  - Rochester Area Reliability Project
  - Columbia County Transmission Project

- Interconnection/Customer Projects
  - University of Rochester
  - Bio Gas Collector System (complete 2013)

- System Reinforcements
  - Engineering additions to Scope
    - New Downtown 115 kV Source (Station 23)
    - New 115/34.5 kV Substation (Station 262)
    - Silver Creek Substation

  - Engineering Scope Modifications
    - Willet Substation
    - Auburn Transmission Project
    - Meyer Substation
    - Flat Street Substation
    - South Perry New 115kV Transformer (complete 2013)
    - Perry Center Area
    - Eelpot New Transformer
    - Meyer Capacitor Bak
    - Stephentown Substation

- Richfield Springs Substation
- Tom Miller Substation
- Coddington Substation
- Harris Lake Source Upgrade
- Station 124 New SVC (complete 2013)
- Rochester Area Reliability project
- Station 56
- South Perry New 230kV Transformer
- Station 262
- Station 67 – 418 New 115kV TLine
- Station 218 to Clyde

- Electric GIS has been rolled into Energy Control Center Project

- Projects Completed
  - Corning Valley
  - Watercure Rd Sub Transformer Replacement
  - Moraine Rd Substation Breaker Addition
  - New Mobile Substation
  - Bulk Spare Transformer
  - Station 424
  - New Station 137
  - New 115 kV Transmission Line (Sta. 13A to Sta. 135)
  - Ithaca Reinforcement
  - Mill C Unit 1+2 draft Tube Replacement
  - Webster East New 12kV Source
  - Station 13A Replace Breaker
  - Culver Rd Electric Facilities Relocation
  - Jefferson Ave Electric Facilities Relocation
  - Station 5 Tunnel Relining
  - Station 5 Wicket Gate Upgrades
  - Bio Gas Collector System
  - South Perry New 115kV Transformer

- Station 124 New SVC
- Station 124 New PST
- Walden 69kV Transmission Line Upgrade
- Station 198, 218 and 194

- Significant Projects - Scheduled for Completion 2014
  - Station 173
  - Station 69
  - Stations 180 and 128
  - Station 56
  - Richfield Springs Substation
  - Coddington Substation
  - Meyer Capacitor Bank
  - University of Rochester

Review and modification

- Review of Baseline Appendix L Assumptions: Estimate, Scope and Schedule Analysis
  - Estimate Increase Examples:
    - Columbia County Transmission Project
      - » Route Analysis identified Preferred Route length of 11 Miles triggering Article VII application
    - Station 67 to 418 New 115 kV Transmission Line
      - » Required expansion of Station 67, modifications to control house to accommodate protection and control requirement, location of both above ground and in ground transmission construction
    - Station 218 to Clyde 34.5 Transmission Line
      - » Reconfigure circuit 708 to provide back up for Station 199;
      - » Incorporation of SCADA communication
  - Estimate Decrease Examples:
    - Station 124 Phase Shifting Transformer

- » Leveraging work for the Static Var Compensator and Phase Shifting Transformer to gain cost efficiencies

– Bulk Spare Transformer
  - » Utilization of competitive bid process to achieve cost savings
– South Perry Transformer Project

  Current estimate is lower than original based on current transformer bid costs

Attachment 1

Detail Project List for 2014 to 2018

Total NYSEG Electric		191,424,203	181,940,620	180,697,777	312,268,415	314,668,275
NYSEG Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
SYSTEM PLANING PROJECTS						
Bright Line	Mandatory	600,000	1,400,000	4,000,000	12,643,000	30,900,000
TRANSCO	Mandatory	4,200,000				-
AES Projects	**Mandatory**	10,015,185	16,248,910	-	-	-
Rest						
Mandatory- Transmission Projects	Mandatory	31,995,280	20,000,000	25,000,000	45,000,000	46,000,000
System Capacity - Transmission Projects	System Capacity	4,295,956	3,221,767	1,193,536	2,626,316	31,789
Reliability Risk - Transmission Projects	Reliability Risk	4,237,360	1,000,000	2,000,000	40,000,000	36,000,000
Asset Condition - Transmission Projects	Asset Condition Replacement	612,158	-	-	-	-
Subtotal System Planning projects		**55,955,939**	**41,870,677**	**32,193,536**	**100,269,316**	**112,931,789**
CAPITAL PROJECT REQUIRED BY MGP REMEDIATION						
Transit St Substation MGP Remediation	Mandatory	2,285,597	631,850	-	-	-
McMaster St. MGP Remediation	Mandatory	100,000	100,000	-	-	-
Clark Street MGP Remediation - Auburn	Mandatory	200,000	-	-	-	-
Subtotal MPG Remediation		**2,585,597**	**731,850**	**-**	**-**	**-**
DISTRIBUTION PLANING PROJECTS						
Mandatory- Distribution Projects	Mandatory	7,966,093	10,587,225		-	-
System Capacity - Distribution Projects	System Capacity	5,771,946	9,882,605	35,715,783	85,530,738	69,258,470
Endicott Clark Street 2nd 12kV Circuit	Reliability Risk	-	-	-	-	100,000
Asset Condition - Distribution Projects	Asset Condition Replacement	-	-	-	-	-
Subtotal Distribution Planning projects		**13,738,039**	**20,469,830**	**35,715,783**	**85,530,738**	**69,358,470**
DISTRIBUTION OPERATIONS						
Service Installation						
Industrial/Commercial	Mandatory	1,140,000	1,140,000	1,174,200	1,209,426	1,245,709
Residential	Mandatory	4,520,000	4,520,000	4,655,600	4,795,268	4,939,126
Service Connects	Mandatory	2,795,000	2,795,000	2,878,850	2,965,216	3,054,172
Major Customer projects	Mandatory	2,480,000	2,480,000	2,554,400	2,631,032	2,709,963
		10,935,000	**10,935,000**	**11,263,050**	**11,600,942**	**11,948,970**
Distribution Equipment						
Transformers	Asset Condition Replacement	12,100,000	12,100,000	12,463,000	12,836,890	13,221,997
Capacitors	Mandatory	150,000	150,000	154,500	159,135	163,909
Meters	Mandatory	2,372,880	2,372,880	2,444,066	2,517,388	2,592,910
Regulators	Mandatory	200,000	200,000	206,000	212,180	218,545
		14,822,880	**14,822,880**	**15,267,566**	**15,725,593**	**16,197,361**
Distribution Line work						
Transmission Line	Asset Condition Replacement	5,000,000	5,000,000	5,150,000	5,304,500	5,463,635
Distribution Line	Asset Condition Replacement	12,356,000	12,356,000	12,726,680	13,108,480	13,501,735
Distribution Line Inspections	Mandatory	5,000,000	5,000,000	5,150,000	5,304,500	5,463,635
Street Lighting	Mandatory	1,030,000	1,030,000	1,060,900	1,092,727	1,125,509
Storm	Mandatory	1,545,000	1,545,000	1,591,350	1,639,091	1,688,263
		24,931,000	**24,931,000**	**25,678,930**	**26,449,298**	**27,242,777**
Relocation due to highway construction						
Relocate Electric Facilities	Mandatory	1,250,000	1,287,500	1,326,125	1,365,909	1,406,886
Major Relocation Projects	Mandatory		-	-	-	-
		1,250,000	**1,287,500**	**1,326,125**	**1,365,909**	**1,406,886**
Planned Betterments						
Red Circuits/WPC	Reliability Risk	2,400,000	2,400,000	2,472,000	2,546,160	2,622,545
Other betterment projects	Reliability Risk	5,750,000	5,750,000	5,922,500	6,100,175	6,283,180
Distribution Pole replacement program	Asset Condition Replacement	9,100,000	9,100,000	9,373,000	9,654,190	9,943,816
Transmission 115 kV Line Replacement program	Asset Condition Replacement		-		2,200,000	2,200,000

NYSEG Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
SubTrans OH Trans Line replacement program	Asset Condition Replacement		-		2,150,000	2,150,000
Transmission and Distribution Fault Indicators	Asset Condition Replacement	-	-	250,000	500,000	500,000
Switch Replacement Program	Asset Condition Replacement	-	300,000	300,000	300,000	-
T&D Reject Pole Replacement	Asset Condition Replacement	315,000	750,000	772,500	795,675	819,545
Minor asset condition projects	Asset Condition Replacement	1,270,000	-	-	-	-
		18,835,000	**18,300,000**	**19,090,000**	**24,246,200**	**24,519,086**
Subtotal Distribution Operations		**70,773,880**	**70,276,380**	**72,625,671**	**79,387,942**	**81,315,080**
SUBSTATIONS						
Distribution substation work	**Asset Condition Replacement**	**1,250,000**	**1,250,000**	**1,287,500**	**1,326,125**	**1,365,909**
Substation Modernization (90%)	Asset Condition Replacement		-	-	200,000	500,000
Substation Modernization (10%)	Efficiency		-	-	1,800,000	4,500,000
Substation Modernization	**90%Asset Condition, 10% Efficiency**	**-**			**2,000,000**	**5,000,000**
Automation						
Brewster RTU Substation Project	Efficiency	1,000,000	2,430,000	-	-	-
Brewster Network Automation	Efficiency	1,750,000	-	-	-	-
NYSEG RTU Upgrade Program	Efficiency	2,500,000	2,500,000	2,500,000	3,000,000	4,000,000
NYSEG Recloser Automation	Efficiency	1,000,000	500,000	500,000	500,000	500,000
NYSEG - Communications for Automation Initiatives	Efficiency	527,000	500,000	500,000	500,000	500,000
NYSEG Telecom - SONET Refresh	Efficiency	-	200,000	-	450,000	-
Telecomm Bridges for new KGO BU Site	Efficiency	-	-	-	20,000	-
NYSEG Telecom - Alarm Monitoring Refresh	Efficiency	-	-	150,000	-	-
		6,777,000	**6,130,000**	**3,650,000**	**4,470,000**	**5,000,000**
Mobile Replacement #2 & #4	**Reliability Risk**		**-**	**2,000,000**	**2,800,000**	**-**
Asset condition programs						
Substation Transformer Transmission Replacement	Asset Condition Replacement	428,000	1,000,000	1,000,000	1,000,000	1,000,000
Substation Transformer Distribution Replacement program	Asset Condition Replacement	-	-	1,000,000	1,000,000	1,000,000
Silicon Carbide Change out Program	Asset Condition Replacement	300,000	500,000	500,000	500,000	250,000
Substation Insulator Change out Program	Asset Condition Replacement	-			950,000	950,000
Breakers	Asset Condition Replacement	2,000,000	2,060,000	2,121,800	2,185,454	2,251,018
Batteries	Asset Condition Replacement	758,000	780,740	804,162	828,287	853,136
		3,486,000	**4,340,740**	**5,425,962**	**6,463,741**	**6,304,153**
Homer City Capital	**Mandatory**	**-**	**500,000**	**500,000**	**500,000**	**500,000**
Subtotal Substations		**11,513,000**	**12,220,740**	**12,863,462**	**17,559,866**	**18,170,062**
STORM HARDENING PROJECT -1	**Reliability Risk**	**-**				
OPERATIONS TECHNOLOGIES						
ECC projects						
Energy Control Center (Integrated EMS/DMS/OMS Project)	Mandatory	4,893,000	1,210,000	-	-	-
ECC System Upgrade	Efficiency		-	-	-	-
Energy Control Center Project in NY, Siemens DMS	Reliability Risk	-	250,000	700,000	-	-
Lifecycle Replacement - ECC/XECS systems	Asset Condition Replacement	-	110,000	105,000	105,000	105,000
Organic Growth ECC/XECS systems	System Capacity	-	154,000	138,000	140,000	142,000
Spectrum security wrapper	Mandatory	420,200	114,600	-	-	-
Spectrum based back office solution	Reliability Risk	496,600	76,600	-	-	-

NYSEG Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
Distributed outage management and reporting system	Reliability Risk	1,146,922	1,058,852	-	-	-
Subtotal Operations Technologies		**6,956,722**	**2,974,052**	**943,000**	**245,000**	**247,000**
AMI Pilot	Strategic		-		1,500,000	
Smart Meter/Smart Grid communications	Strategic		-		1,500,000	2,000,000
Smart Grid/AMI	Strategic		-	-	1,000,000	3,000,000
Subtotal AMI PROJECT		**-**	**-**	**-**	**4,000,000**	**5,000,000**
HYDRO GENERATION		**1,536,000**	**3,044,000**	**3,775,000**	**5,600,000**	**5,476,000**
Mandatory- Customer requirement	Mandatory	850,000	1,000,000	2,500,000	4,000,000	4,076,000
System Capacity	System Capacity	50,000	1,944,000	600,000	400,000	-
Reliability Risk	Reliability Risk	-	100,000	675,000	1,200,000	1,400,000
Asset Condition	Asset Condition Replacement	636,000	-	-	-	-
Subtotal		1,536,000	3,044,000	3,775,000	5,600,000	5,476,000
General Equipment Electric	Asset Condition Replacement	**371,801**				
COMMON ALLOCATED TO ELECTRIC						
Fleet	Asset Condition Replacement	**3,992,779**	**4,000,000**	**4,000,000**	**4,000,000**	**4,000,000**
IT -IT projects	Asset Condition Replacement	2,802,070	5,642,975	5,250,818	5,000,000	5,000,000
SAP unification projects	Group Initiatives	10,550,067	1,263,943	-		
IT projects	Group initiatives	2,543,828	2,137,923	1,153,628	1,198,939	2,198,474
IT projects	Mandatory	504,110	395,098	498,835	518,273	1,329,473
IT projects	Efficiency	144,215	5,102,393	2,617,817	2,600,000	2,600,000
IT projects	Strategic	323,930	-	-		
		16,868,220	**14,542,333**	**9,521,098**	**9,317,212**	**11,127,946**
OT						
OT TELECOM MAJOR CAPITAL PROJECTS - LifeCycle	Efficiency	593,250	500,000	1,000,000	1,000,000	1,500,000
Telecommunications Minors	Efficiency	39,550	-	-	-	-
		632,800	**500,000**	**1,000,000**	**1,000,000**	**1,500,000**
Facilities						
Mobile Radio Project	Mandatory	1,276,674	1,200,000	2,017,788	-	-
Liberty - Construct New Service Center	Asset Condition Replacement	-				
Geneva - Construct Transportation & UC&M Garage	Asset Condition Replacement	-	-			
Storm Room Renovation	Mandatory	158,200	791,000	-	-	-
Other Facilities Major projects pending definition	Asset Condition Replacement	481,719	791,000	791,000	791,000	791,000
Property/Facilities Physical Safety Capex	Mandatory	395,500	395,500	395,500	395,500	395,500
Property/Facilities Fire Prevention and Life Safety Capex	Mandatory	395,500	395,500	395,500	395,500	395,500
Facilities Minor projects	Asset Condition Replacement	666,022	1,870,715	395,500	75,145	181,930
Other Minor Facilities projects	Asset Condition Replacement	466,548	1,186,500	1,186,500	1,186,500	1,186,500
		3,840,163	**6,630,215**	**5,181,788**	**2,843,645**	**2,950,430**
General Services						
Optimization project	Efficiency	116,281	-	-	158,200	158,200
VoIP endpoint project (Phone system)	Group Initiatives	311,654	221,480	88,592	-	-
		427,935	**221,480**	**88,592**	**158,200**	**158,200**
Customer Services						
Laboratory Equipment	Mandatory	126,560	158,200	371,770	118,650	158,200
Convert NYSEG Meter reading system from Radix to ITRON	Asset Condition Replacement	-	1,186,500	-	-	-
Other Customer Service Projects	Asset Condition Replacement	555,647	1,162,770	474,600	395,500	395,500
		682,207	**2,507,470**	**846,370**	**514,150**	**553,700**

NYSEG Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
Security	**Mandatory**	**1,476,797**	**1,728,335**	**1,717,261**	**1,612,849**	**1,646,862**
		-	-	-	-	-
General Equipment	**Asset Condition Replacement**	**72,324**	**100,000**	**100,000**	**100,000**	**100,000**
		-		-	-	-
Real Estate	**Mandatory**	**-**	**123,258**	**126,216**	**129,498**	**132,735**
Subtotal Common (Electric portion 79.1%)		**27,993,225**	**30,353,091**	**22,581,325**	**19,675,553**	**22,169,874**
Total NYSEG Electric		**191,424,203**	**181,940,620**	**180,697,777**	**312,268,415**	**314,668,275**

TOTAL RG&E Electric		148,432,783	185,117,268	215,013,041	220,935,516	220,693,813
RG&E Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
SYSTEM PLANNING PROJECTS						
Bright Line	Mandatory	1,010,000	250,000	1,000,000	10,000,000	10,000,000
RARP	Mandatory	25,735,081	73,000,000	122,702,723		-
Rest						
Mandatory- Transmission Projects	Mandatory	37,543,370	20,924,074	168,170	-	-
System Capacity - Transmission Projects	System Capacity	40,000	8,400,484	8,060,060	-	-
Reliability Risk-Transmission Projects	Reliability Risk	2,351,723	2,268,648	4,500,000	27,000,000	68,028,376
Asset Condition - Transmission Projects	Asset Condition Replacement	5,500,573	-	-	-	-
Efficiency - Transmission Projects	Efficiency	40,000	-	-	-	-
Subtotal Transmission projects		**72,220,747**	**104,843,206**	**136,430,953**	**37,000,000**	**78,028,376**
DISTRIBUTION PLANNING						
Station 56 Additional 12kV Source	Mandatory	7,136,671	-	-	-	-
System Capacity - Distribution Projects	System Capacity	2,266,840	11,293,102	10,484,071	75,284,071	38,361,378
Station 51 transformer/facilities upgrade and secondary source addition	Reliability Risk	-	-	-	6,726,773	2,127,114
Subtotal Distribution Planning projects		**9,403,511**	**11,293,102**	**10,484,071**	**82,010,844**	**40,488,492**
DISTRIBUTION OPERATIONS						
Service Installation						
Industrial/Commercial	Mandatory	1,130,000	1,130,000	1,130,000	1,234,782	1,271,825
Residential	Mandatory	1,745,000	1,745,000	1,745,000	1,906,809	1,964,013
Service Connects	Mandatory	1,000,000	1,000,000	1,000,000	1,092,727	1,125,509
Major Customer projects	Mandatory	800,000	800,000	800,000	1,985,485	2,045,050
		4,675,000	**4,675,000**	**4,675,000**	**6,219,802**	**6,406,396**
Distribution Equipment						
Transformers	Asset Condition Replacement	4,600,000	4,600,000	4,600,000	5,026,544	5,177,341
Capacitors	Mandatory	25,000	25,000	25,000	27,318	28,138
Regulators	Mandatory	150,000	150,000	150,000	163,909	168,826
Meters	Mandatory	1,177,000	1,177,000	1,177,000	1,286,140	1,324,724
		5,952,000	**5,952,000**	**5,952,000**	**6,503,911**	**6,699,028**
Distribution Line work			-	-		
Transmission Line	Asset Condition Replacement	500,000	500,000	500,000	546,364	562,754
Distribution Line	Mandatory	4,680,000	4,680,000	4,680,000	5,113,962	5,267,381
Distribution Line Inspections	Mandatory	1,500,000	1,500,000	1,500,000	1,639,091	1,688,263
T&D Switch Replacement Program	Asset Condition Replacement	-	-	-	318,270	327,818
Street Lighting	Mandatory	500,000	500,000	500,000	546,364	562,754
Storm	Mandatory	300,000	300,000	300,000	327,818	337,653
		7,480,000	**7,480,000**	**7,480,000**	**8,491,868**	**8,746,624**
Relocation due to highway construction			-	-		
Relocate Electric Facilities	Mandatory	530,000	530,000	530,000	579,145	596,520
Major Relocation Projects	Mandatory	8,038,000	8,038,000	8,038,000	8,783,340	9,046,840
		8,568,000	**8,568,000**	**8,568,000**	**9,362,485**	**9,643,359**
Planned Betterments						
Red Circuits/WPC	Reliability Risk	1,800,000	1,800,000	1,800,000	1,967,000	2,026,000
Other betterment projects	Reliability Risk	1,700,000	1,700,000	1,700,000	1,857,636	1,913,365
Distribution Pole replacement program	Asset Condition Replacement	6,000,000	6,000,000	6,000,000	6,556,362	6,753,053
Transmission 115 kV Line Replacement program	Asset Condition Replacement	-	-	-	2,291,316	2,291,316
SubTrans OH Trans Line replacement program	Asset Condition Replacement	-	-	-	1,601,260	1,601,260
T&D Reject Pole Replacement	Asset Condition Replacement	605,000	605,000	605,000	1,060,900	1,092,727
Cablecure	Asset Condition Replacement	-	-	-	1,060,900	1,092,727
		10,105,000	**10,105,000**	**10,105,000**	**16,395,374**	**16,770,448**
Subtotal Distribution Operations		**36,780,000**	**36,780,000**	**36,780,000**	**46,973,440**	**48,265,856**
SUBSTATIONS						
Distribution substation work	Asset Condition Replacement	**1,000,000**	**1,000,000**	**1,000,000**	**1,688,000**	**1,739,000**
Substation Modernization (90%)	Asset Condition Replacement	1,182,038	-	-	1,800,000	1,800,000
Substation Modernization (10%)	Efficiency	131,338	-	-	200,000	200,000
Substation Modernization	**90%Asset Condition, 10% Efficiency**	**1,313,376**			**2,000,000**	**2,000,000**

RG&E Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
Automation						
Recloser Automation	Efficiency	1,000,000	1,030,000	1,061,000	1,093,000	1,126,000
RGE RTU Program - Carryover	Efficiency	2,750,000	2,500,000	2,500,000	2,500,000	2,500,000
RGE - Communication for Automation Initiatives	Efficiency	500,000	500,000	500,000	1,000,000	1,000,000
RG&E Pilot Wire Replacement Program	Efficiency	36,000	200,000	200,000	1,891,253	
		4,286,000	**4,230,000**	**4,261,000**	**6,484,253**	**4,626,000**
Mobile #101 & #34	Reliability Risk				**2,900,000**	**2,500,000**
Mobile switchgear #1 & #3	Reliability Risk	**24,327**			**2,240,860**	**2,000,000**
Asset condition programs						
Substation Transformer Transmission Replacement program	Asset Condition Replacement	-	-	-	1,000,000	3,000,000
Substation Transformer Distribution Replacement program	Asset Condition Replacement	-	-		3,000,000	3,000,000
Old Insulator Change out Program	Asset Condition Replacement	-		750,000	750,000	750,000
Silicon Carbide Change out Program	Asset Condition Replacement	150,000	150,000	150,000	150,000	150,000
Distribution Fault Indicators	Asset Condition Replacement	-	150,000	100,000	100,000	-
Padmount Switchgear Replacement	Asset Condition Replacement	109,000	300,000	300,000	300,000	300,000
Breakers	Asset Condition Replacement	1,462,000	1,400,908	1,989,008	3,078,679	3,171,039
Batteries	Asset Condition Replacement	1,500,000	1,517,740	1,562,200	1,609,066	1,657,337
		3,221,000	**3,518,648**	**4,851,208**	**9,987,745**	**12,028,376**
Subtotal Substations		**9,844,703**	**8,748,648**	**10,112,208**	**25,300,858**	**24,893,376**
Smart Meter/Smart Grid communications	Strategic					2,000,000
Smart Grid/AMI	Strategic				1,500,000	2,000,000
Subtotal AMI		**-**	**-**	**-**	**1,500,000**	**4,000,000**
OPERATIONS TECHNOLOGIES						
ECC projects						
Distributed Outage Management and Reporting System	Reliability Risk	370,174	352,950	-	-	-
RG&E ECC System Upgrade	Efficiency	-	-	-	-	-
RGE - NY Control Center Telephone - Major Capital	Efficiency	-	19,205	150,000	-	-
Lifecycle Replacement - ECC/XECS systems	Asset Condition Replacement	145,000	139,000	139,000	139,000	139,000
Spectrum security wrapper	Mandatory	129,800	35,400	-	-	-
RG&E Energy Control Center Project in NY, Siemens DMS	Reliability Risk	-		300,000	-	-
Spectrum based back office solution	Reliability Risk	153,400	24,400	-	-	-
Energy Control Center (Integrated EMS/DMS/OMS Project)	Mandatory	1,693,000	549,000			
Subtotal Operations Technologies		**2,491,374**	**1,119,955**	**589,000**	**139,000**	**139,000**
HYDRO GENERATION		2,208,000	6,275,000	5,833,000	11,585,000	11,026,000
Mandatory- Customer requirement	Mandatory	1,615,000	4,200,000	2,700,000	3,525,000	1,075,000
System Capacity	System Capacity	130,000	1,475,000	1,506,000	6,976,000	9,551,000
Reliability Risk	Reliability Risk	413,000	600,000	627,000	384,000	400,000
Asset Condition	Asset Condition Replacement	50,000	-	1,000,000	700,000	-
Subtotal Hydro Generation		**2,208,000**	**6,275,000**	**5,833,000**	**11,585,000**	**11,026,000**
General Equipment in Groups	Asset Condition Replacement	**74,817**				
COMMON TO GAS AND ELECTRIC (electric portion 65%)						
Transportation	Asset Condition Replacement	**2,786,629**	**2,700,000**	**4,028,050**	**4,219,150**	**2,700,000**
		-	**-**	**-**	**-**	**-**
IT -IT projects	Asset Condition Replacement	1,182,599	4,077,509	3,477,677	2,734,068	3,087,723
SAP unification projects	Group Initiatives	4,405,799	548,085	-	-	-
IT projects	Group Initiatives	1,159,740	277,466	214,337	538,154	1,015,088
IT projects	Mandatory	609,133	93,931	72,606	182,425	182,000
IT projects	Efficiency	13,345	1,241,887	475,014	1,519,521	1,572,074
IT projects	Reliability Risk	52,534	67,129	33,174	83,120	88,678
		7,423,151	**6,306,007**	**4,272,808**	**5,057,289**	**5,945,563**
OT - Common portion						

RG&E Electric - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
OT TELECOM MAJOR CAPITAL PROJECTS - LifeCycle	Efficiency	487,500	975,000	975,000	975,000	975,000
Telecommunications Minors	Efficiency	32,500	394,050	886,450	87,750	89,050
		520,000	**1,369,050**	**1,861,450**	**1,062,750**	**1,064,050**
Facilities						
Sodus - Construct New Service Center	Asset Condition Replacement				1,943,500	
Storm Room Renovation	Mandatory	162,500	650,000	-	-	-
Property/Facilities Physical Safety Capex	Mandatory	155,350	162,500	162,500	162,500	162,500
Property/Facilities Fire Prevention and Life Safety Capex	Mandatory	155,350	162,500	162,500	162,500	162,500
Facilities Minor Projects - RG&E	Asset Condition Replacement	1,199,250	1,137,500	1,267,500	1,267,500	1,280,500
RGE - PROPERTY MANAGEMENT MAJOR PROJECTS	Asset Condition Replacement	617,500	650,000	650,000	650,000	650,000
Other Minor Facilities Projects	Asset Condition Replacement	675,884	546,000	487,500	32,500	19,500
		2,965,834	**3,308,500**	**2,730,000**	**4,218,500**	**2,275,000**
General Services						
Inventory Optimization System and Bar Coding Optimization project	Efficiency	-	130,000	130,000	130,000	130,000
VoIP endpoint project (Phone System)	Group Initiatives	39,397	27,950	42,900	-	-
		39,397	**157,950**	**172,900**	**130,000**	**130,000**
Customer Services	Asset Condition Replacement	**64,624**	**747,500**	**325,000**	**325,000**	**325,000**
Ergonomic Furniture	Efficiency	**65,000**	**-**	**-**	**-**	**-**
Laboratory Equipment	Mandatory	**65,000**		**-**	**-**	**-**
		-	**-**	**-**	**-**	**-**
Security	Mandatory	**1,381,900**	**815,750**	**721,500**	**721,500**	**721,500**
		-	-	-	-	
General Equipment	Asset Condition Replacement	**98,097**	**650,000**	**669,500**	**689,585**	**689,000**
		-	-	-	-	-
Real Estate	Mandatory	**-**	**2,600**	**2,600**	**2,600**	**2,600**
Subtotal Common		15,409,631	16,057,357	14,783,808	16,426,374	13,852,713
Common portion 65%		15,409,631	16,057,357	14,783,808	16,426,374	13,852,713
Electric		133,023,152	169,059,911	200,229,232	204,509,142	206,841,100
Total RG&E Electric		**148,432,783**	**185,117,268**	**215,013,041**	**220,935,516**	**220,693,813**
		-				

Total NYSEG Gas		49,761,047	50,467,664	53,005,998	74,256,647	74,321,223
NYSEG Gas - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
TRANSMISSION MAINS						
Phelps (South) Transmission Replacement	Mandatory	$0	$200,000	$2,300,000	$5,671,000	$0
Transmission Main Projects (to be identified)	Asset Condition Replacement	$0	$0	$500,000	$1,100,000	$6,000,000
Seneca West Pipeline Interconnect to Elmira	Mandatory	$80,743	$0	$0	$0	$0
Subtotal Transmission Mains		**$80,743**	**$200,000**	**$2,800,000**	**$6,771,000**	**$6,000,000**
DISTRIBUTION MAINS						
Mandatory- Customer requirement	Mandatory	$521,633	$150,000	$250,000	$1,400,000	$0
Distribution Mains -System Capacity	System Capacity	$2,352,195	6,974,000	5,739,000	8,426,000	13,188,000
Edgett Street Canal Crossing, Newark	Reliability Risk					500,000
Bradley St, Install Gas Mains, Auburn	Reliability Risk	$0	$0	$200,000	$0	
Elmira - Horsehead Service Replacements	Group Initiatives	$2,306,816	$0	$0	$0	$0
Efficiency	Efficiency	$0	$0	$871,185	$871,185	$871,185
Strategic	Strategic	$0	$0	$0		$0
Subtotal Distribution Mains		**$5,180,644**	**$7,124,000**	**$7,060,185**	**$10,697,185**	**$14,559,185**
PROGRAMS						
Leak Prone Main Replacement Program	Mandatory	$12,588,586	$12,751,957	$12,751,957	$18,158,438	$16,745,654
Leak Prone Services Replacement Program	Mandatory	$4,851,200	$5,263,366	$5,263,366	$6,239,541	$6,426,727
Minor Services, Install Gas Service	Mandatory	$4,985,966	$5,341,545	$5,341,545	$6,097,570	$6,280,498
Minor Distribution Mains, Install Gas Mains	Mandatory	$1,754,637	$1,807,276	$1,807,276	$2,300,000	$2,400,000
Gas Meters	Mandatory	$3,442,304	$3,751,573	$3,751,573	$4,417,135	$4,549,649
Gas Regulators	Mandatory	$236,500	$449,595	$449,595	$914,066	$941,488
Distribution Main Replacement, Replace Gas Mains	Asset Condition Replacement	$1,081,560	$1,114,007	$1,114,007	$1,181,850	$1,217,305
Transmission Casing Replacement Program, NYSEG	Asset Condition Replacement	$133,393	$1,000,000	$1,000,000	$1,121,138	$1,121,138
Remotely Operated Valves Program	Efficiency	$0	$0	$0	$500,000	$0
Subtotal Programs		**$29,074,146**	**$31,479,319**	**$31,479,319**	**$40,929,738**	**$39,682,459**
HIGWAY RELOCATIONS						
Large Government Jobs (to be identified) - NYSEG	Mandatory	$0	$0	$2,000,000	$2,060,000	$2,121,800
Minor Government Jobs, Replace Gas Mains, NYSEG	Mandatory	$1,111,045	$1,144,376	$1,200,000	$1,500,000	$1,500,000
Route 22 Gas Main Relocation - Brewster	Mandatory					
Subtotal Programs		**$1,111,045**	**$1,144,376**	**$3,200,000**	**$3,560,000**	**$3,621,800**
GATE STATIONS						
Mandatory- Customer requirement	Mandatory	$3,220,626	$0	$0	$0	$0
Robinson Road Gate Station Rebuild, Lockport	Reliability Risk	$1,439,430	$1,900,000	$0	$0	$0
Gas Regulator Moderization & Automation Program, Replace Regulator Stations, NYSEG	Reliability Risk	$796,924	$600,000	$2,500,000	$3,500,000	$4,000,000
Asset Condition	Asset Condition Replacement	$0	$0	$0	$0	$0
Subtotal Transmission Mains		**$5,456,980**	**$2,500,000**	**$2,500,000**	**$3,500,000**	**$4,000,000**
OPERATIONS TECHNOLOGIES						
Gas SCADA System Software Upgrade	Efficiency	$62,500	$0	$0	$0	$0
Binghamton Gas SCADA System Migration Project	Efficiency	$0	$0	$0	$0	$0
Gas SCADA System Replacement	Efficiency	$0	$0	$0	$3,000,000	$0
SmarTRAC Replacement, NYSEG	Mandatory	$1,071,638	$0	$0	$0	$0

NYSEG Gas - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
Gas RTU/Telemetry Replacement	Efficiency	$1	$0		$600,000	$600,000
Subtotal Operations Technoligies		**$1,134,139**	**$0**	**$0**	**$3,600,000**	**$600,000**
General Equipment Gas Operations	Asset Condition Replacement	**326,910**				
COMMON TO GAS AND ELECTRIC (20.9% Gas)						
Transportation	Asset Condition Replacement	**1,054,982**	**1,056,890**	**1,056,890**	**1,056,890**	**1,056,890**
IT -IT projects	Asset Condition Replacement	740,370	1,491,001	1,387,384	1,321,113	1,321,113
SAP unification projects	Group Initiatives	2,787,565	333,962	-	-	-
IT projects	Group initiatives	672,136	564,887	304,814	316,787	580,886
IT projects	Mandatory	133,197	104,394	131,803	136,939	351,277
IT projects	Efficiency	38,105	1,348,167	691,686	686,979	686,979
IT projects	Strategic	85,590	-	-	-	-
		4,456,963	**3,842,412**	**2,515,688**	**2,461,817**	**2,940,254**
OT						
OT TELECOM MAJOR CAPITAL PROJECTS - LifeCycle	Efficiency	156,750	132,111	264,223	264,223	396,334
Telecommunications Minors	Efficiency	10,450	-	-	-	-
		167,200	**132,111**	**264,223**	**264,223**	**396,334**
Facilities						
Mobile Radio Project	Mandatory	337,326	317,067	533,145	-	-
Liberty - Construct New Service Center	Asset Condition Replacement	-	-	-	-	-
Geneva - Construct Transportation & UC&M Garage	Asset Condition Replacement	-	-	-	0	-
Storm Room Renovation	Mandatory	41,800	209,000	-	-	-
Other Facilities Major projects pending definition	Asset Condition Replacement	127,281	209,000	209,000	209,000	209,000
Property/Facilities Physical Safety Capex	Mandatory	104,500	104,500	104,500	104,500	104,500
Property/Facilities Fire Prevention and Life Safety Capex	Mandatory	104,500	104,500	104,500	104,500	104,500
Facilities Minor projects	Asset Condition Replacement	175,978	494,285	104,500	19,855	48,070
Other Minor Facilities projects	Asset Condition Replacement	123,273	313,500	313,500	313,500	313,500
		1,014,658	**1,751,852**	**1,369,145**	**751,355**	**779,570**
General Services						
Optimization project	Efficiency	30,724	-	-	41,800	41,800
VoIP endpoint project (Phone system)	Group Initiatives	82,346	58,520	23,408	-	-
		113,070	**58,520**	**23,408**	**41,800**	**41,800**
Customer Services						
Laboratory Equipment	Mandatory	33,440	41,800	98,230	31,350	41,800
Convert NYSEG Meter reading system from Radix to ITRON	Asset Condition Replacement	-	313,500	-	-	-
Other Customer Service Projects	Asset Condition Replacement	146,814	307,230	125,400	104,500	104,500
		180,254	**662,530**	**223,630**	**135,850**	**146,300**
Security	**Mandatory**	**390,203**	**456,665**	**453,739**	**426,151**	**435,138**
		-	**-**	**-**	**-**	**-**
General Equipment	**Asset Condition Replacement**	**19,110**	**26,422**	**26,422**	**26,422**	**26,422**
		-	**-**	**-**	**-**	**-**
Real Estate	**Mandatory**	**-**	**32,568**	**33,349**	**34,216**	**35,072**
Subtotal Common		**7,396,440**	**8,019,969**	**5,966,494**	**5,198,724**	**5,857,779**

NYSEG Gas - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
Common portion 20.9%		7,396,440	8,019,969	5,966,494	5,198,724	5,857,779
Gas		42,364,607	42,447,695	47,039,504	69,057,923	68,463,444
Total NYSEG Gas		**49,761,047**	**50,467,664**	**53,005,998**	**74,256,647**	**74,321,223**

Total RG&E-Gas		39,174,518	45,514,661	49,314,404	60,539,881	60,326,330
RG&E- Gas - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
TRANSMISSION MAINS						
CM1 Replacement Humphrey to Ballantyne Rd, Replace Gas Main, Roch	Reliability Risk	$431,243	$5,200,000	$4,150,000		$0
New Empire West Gate Station, Build New Gate Station, Roch	System Capacity	$2,073,803	$2,700,000	$2,000,000	$0	$0
Transmission Mains - projects to be identified - RG&E	Asset Condition Replacement	$0	$500,000	$3,000,000	$6,000,000	$6,180,000
Subtotal Transmission Mains		**$2,505,046**	**$8,400,000**	**$9,150,000**	**$6,000,000**	**$6,180,000**
DISTRIBUTION MAINS						
Mandatory- Customer requirement	Mandatory	$2,333,039	$0	$0	$0	$0
Distribution Mains - System Capacity	System Capacity	$680,512	$3,473,000	$5,694,000	$8,560,000	$6,180,000
MF42 Henrietta Jefferson Rd Improvement, Install Gas Mains, Roch	Reliability Risk	$413,327	$0	$0	$0	$0
Group Initiatives	Group Initiatives	$0	$0	$0	$0	$0
MF60 Southwest Perry Segment #1, Replace Gas Mains, Roch	Asset Condition Replacement			$350,000		
Roch Area Exploratory Investigation of Gas Bare Steel Srvces by LP	Asset Condition Replacement	$810,930	$0	$0	$0	$0
Subtotal Distribution Mains		**$4,237,808**	**$3,473,000**	**$6,044,000**	**$8,560,000**	**$6,180,000**
PROGRAMS						
Leak Prone Main Replacement Program	Mandatory	$10,606,788	$10,900,000	$10,900,000	$12,000,000	$14,665,699
Leak Prone Services Replacement Program	Mandatory	$2,325,967	$2,400,000	$2,400,000	$3,541,492	$3,647,737
Minor Services, Install Gas Service	Mandatory	$4,295,282	$4,300,000	$4,300,000	$5,683,709	$5,854,220
Minor Distribution Mains, Install Gas Mains	Mandatory	$1,048,856	$1,080,322	$1,080,322	$2,200,000	$2,400,000
Gas Meters	Mandatory	$2,500,285	$2,863,694	$2,863,694	$3,650,020	$3,759,520
Gas Regulators	Mandatory	$780,712	$780,000	$780,000	$2,500,000	$3,000,000
Minor Government Jobs, Replace Gas Mains	Mandatory	$647,455	$666,879	$666,879	$710,273	$715,000
Distribution Main Replacement, Replace Gas Mains	Asset Condition Replacement	$339,317	$349,497	$349,497	$370,781	$450,000
Remotely Operated Valves Program	Efficiency	$0	$0	$0	$500,000	$500,000
Subtotal		**$22,544,662**	**$23,340,392**	**$23,340,392**	**$31,156,275**	**$34,992,176**
HIGWAY RELOCATIONS						
Large Government Jobs (to be identified) - RG&E	Mandatory	-	-	1,304,500	5,463,635	5,500,000
Portland Avenue Gas Main Repl - Highway	Mandatory	-	-	-	-	-
Ridge Rd East, Relocate Gas Mains, Roch	Mandatory	-	-	-	-	-
West Henrietta @ Canal, I-390 Highway Improvement Phase 4 (100% contributio	Mandatory	(21,016)	$0	$0	$0	$0
Subtotal		**(21,016)**	**$0**	**$1,304,500**	**$5,463,635**	**$5,500,000**
GATE STATIONS						
Buffalo Road Rebuild Regulator Station and Replace Gas Main	System Capacity	$261,044	$1,140,000	$1,000,000	$0	$0
Elimination of Reg Statn 238 Baird Rd and Midvale Dr	Asset Condition Replacement	$88,089	$0	$0	$0	$0
Subtotal		**$349,133**	**$1,140,000**	**$1,000,000**	**$0**	**$0**
OPERATIONS TECHNOLOGIES						
Gas Telemetry Replacement	Efficiency	$0	$15,000	$15,000	$15,000	$15,000
SmarTRAC Replacement, RG&E	Mandatory	$856,104	$0	$0	$0	$0
Gas SCADA System Software Upgrade-RG&E	Efficiency	$62,500	$0	$0	$0	$0
RGE New RTU Project, New and Relocate RTU Endpoints, Roch	Efficiency	$264,909	$500,000	$500,000	$500,000	$0
Subtotal Operations Technologies		**$1,183,513**	**$515,000**	**$515,000**	**$515,000**	**$15,000**
General Equipment (only Gas)	Asset Condition Replacement	**77,878**				

RG&E- Gas - Capital Project or Category	Priority Category	2014	2015	2016	2017	2018
COMMON TO GAS AND ELECTRIC (35% Gas)						
Transportation	Asset Condition Replacement	**1,500,493**	**1,453,846**	**2,168,950**	**2,271,850**	**1,453,846**
		-	**-**	**-**	**-**	**-**
IT -IT projects	Asset Condition Replacement	636,784	2,195,582	1,872,595	1,472,190	1,662,620
SAP unification projects	Group Initiatives	2,372,354	295,123	-	-	-
IT projects	Group Initiatives	624,476	149,405	115,412	289,775	546,586
IT projects	Mandatory	327,994	50,578	39,096	98,229	98,000
IT projects	Efficiency	7,186	668,708	255,777	818,204	846,502
IT projects	Reliability Risk	28,288	36,146	17,863	44,757	47,750
		3,997,081	**3,395,542**	**2,300,743**	**2,723,156**	**3,201,457**
OT - Common portion		**-**	**-**	**-**	**-**	**-**
OT TELECOM MAJOR CAPITAL PROJECTS - LifeCycle	Efficiency	262,500	525,000	525,000	525,000	525,000
Telecommunications Minors	Efficiency	17,500	212,181	477,319	47,250	47,950
		280,000	**737,181**	**1,002,319**	**572,250**	**572,950**
Facilities		-	-	-	-	-
Sodus - Construct New Service Center	Asset Condition Replacement	-	-		1,046,500	-
Storm Room Renovation	Mandatory	87,500	350,000	-	-	-
Property/Facilities Physical Safety Capex	Mandatory	83,650	87,500	87,500	87,500	87,500
Property/Facilities Fire Prevention and Life Safety Capex	Mandatory	83,650	87,500	87,500	87,500	87,500
Facilities Minor Projects - RG&E	Asset Condition Replacement	645,750	612,500	682,500	682,500	689,500
RGE - PROPERTY MANAGEMENT MAJOR PROJECTS	Asset Condition Replacement	332,500	350,000	350,000	350,000	350,000
Other Minor Facilities Projects	Asset Condition Replacement	363,937	294,000	262,500	17,500	10,500
		1,596,987	**1,781,500**	**1,470,000**	**2,271,500**	**1,225,000**
General Services		-	-	-	-	-
Inventory Optimization System and Bar Coding Optimization project	Efficiency	-	70,000	70,000	70,000	70,000
VoIP endpoint project (Phone System)	Group Initiatives	21,214	15,050	23,100	-	-
		21,214	**85,050**	**93,100**	**70,000**	**70,000**
		-	-	-	-	-
		-	**-**	**-**	**-**	**-**
Customer Services	Asset Condition Replacement	**34,798**	**402,500**	**175,000**	**175,000**	**175,000**
Ergonomic Furniture	Efficiency	**35,000**	**-**	**-**	**-**	**-**
Laboratory Equipment	Mandatory	**35,000**	**-**	**-**	**-**	**-**
		-	**-**	**-**	**-**	**-**
Security	Mandatory	**744,100**	**439,250**	**388,500**	**388,500**	**388,500**
		-	-	-	-	-
General Equipment	Asset Condition Replacement	**52,821**	**350,000**	**360,500**	**371,315**	**371,000**
		-	-	-	-	-
Real Estate	Mandatory	**-**	**1,400**	**1,400**	**1,400**	**1,400**
Subtotal Common		8,297,494	8,646,269	7,960,512	8,844,971	7,459,153

Common portion 35%	8,297,494	8,646,269	7,960,512	8,844,971	7,459,153
Gas	30,877,024	36,868,392	41,353,892	51,694,910	52,867,176
Total RG&E Gas (Scenario 1)	**39,174,518**	**45,514,661**	**49,314,404**	**60,539,881**	**60,326,330**

Attachment 2

Reconciliation of Electric Plan Investments to Appendix L

Appendix L Reconciliation

	2011-L	2012-L	2013-L	TOTAL-L	2011 Actual	2012 Actual	2013 Actual	TOTAL	DIFFERENCE
NYSEG	147,179	127,374	141,054	**415,607**	179,328	168,930	171,441	**519,699**	104,092
RG&E	136,497	138,538	177,353	**452,388**	152,014	185,552	159,569	**497,135**	44,747
NERC Alert Project	-	-	-		-	5,582	10,252	**15,834**	15,834
TOTAL	**283,676**	**265,912**	**318,407**	**867,995**	**331,342**	**360,064**	**341,263**	**1,032,669**	**164,674**
NERC Alert Project			**14,684**						**(14,684)**
									149,990

NYSEG ELECTRIC

Title	2011 Appendix L	2011 Actual	2012 Appendix L	2012 Actual	2013 Appendix L	2013 Actual	2011-2012-2013 Appendix L (A)	2011 Actual - 2012 Actual - 2013 Actual (B)
Ithaca Reinforcement Project	-	1,518	-	509	-	10	-	2,037
Watercure Rd Sub Transformer Replacement	-	3,003	-	11	-	1,496	-	4,511
Yawger Rd New Substation	-	312	-	1	-	-	-	313
Moraine Road Substation Breaker Addition	-	2,423	-	638	-	(0)	-	3,061
Yahoo Service Project	-	(470)	-	1	-	-	-	(469)
Capacitor Additions - Energy Efficiency Initiative	-	584	-	22	-	0	-	606
Meyer - Add 115kV Capacitor Bank - Hornell	-	474	-	777	-	547	-	1,798
Corning Valley Upgrade	23,916	19,389	-	74	-	392	23,916	19,854
Klinekill - Valkin (NMPC) New 115 kV Transmission Line	9,664	273	-	1,091	-	1,606	9,664	2,970
Transit St Substation MGP Remediation***	1,700	102	-	763	-	1,164	1,700	2,029
Walden 69kV Transmission Line Upgrade	3,186	344	-	4,986	-	992	3,186	6,322
Line #807 115kV Conversion	3,250	1,446	2,259	1,639	-	1,427	5,509	4,512
New Mobile Substations	1,750	839	1,750	1,071	-	-	3,500	1,910
Biogas 34.5kV Collector System	1,120	122	1,512	1,570	761	401	3,393	2,093
Bulk Spare Transformer	3,000	1,795	-	(3,202)	-	0	3,000	(1,406)
Silver Creek Substation New Transformer	1,206	174	-	399	-	915	1,206	1,488
DOE Stimulus Progam -Northend Substation *	1,471	1,473	-	2,666	-	4,479	1,471	8,618
Willet Substation New Transformer	654	627	2,618	748	-	696	3,272	2,071
Flat Street Substation New Transformer	605	612	3,192	1,935	-	1,736	3,797	4,283
South Perry New 115kV Transformer	875	492	3,216	687	-	1,059	4,091	2,237
Windham Substation 115kV Capacitor Addition	-	48	1,068	53	-	302	1,068	403
Perry Center Area Install New 34.5kV Substation	-	25	2,533	627	-	790	2,533	1,442
South Perry New 230kV Transformer	-	1,087	4,040	820	12,454	1,085	16,494	2,992
Westover Substation New 115kV Transformer & Binghamton Division Capacitors	-	523	3,939	895	2,589	510	6,528	1,929
Eelpot New Transformer	-	803	570	1,639	3,515	1,570	4,085	4,012
Meyer Substation New Transformer	-	651	538	199	3,385	568	3,923	1,418
Stephentown Substation New Transformer	-	528	465	880	2,465	1,194	2,930	2,601
Richfield Springs Substation New Transformer	-	593	650	1,220	1,887	658	2,537	2,470
Tom Miller Rd New Substation	-	22	110	978	2,509	817	2,619	1,816
Coddington Add LTC Capability to 115/34.5kV Transformer	-	910	-	1,321	1,095	838	1,095	3,069
Big Tree Substation Capacitor Addition (In Northend Substation)	-	-	-	-	1,057	-	1,057	-
Harris Lake Source Upgrade	-	-	-	271	2,336	629	2,336	900
Auburn 345kV Source	-	-	3,600	417	3,000	2,020	6,600	2,437
Stolle – Dysinger	-	-	-	-	3,400	-	3,400	-
Substation Transformers	-	-	400	-	3,891	-	4,291	-
TDIRP	25,000	38,984	25,000	17,164	25,000	15,087	75,000	71,236
System Security	3,444	2,976	3,376	2,460	3,030	1,660	9,850	7,097
Mobile Radio Project (portion of electric 79.1%)	2,201	1,172	-	1,765	-	1,001	2,201	3,938
Electric GIS (Has been rolled into ECC Project)	4,756	1,827	1,113	5,283	-	3,634	5,869	10,744

Title	2011 Appendix L	2011 Actual	2012 Appendix L	2012 Actual	2013 Appendix L	2013 Actual	2011-2012-2013 Appendix L (A)	2011 Actual - 2012 Actual - 2013 Actual (B)
Mill C Unit 1+2 draft Tube Replacement and Foundation Protection	1,000	615	-	-	-	(0)	1,000	615
TOTALS MAJOR PROJECTS + PROGRAMS	**88,798**	**86,300**	**61,949**	**52,374**	**72,374**	**49,284**	**223,121**	**187,958**
Other	**58,381**	**65,450**	**65,425**	**77,217**	**68,680**	**74,790**	**192,486**	**217,458**
Supplemental projects from 5 Years Capex Plan		**18,951**		**28,355**		**40,490**	**-**	**87,796**
Supplemental programs from 5 Years Capex Plan		**8,627**		**7,405**		**5,783**	**-**	**21,815**
Recent Addition				**3,578**		**1,094**	**-**	**4,672**
TOTAL Appendix L	**147,179**	**179,328**	**127,374**	**168,930**	**141,054**	**171,441**	**415,607**	**519,699**
NERC Alert Project				**5,582**		**10,252**	**-**	**15,834**
Total NYSEG Electric	**147,179**	**179,328**	**127,374**	**174,512**	**141,054**	**181,694**	**415,607**	**535,533**

RG&E ELECTRIC

Title	2011 Appendix L	2011 Actual	2012 Appendix L	2012 Actual	2013 Appendix L	2013 Actual	2011-2012-2013 Appendix L (A)	2011 Actual - 2012 Actual - 2013 Actual (B)
Webster East New 12 kV Source	-	898	-	3,565	-	69	-	4,531
New Station 137	-	3,222	-	212	-	(104)	-	3,329
Station 424 New Line	-	3,616	-	65	-	(3)	-	3,678
Station 42 New Capacitors	-	590	-	927	-	1,075	-	2,592
New 115kV Transmission Line (Sta.13A to Sta.135)	-	1,330	-	(1)	-	(0)	-	1,329
Station 13A Replace Breakers	-	18	-	(1)	-	-	-	18
Stations 180 and 128 New Capacitors	-	582	-	657	-	946	-	2,185
Culver Rd Electric Facilities Relocation	-	321	-	4	-	(0)	-	325
Jefferson Ave Electric Facilities Relocation	-	2,311	-	545	-	62	-	2,919
U of R New 115-34kVSubstation	3,760	-	-	476	-	6,011	3,760	6,487
Rochester SCADA NERC Compliance (Roller in ECC)	1,000	-	-	-	-	-	1,000	-
Station 124 New SVC	8,000	8,477	19,923	10,745	-	4,922	27,923	24,143
New Downtown 115kV Source	10,000	5,613	23,875	4,815	-	7,686	33,875	18,114
New Bulk Power Station (RARP)	2,000	1,832	10,000	6,958	80,000	17,018	92,000	25,808
Midtown Electric Facilities Relocation	980	15	-	74	-	921	980	1,010
Stations 127, 125 & 120 New34.5kV Capacitors	2,725	180	-	1,107	-	978	2,725	2,265
Station 168 (included with Station 121)	1,050	-	-	-	-	-	1,050	-
Stations 198, 218, 194 & 181 New34.5kV Capacitors	2,823	740	-	1,193	-	995	2,823	2,927
Stations 67 to 418 New115kV Transmission Line	1,282	13	7,128	754	-	1,552	8,410	2,319
Station 56 Additional 12kV Source	2,580	115	1,995	3,198	-	5,480	4,575	8,793
Stations 173, 178 & 180 New34.5kV Capacitors	1,967	503	-	393	-	1,605	1,967	2,501
New 115kV/34.5kV Substation (Sta. 262)	-	95	920	3,177	8,336	4,378	9,256	7,650
Station 218 to Clyde New34.5kV Transmission Line	-	39	500	1,272	5,500	3,054	6,000	4,365
Station 121 New 115kV Capacitor (and Station 168)	-	670	-	622	1,217	420	1,217	1,712
Station 71 New 115kV Capacitor (Now Station 69)	-	-	-	58	1,458	1,411	1,458	1,469
TDIRP Program Costs	15,000	20,802	15,000	15,319	15,000	13,066	45,000	49,188
Substation Transformers (Station 124 New PST)	16,460	5,659	13,773	13,820	1,333	4,577	31,566	24,055
Electric System Security	1,495	2,309	1,495	3,063	1,495	1,616	4,485	6,988
Electric GIS (Has been rolled into ECC Project)	2,368	1,211	556	3,553	-	1,773	2,924	6,537
Station 2 Runner Upgrade and Generator Rewind	-	702	-	-	-	(1)	-	701
Station 5 Tunnel Relining***	37,100	20,291	14,400	18,754	-	166	51,500	39,212
Station 5 Wicket Gate Upgrades	4,000	4,573	1,750	4,444	-	718	5,750	9,734
TOTALS MAJOR PROJECTS + PROGRAM	**114,590**	**86,725**	**111,315**	**99,769**	**114,339**	**80,391**	**340,244**	**266,885**
Other	**21,907**	**40,224**	**27,223**	**37,030**	**63,014**	**32,207**	**112,144**	**109,461**
Supplemental projects from 5 Years Capex Plan		**14,617**		**37,082**		**42,294**		**93,993**
Supplemental programs from 5 Years Capex Plan		**10,448**		**11,672**		**4,678**		**26,797**
TOTAL RG&E Electric	**136,497**	**152,014**	**138,538**	**185,552**	**177,353**	**159,569**	**452,388**	**497,136**

Attachment 3

Description of the Most Significant Electric Projects

Capital Project Summary - NYSEG

Afton Substation - Add New 34.5 kV Circuit

Project Scope:

Upgrade an existing 3,600 foot, 35 kV single circuit line to double the circuit out of the Afton Substation. Utilize existing equipment in the station to create a second circuit. Install one new circuit breaker and two new group operated switches.

Reasons and Benefits:

The installation of a second circuit will improve the reliability of the circuit and it is anticipated that the proposed work will reduce outages by 50% for all customers.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$858
Planned 2014 investment:	$0
Future investment:	$4,350
Total investment:	$5,209

Alden - Add Second Transformer Bank

Project Scope:

Add a second 34.5-4.8x12.47 kV, 12/16/20 MVA LTC transformer and fourth circuit position.

Reasons and Benefits:

The loading on the existing 7.5 MVA transformer bank at Alden Substation has reached 97% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,653
Total investment:	$7,653

Capital Project Summary - NYSEG

Auburn - Add 35 kV Line Segment (Grant Avenue Tap - State St)

Project Scope:
Build a new 34.5 kV line segment (Grant Avenue Tap - State St) with a summer LTE rating of at least 37 MVA.

Reasons and Benefits:
For loss of the 34.5 kV State St-Miller Tap and based on 2017 forecasted load, the 34.5 kV line segment Grant Avenue Tap - State St. becomes thermally overloaded. Based on the 2017 forecasted load, the exposure is 25 hours/yr potentially affecting 724 customers and 4 MW of load.

Investment Classification:
Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,300
Total investment:	$1,300

Auburn - Add 35 kV Line Segment (State St - Miller Tap)

Project Scope:
Build a new 34.5 kV line segment (State St - Miller Tap) with a summer LTE rating of at least 37 MVA.

Reasons and Benefits:
For the loss of the State St - Grant Avenue Tap, the 34.5 kV line segment Miller Tap - State St becomes thermally overloaded based on forecasted 2018 load. Based on the 2018 forecast, the exposure is 25 hours/yr potentially affecting 724 customers and 4 MW of load.

Investment Classification:
Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,000
Total investment:	$1,000

Capital Project Summary - NYSEG

Auburn - Reconductor 35 kV Line 525 (Centerport - State St)

Project Scope:

Reconductor to increase the summer LTE rating of 34.5 kV line #525 (Centerport - State St) to at least 50 MVA.

Reasons and Benefits:

For the loss of the Hamilton Rd 115/34.5 kV transformer and based on 2014 forecasted load, the 34.5 kV line segment Centerport - State St becomes thermally overloaded. Based on the forecasted load, the exposure is 25 hours/yr potentially affecting 1,475 customers and 4.4 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,600
Total investment:	$1,600

Capital Project Summary - NYSEG

Auburn Transmission Project (Auburn 345 kV Source)

Project Scope:

The project will be constructed in two phases.
Phase 1 includes:
1) Construct a new approximately 14.5 mile, 115 kV line between National Grid's Elbridge Substation and NYSEG's State Street Substation.
2) Install a second set of 115 kV circuit conductors on the new structures built for the Proposed Line in the National Grid ROW.
3) Modify National Grid's Elbridge Substation and NYSEG's State Street Substation to accommodate the connection of the Proposed Line, and modify the National Grid Elbridge Substation to accommodate the connection of relocated Line 15.

Phase 2 includes
1) Bus together the conductors of existing Lines 5 and 15 on their existing structures in the National Grid ROW.
2) Reconductor two short spans of Bused Line 5.
3) Rebuild Line 972.

Reasons and Benefits:

The new line will strengthen the transmission system throughout the Auburn Division and reduce voltage flicker due to a large customer. It will also reduce NYSEG's dependence on the AES generating plants.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$2,437
Planned 2014 investment:	$3,018
Future investment:	$35,634
Total investment:	$41,090

Capital Project Summary - NYSEG

Bulkhead - Replace Transformer Bank #2

Project Scope:

Replace Transformer Bank #2 with a new 34.5-12.5 kV, 12/16/20 MVA LTC Transformer.

Reasons and Benefits:

The loading on the existing 7.5 MVA transformer bank #2 at the Bulkhead Substation has reached 96% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$5,492
Total investment:	$5,492

Carmel - Add Second 115/46 kV Transformer

Project Scope:

Install a second 115/46 kV, 30/40/50 MVA, LTC transformer at Carmel Substation and operate it in parallel with the existing 115/46 kV, 30/40/50 MVA LTC transformer.

Reasons and Benefits:

During the 2013 summer peak load period, an outage of the existing 115/46 kV transformer at Carmel Substation would cause the 115/46 kV transformer #2 at Croton Falls to exceed it summer LTE rating. Based on the current Brewster Division summer peak load, 16 MW and 3,100 customers could be exposed.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,376
Total investment:	$7,376

Capital Project Summary - NYSEG

Cemetery Road - Replace Transformer Bank #1 and Add Fourth 12 kV Circuit Position

Project Scope:

Replace Transformer Bank #1 with a new 12/16/20 MVA LTC transformer and add a fourth 12 kV circuit position.

Reasons and Benefits:

The loading on the existing 10 MVA transformer bank #1 at Cemetery Road substation has reached 100% of its PLBN rating during the summer peak of 2012.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$3,200
Total investment:	$3,200

Cobble Hill - Add Second 115/34.5 kV Transformer

Project Scope:

Install a second 115/34.5 kV, 20/26/33 MVA, LTC transformer at Cobble Hill Substation and operate it in parallel with the existing 115/34.5 kV, 20/26/33 MVA LTC transformer.

Reasons and Benefits:

During the 2012 summer peak period, loss of the Cobble Hill 115/34.5 kV transformer results in low volatge on the 34.5 kV Line 530. Up to 7 MW and 3,464 customers could be exposed to these potential problems for up 325 hours in the 2012 summer.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$14,935
Total investment:	$14,935

Capital Project Summary - NYSEG

Colliers - Replace Existing 115/46 kV Non-LTC Transformers with new LTC Transformers

Project Scope:

Replace the two existing 115/46 kV, NON-LTC, 30/40/50 MVA transformers #1 and #2 at Colliers Substation with two new 115/46 kV, 30/40/50 MVA, LTC transformers. The two transformers will continue to be operated independent of each other.

Reasons and Benefits:

During the 2012 summer peak period, loss of the Colliers-Delhi Tap 115 kV line results in low voltage in the City of Oneonta. Up to 56 MW and 15,146 customers could be exposed to these potential problems for up 385 hours.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$26,454
Total investment:	$26,454

Capital Project Summary - NYSEG

Columbia County Transmission Project (Klinekill 115 kV)

Project Scope:

Construct new 115 kV transmission lines in the towns of Chatham, Ghent, and Stockport within Columbia County, New York. The proposed facilities and improvements include a new 115 kV switching station (Ghent Switching Station), 11.1 miles of 115 kV transmission line (Circuit 726 and National Grid Trunk 15 extension), and improvements at the existing Klinekill 115 kV/34.5 kV Substation.

•A new 115 kV breaker location will be built at Klinekill Substation in the Town of Chatham. The existing control house will be expanded to house the additional controls, but the existing fence line will not be modified.

•A new 115 kV Switching will be constructed in the Town of Ghent. The 115 kV breaker and a half bus arrangement will consist of two bays that contain a total of three 115 kV breakers

Reasons and Benefits:

For loss of the 115 kV Churchtown-Craryville Line, exposure to imminent voltage collapse and thermal overload is 4,500 hrs/yr. This contingency will cause loss of 9,940 customers and 20 MW load. The new line will provide a 115 kV source to the service area.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$3,018
Planned 2014 investment:	$1,234
Future investment:	$28,304
Total investment:	$32,557

Capital Project Summary - NYSEG

Concord Transformer Bank Replacement

Project Scope:
Replace substation transformer.

Reasons and Benefits:
Substation transformer loaded to 106% of rating based on 2012 loading.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,394
Total investment:	$7,394

Coopers Corners - Add Third 345/115 kV Transformer

Project Scope:
Install a third 345/115 kV, LTC transformer rated 120/160/200 MVA, at Coopers Corners Substation and operate it in parallel with the two existing 345/115 kV, 200 MVA, LTC transformers.

Reasons and Benefits:
During the 2012 summer peak period, loss of both Coopers Corners 345/115 kV transformers results in widespread load shed in Liberty. Up to 120 MW and 32,000 customers could be exposed to these potential problems for up to 8,760 hours in the 2012 summer.

Investment Classification:
Mandatory

Planned Capital Investment (000s)

Prior years investment:	$62
Planned 2014 investment:	$1,000
Future investment:	$25,643
Total investment:	$26,705

Capital Project Summary - NYSEG

Cowlesville - Add 34.5 kV Switched Capacitor Bank

Project Scope:

Install a new 34.5 kV, 1.8 MVAR switched capacitor bank at Cowlesville Substation.

Reasons and Benefits:

During the 2014 summer peak period, loss of Homer City-Stolle Road 345 kV line results in low voltage at Cowlesville Substation. Up to 2 MW and 1,050 customers could be exposed to these potential problems for up to 40 hours based on the 2014 summer load forecast.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,301
Total investment:	$7,301

Crafts - Add Second Transformer and Fourth 13.2 kV Circuit Position

Project Scope:

Add a second transformer and fourth 13.2 kV circuit position at the Crafts Susbstation

Reasons and Benefits:

Failure of this transformer will result in the loss of service to 5,173 customers for 10 hours.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$500
Future investment:	$1,564
Total investment:	$2,064

Capital Project Summary - NYSEG

Davis Road - Replace 115/34.5 kV Transformers #2 and #3

Project Scope:

Replace the existing 115/34.5 kV, 15/20/25 MVA, non-LTC transformers #2 and #3 at the Davis Road Substation with two new 115/34.5 kV, 20/26/33 MVA, LTC transformers.

Reasons and Benefits:

During the 2012 summer peak period, the loss of Big Tree-Armor 34.5 kV line results in low voltage at Armor and South Park Substations. Up to 31 MW and 13,737 customers could be exposed to these potential problems for up to 325 hours in the 2012 summer.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)	
Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$17,094
Total investment:	$17,094

Dingle Ridge - Add 46 kV Switched Capacitor Bank

Project Scope:

Install a new 46 kV, 5.4 MVAR switched capacitor bank at the Dingle Ridge Substation.

Reasons and Benefits:

During the 2012 summer peak period, loss of Peach Lake-Dingle Ridge 46kV line results in low voltage at Dingle Ridge Substation. Up to 6 MW and 900 customers could be exposed to these potential problems for up to 40 hours in the 2012 summer.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)	
Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$4,834
Total investment:	$4,834

Capital Project Summary - NYSEG

Dingle Ridge - Add Second Transformer and 13.2 kV Conversion

Project Scope:

Add a second transformer and 13.2kV conversion at the Dingle Ridge Substation

Reasons and Benefits:

Failure of this transformer will result in the loss of 6MW and service to 783 customers for 10 hours.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$500
Future investment:	$4,500
Total investment:	$5,000

Ebenezer - Add a Second Transformer Bank and New Circuit Positions

Project Scope:

Add a second 34.5-4.8x12.5 kV 12/16/20 MVA LTC transformer and two new circuit positions.

Reasons and Benefits:

The loading on the existing 5 MVA transformer bank at Ebenezer Substation has reached 105% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$9,689
Total investment:	$9,689

Capital Project Summary - NYSEG

Eelpot - New Transformer

Project Scope:

Install a second 115/34.5 kV, 30/40/56 MVA LTC transformer at the Eelpot Road substation. Work will include all associated equipment required with this transformer addition.

Reasons and Benefits:

Eelpot Road Substation serves approximately 22 MW of load to 5,118 customers. During peak load periods loss of the existing 115/34.5 kV transformer at the Eelpot Substation results in overloads above the LTE of the 565 line low voltages in the area. This causes shedding of 12 MW load affecting 3,500 customers.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$4,216
Planned 2014 investment:	$2,938
Future investment:	$3,431
Total investment:	$10,585

Erie Street - Add Third 115/34.5 kV Transformer

Project Scope:

Install a third 115/34.5 kV, 30/40/50 MVA, non-LTC transformer at Erie Street Substation and operate it in parallel with the two existing 115/34.5 kV, 30/40/50 MVA, non-LTC transformers.

Reasons and Benefits:

During the 2012 summer peak period, loss of one of the Erie Street 115/34.5 kV transformers results in an overload of the remaining bank. Up to 27 MW and 10,800 customers could be exposed to these potential problems for up to 75 hours in the 2012 summer.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,027
Total investment:	$1,027

Capital Project Summary - NYSEG

Flat Street Substation New Transformer

Project Scope:

Install a new Flat Street 115/34.5 kV, 20/26/33(36.7) MVA, LTC transformer to operate in parallel with existing one.

Reasons and Benefits:

Exposure to submarginal voltages and thermal overload will result from the loss of 115/34.5 kV Greenidge tranformer is 900 hrs/yr, w/ 5524 customers (22.5 MW) dropped. For the loss of 115/34.5 kV Flat Street transfomer, exposure is 25 hrs/yr, w/ 274 customers (4.3 MW) dropped.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$4,457
Planned 2014 investment:	$2,634
Future investment:	$3,592
Total investment:	$10,683

Fourth Street 12.5 kV Conversion

Project Scope:

Replace existing Fourth Street Substation banks with two 12/16/20/22.5 MVA banks and four 12.5 kV distribution circuits. Convert the surrounding distribution to 12.5 kV and establish additional ties to the surrounding 12.5 kV.

Reasons and Benefits:

Provide additional 12.5 kV capacity for load transfers off of and onto Fourth Street. Fourth Street is presently an 8.32 kV island that cannot have load moved onto or off of any of its circuits. Rebuild and conversion would allow it to backup and be backed up.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$15,833
Total investment:	$15,833

Capital Project Summary - NYSEG

Fraser Substation - Add Second 345/115 kV Transformer

Project Scope:

Install a second 345/115 kV, 150/200/250/280 MVA, LTC transformer at the Fraser Substation and operate it in parallel with the existing 345/115 kV, 150/200/250/280 MVA LTC transformer.

Reasons and Benefits:

During the 2012 summer and winter periods, an outage of the Fraser 345/115 kV transformer and a 115 kV line results in low voltages in Oneonta. Up to 50 MW and 10,400 customers could be exposed to these potential problems for up to 600 hours based on 2012 loading conditions.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$90
Planned 2014 investment:	$700
Future investment:	$27,130
Total investment:	$27,919

Gardenville - Add Third 230/115 kV Transformer

Project Scope:

Install a third 230/115/34.5 kV, 200/250 MVA, LTC transformer with a 34.5 kV, 50 MVA tertirary winding at the Gardenville Substation and operate it in parallel with the two existing 230/115/34.5 kV, 200/250 MVA, LTC transformers.

Reasons and Benefits:

During the 2012 summer period, an outage of one Gardenville 230/115 kV transformer with the other one already out results in low voltages in Lancast. Up to 90 MW and 20,600 customers could be exposed to these potential problems for up to 350 hours based on 2012 loading conditions.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$17,429
Total investment:	$17,429

Capital Project Summary - NYSEG

Glenwood - Replace Substation Transformers

Project Scope:

Replace the two existing 5 MVA 4.8 kV substation transformers with two new 10 MVA transformers that have dual 4.8kV/12.5 kV windings.

Reasons and Benefits:

The 12.5 kV source at Glenwood will provide for serving area load growth and address issues with summer loading on the existing transformers.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$895
Planned 2014 investment:	$1,693
Future investment:	$1,712
Total investment:	$4,301

Goudey Substation - Separation from AES Westover Plant

Project Scope:

Remove NYSEG dependencies on AES Westover Plant to provide reliable electric service.

Reasons and Benefits:

AES is seeking to renegotiate IA terms at its Westover Plant. This project will allow NYSEG to operate its grid reliably without relying on AES to provide station service. AES filed for Chapter 11 Bankruptcy protection. The AES Project is Case # 11-14138.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$756
Planned 2014 investment:	$3,768
Future investment:	$7,019
Total investment:	$11,543

Capital Project Summary - NYSEG

Grand Gorge 1 Substation - Replace Transformer

Project Scope:

Replace the existing 7.5/10 MVA transformer with a non-LTC 12/16/20 MVA transformer. Replace the existing three 333 KVA bus regulators with three 667 KVA (three-875 amp) units.

Reasons and Benefits:

Gilboa Dam is planning to add 4.4 MVA of load. The winter peak of the substation could be as much as 11.8 MVA, exceeding the transformer's winter PLBN of 10.9 MVA. This could affect 12 MW of load and 3,165 customers.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,995
Total investment:	$7,995

Grant Avenue - Add Second Transformer and Fourth Circuit Position

Project Scope:

Add a second transformer and a fourth circuit position to the Grant Avenue Substation

Reasons and Benefits:

Failure of this transformer will result in the loss of 16 MW of load and service to 2,245 customers for 10 hours.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,260
Total investment:	$1,260

Capital Project Summary - NYSEG

Greenidge Substation - Separation from AES Geneva Plant

Project Scope:

Remove NYSEG dependencies on AES Geneva Plant to provide reliable electric service.

Reasons and Benefits:

AES is seeking to renegotiate IA terms at its Geneva Plant. This project will allow NYSEG to operate its grid reliably without relying on AES to provide station service. AES filed for Chapter 11 Bankruptcy protection. The AES Project is Case # 11-14138.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$867
Planned 2014 investment:	$1,820
Future investment:	$2,602
Total investment:	$5,289

Hamburg - Replace Transformer Banks 1 and 2

Project Scope:

Replace the existing transformer banks #1 and #2 with two 34.5-4.8x12.5 kV 12/16/20 MVA LTC transformers.

Reasons and Benefits:

The loading on the existing 7.5 MVA transformer banks #1 and #2 at Hamburg substation has reached 96% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$9,562
Total investment:	$9,562

Capital Project Summary - NYSEG

Hancock 216 - Create Tie with Roscoe 286

Project Scope:

Reconductor two miles and upgrade substation breaker. Also install five new reclosures and five scada-mate switches.

Reasons and Benefits:

Hancock 216 is one of the worst performer circuits in the Oneonta Division. Establishing a tie with the Roscoe cricuit will help improve relaibility and restaration times.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,200
Total investment:	$1,200

Harris Lake - Diesel Generator Upgrade

Project Scope:

Install a new 2,500 kW diesel generator to supplement the existing 1,750 kW generator and fuel system.

Reasons and Benefits:

The Harris Lake Diesel Generator Unit is rated for 1,750/2,000 kW, however the peak load as measured at the Raquette Lake metering point has consistently exceeded the rating of the diesel generator in recent years with documented peaks as high as 3,230 kW.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$900
Planned 2014 investment:	$3,392
Future investment:	$3,546
Total investment:	$7,839

Capital Project Summary - NYSEG

Hickling Substation - Separation from AES Elmira Plant

Project Scope:

Remove NYSEG dependencies on AES Elmira Plant to provide reliable electric service.

Reasons and Benefits:

AES is seeking to renegotiate IA terms at its Elmira Plant. This project will allow NYSEG to operate its grid reliably without relying on AES to provide station service. AES filed for Chapter 11 Bankruptcy protection. The AES Project is Case # 11-14138.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$643
Planned 2014 investment:	$1,926
Future investment:	$3,099
Total investment:	$5,668

Hilldale - 115 kV Source, Transformer Bank Upgrade and Second 12 kV Distribution Circuit.

Project Scope:

Extend a 11 5kV source into the Hilldale Substation and replace the existing transformer with a 115-12.47 kV, 12/16/20 MVA LTC transformer with two 12 kV circuit positions.

Reasons and Benefits:

This project is needed to accommodate new load growth in the area served by the Hilldale Substation.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$17,288
Total investment:	$17,288

Capital Project Summary - NYSEG

Holland - Transformer Replacement

Project Scope:
Replace substation transformer.

Reasons and Benefits:
Substation transformer loaded to 97.5% of rating based on 2012 loading. Loss of this tranformer would affect 6 MW of load and 3,305 customers.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,004
Total investment:	$7,004

Java - Add Second Transformer and 12 kV Conversion

Project Scope:
Add a second substation transformer and two 12 kV distribution circuits. Convert distribution circuits to 12 kV operation.

Reasons and Benefits:
Substation transformer loaded to 100% of rating based on 2012 loading. Loss of this transformer would affect 5 MW of load and 1,665 customers.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$250
Future investment:	$29,871
Total investment:	$30,121

Capital Project Summary - NYSEG

Jay - 411 Voltage Conversion

Project Scope:
Convert 12.5 kV circuit to 34.5 kV.

Reasons and Benefits:
Create a 35 kV loop to serve approximately 15 MW of load and approximately 1,900 customers and Whiteface Mountain Ski Resort.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,000
Total investment:	$1,000

Jennison Substation - Separation from AES Oneonta Plant

Project Scope:
Remove NYSEG dependencies on AES Oneonta Plant to provide reliable electric service.

Reasons and Benefits:
AES is seeking to renegotiate IA terms at its Oneonta Plant. This project will allow NYSEG to operate its grid reliably without relying on AES to provide station service. AES filed for Chapter 11 Bankruptcy protection. The AES Project is Case # 11-14138.

Investment Classification:
Mandatory

Planned Capital Investment (000s)

Prior years investment:	$1,249
Planned 2014 investment:	$2,502
Future investment:	$3,002
Total investment:	$6,753

Capital Project Summary - NYSEG

Kent - Add Second 13.2 kV Circuit and Transformer Bank Upgrade

Project Scope:

Relocate and install as the second transformer bank at the Kent Substaton the 7.5/10.5 MVA LTC 46-13.2 kV bank #1 from the Pound Ridge Substation. Establish a 13.2 kV bus connection from this new bank to allow conversion of Circuit 175 to 13.2 kV operation.

Reasons and Benefits:

Converting Circuit 175 will allow load relief of Crafts 425 and Tilly Foster 439.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$29,862
Total investment:	$29,862

Keuka - New Substation

Project Scope:

Build a new Keuka Substation to current I-USA Substation Standards.

Reasons and Benefits:

The 3-1000 kVA, 1950 vintage transformers at Keuka Substation in the Geneva Division are loaded to 138% of their PLBN rating.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$12,558
Total investment:	$12,558

Capital Project Summary - NYSEG

Line 807 - Convert to 115 kV Operation

Project Scope:

Convert approximately 13 miles of 46 kV to 115 kV. Convert the existing Line 807, 46 kV line from Carmel to Katonah to 115 kV. The new 115 kV line will extend from the Carmel Substation to the Wood Street Substation to the Katonah Substation.

- New 115 kV line breaker location and two new 115 kV breakers will be added at Carmel Substation
- Two new 115 kV line breaker locations and two new 115 kV breakers will be added at Wood Street Substation
- New 115 kV line breaker location and three new 115 kV breakers will be added at Katonah Substation.

Reasons and Benefits:

Increase capacity to meet load growth in the Brewster region to provide adequate voltage levels and thermal conditions.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$5,259
Planned 2014 investment:	$2,862
Future investment:	$3,725
Total investment:	$11,846

Marcellus Substation - Transformer Replacement

Project Scope:

Replace the Marcellus Substation transformer with an existing tranformer from the Bankert Road Substation

Reasons and Benefits:

Failure of this transformer will result in the loss of 6 MW of load and service to 2,063 customers for 10 hours.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,250
Total investment:	$1,250

Capital Project Summary - NYSEG

Mechanicville - Circuit 620 (Brainard Tap - West Lebanon Switching Station)

Project Scope:

Rebuild Circuit 620 (Brainard Tap - West Lebanon Switching Station) and install static and ground wires along Circuit 620.

Reasons and Benefits:

For the loss of the 34.5 kV Snyders Lake-West Sand Lake line, local load must be fed through the aging Circuit 620 to avoid sub-marginal voltages. The exposure is 900 hrs/yr, with 4,076 customers and 13.8 MW of load affected.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$6,863
Total investment:	$6,863

Mechanicville Reinforcement Project - Construct New Luther Forest Substation

Project Scope:

Construct a new 115-34.5 kV substation with two 34.5 kV distribution circuits and two future 34.5 kV distribution circuit positions.

Reasons and Benefits:

Resolve loading issues with the existing Mulberry Substation by transferring load to a new 115-34. 5 kV source at Luther Forest. Supply future needs of the Luther Forest Technology Campus.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$11,490
Planned 2014 investment:	$1,415
Future investment:	$1,079
Total investment:	$13,984

Capital Project Summary - NYSEG

Meyer Substation New Transformer - 115/34.5 kV

Project Scope:

Add a second 115/34.5 kV, 30/40/56 MVA LTC transformer at the Meyer Substation. Work will include all associated equipment required with this transformer addition.

Reasons and Benefits:

Meyer Substation serves approximately 60 MW of load and transmission flow associated with 6,740 customers. During high load periods and with the loss of the 230/115/34.5 kV Meyer Transformer, loss of the existing 115/34.5 kV transformer at Meyer substation results in overloads above the LTE on Line 542 affecting 5 MW of load and 1,200 customers.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$1,624
Planned 2014 investment:	$1,953
Future investment:	$1,898
Total investment:	$5,474

Milford Circuit 258 - Install Substation

Project Scope:

Construct a new 12.5 kV substation in the Laurens area near an existing 46 kV Otsego Co-op transmission line (fed by NYSEG). The majority of the Milford Circuit 258 is in the vicinity of Laurens. The feed to this area is very rural and subjected to long outages.

Reasons and Benefits:

The existing Milford Circuit 258 feeds into the Village of Laurens, which is 13.5 miles from the substation. The majority of this line is inaccessible and susceptible to long outages.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$2,500
Total investment:	$2,500

Capital Project Summary - NYSEG

Morningside Heights - Add a Second Transformer Bank and Third Circuit Position

Project Scope:

Add a second transformer bank and a third circuit position at the Morningside Heights Substation.

Reasons and Benefits:

Failure of this transformer will result in the loss of 5 MW of load and service to 1,116 customers for 10 hours.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$260
Future investment:	$1,000
Total investment:	$1,260

Morrisville - Add 46 kV Switched Capacitor Bank

Project Scope:

Install a new 46 kV, 3.6 MVAR switched capacitor bank at the Morrisville Substation.

Reasons and Benefits:

During the 2012 winter period, loss of the 806/812 46 kV double circuit line results in low voltage at the Morrisville Substation. Up to 8 MW and 700 customers could be exposed to these potential problems for up to 250 hours in the 2012 summer.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,047
Total investment:	$1,047

Capital Project Summary - NYSEG

New Johnson City 12 kV Substation

Project Scope:

Construct a new 12 kV substation in the Village of Johnson City.

Reasons and Benefits:

Needed to accommodate three newly planned medical centers near Wilson Hospital and meet contractal obligations for emergency back-up capacity for Wilson Hospital.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$5,355
Total investment:	$5,355

New South Niagara Substation

Project Scope:

Construct a new 12 kV substation to replace the existing South Niagara Substation in the Lockport Division.

Reasons and Benefits:

The existing South Niagara Substation in the Lockport Division consists of two distribution class padmounted transformers which are heavily loaded and prone to failure. This project proposes to establish a new substation which will bring the existing station into acceptable loading levels.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,519
Total investment:	$7,519

Capital Project Summary - NYSEG

New Waterloo Substation

Project Scope:

On a company owned site south of the existing substation, install an existing 10/12/14 MVA 34.5-12.5 kV transformer with two distribution circuits as the new Waterloo Substation. Extend 34.5 kV transmission from the old substation to the new one about 1/4 mile.

Reasons and Benefits:

Load logger data during a recent heat wave showed the bank to be loaded to over 92% of its PLBN rating. With continuing 2% load growth, the 500 KVA of remaining capacity will be completely used by summer 2013.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,291
Total investment:	$7,291

North Broadway - Add Second 115/34.5 kV Transformer

Project Scope:

Install a second 115/34.5 kV, 30/40/50/56 MVA, non-LTC transformer at the North Broadway Substation and operate it in parallel with the existing 115/34.5 kV, 30/40/50/56 MVA non-LTC transformer.

Reasons and Benefits:

During the 2013 summer period, loss of one of the North Broadway 115/34.5 kV transformers resulted in an overload of the Erie Street #2 bank. Up to 10 MW and 2,500 customers could be exposed to these potential problems for up to 75 hours based on the 2012 forecast.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$8,517
Total investment:	$8,517

Capital Project Summary - NYSEG

Oakdale Substation Reconfiguration Project

Project Scope:

Install four new 345 kV breakers at the Oakdale Substation and reconfigure the 345 kV portion of the substation from a ring bus to a breaker and a half. The reconfiguration of the 345 kV element connections will ensure that no two critical elements can be lost.

Reasons and Benefits:

Under current system conditions and load levels, the permanent shutdown or retirement of the entire AES owned Cayuga Generating Plant results in a voltage collapse situation in NYSEG's Binghamton Division. The Oakdale Reconfiguration project is required for a current violation of N-1-1. The NYISO, who is responsible for the studies of the 345 kV bulk power system, identified the violation as part of their Comprehensive Reliability Planning Report. The problem really stems from the AES generation retirements at their Westover plant in Binghamton, Greenidge, and the possible closure at Cayuga.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$300
Future investment:	$8,005
Total investment:	$8,305

Old Falls Substation - Install Second LTC Transformer

Project Scope:

Install a second 12/16/20 MVA LTC transformer at the Old Falls Substation. Install three 12.5 kV distribution feeders.

Reasons and Benefits:

The Old Falls Substation transformer tripped in Summer 2011 due to an overload. The summer peak was recorded as high as 24 MVA but the existing substation bank only has a summer PLBN rating of 22 MVA. Loss of this transformer could affect 26 MW of load and 3,600 customers.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$249
Planned 2014 investment:	$309
Future investment:	$10,737
Total investment:	$11,295

Capital Project Summary - NYSEG

Orchard Park - Add a Second Transformer Bank

Project Scope:

Add a second 34.5-4.8x12.5kV, 12/16/20 MVA LTC transformer bank at the Orchard Park Substation.

Reasons and Benefits:

The loading on the existing 7.5 MVA transformer bank at Orchard Park Substation has reached 95% of its PLBN rating during the summer peak of 2011. Loss of this transformer could affect 9 MW of load and 6,301 customers.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$8,746
Total investment:	$8,746

Peach Lake - Add 46 kV Switched Capacitor Bank

Project Scope:

Install a new 46 kV, 5.4 MVAR switched capacitor bank at the Peach Lake Substation.

Reasons and Benefits:

During the 2012 summer peak period, loss of the 812/813 double circuit 46 kV line results in low voltage at the Peach Lake Substation. Up to 5 MW and 1,350 customers could be exposed to these potential problems for up to 40 hours in the 2012 summer.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,109
Total investment:	$1,109

Capital Project Summary - NYSEG

Perry Center Area Install New 34.5 kV Substation

Project Scope:

Build a three breaker 34.5 kV switching station and bring in all three sections of the 591 transmission line. Close the normally open 59186 switch.

Reasons and Benefits:

During high load periods, loss of Line 591 in the area results in low voltages and overloads above the STE on the Line 590. This would result in load shedding of 5 MW and the period of exposure in about 262 hours per year. This would affect 1,400 customers.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$1,442
Planned 2014 investment:	$2,187
Future investment:	$2,174
Total investment:	$5,803

Port Byron - Transformer Replacement

Project Scope:

Replace substation transformer at the Port Byron Substation

Reasons and Benefits:

The substation transformer is loaded to 96.2% of rating based on 2012 loading. Loss of this transformer could affect 5 MW of load and approximately 1,630 customers.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$3,784
Total investment:	$3,784

Capital Project Summary - NYSEG

Roll Road - Add 34.5 kV Switched Capacitor Bank

Project Scope:

Install a new 34.5 kV, 5.4 MVAR switched capacitor bank at the Roll Road Substation.

Reasons and Benefits:

During the 2016 summer peak load period, an outage of the Roll Road 115/34.5 kV transformer would result in submarginal voltages at the Roll Road Substation (89.0% of nominal 34.5 kV).

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$2,278
Total investment:	$2,278

Sackett Lake Substation - Replace Transformer and Convert Distribution

Project Scope:

Replace the substation transformer with a non-LTC 7.5/10MVA unit with dual 4.8/12.5 kV windings. Install an additional 438A sub-regulator unit to Circuit 121 and an additional 668A sub-regulator unit to Circuit 120. Convert Circuits 020 and 121 from 4.8 kV to 12.5 kV.

Reasons and Benefits:

The Birchwood Estate served from Circuit 121 is adding 70 units over three phases. Circuit 121 will not be able to support the load created by the third phase of development at 4.8 kV. Circuit 121 will need to be converted to 12.5 kV.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$209
Planned 2014 investment:	$500
Future investment:	$1,452
Total investment:	$2,161

Capital Project Summary - NYSEG

Sciota-Flatrock 517 - Improve Reliabilty and Switching of Five Circuits

Project Scope:

Replace the existing substation relays, install 33 Scada-Mate Switches, 54 new/or replacement reclosures (1 phase and 3 phase),seven padmounted step transformers, 38 line regulators (1 phase and 3 phase) and recondustor 4.4 miles of conductor.

Reasons and Benefits:

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)	
Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$3,285
Total investment:	$3,285

Capital Project Summary - NYSEG

Silver Creek Substation - New Transformer

Project Scope:

Install the former Croton Falls MTA #4 115 – 12.5 kV transformer to establish a new 12.5 kV source. Add fans to the transformer to upgrade the rating to 10/12.5 (14) MVA. The transformer will be protected by a circuit switcher-type device. A new prefabricated control house will be required to house one relay switchboard panel for transformer protection. Construct an underground cable to connect the transformer to the existing Circuit 179 line position. Feed the existing voltage regulators and circuit breaker at 12.5 kV to establish the new 12.5 kV circuit. Install 2.0 miles of system neutral and various step transformers and convert the Circuit 179 to 12.5 kV operation.

Reasons and Benefits:

Circuit 179 presently operates at 4.8 kV and had a summer 2006 peak of 4157 KVA . The largest customer is Lake Shore Hospital which had a peak billed demand of 786 KW and they have 400 KW of co-generation. Due to the low available fault current, the maximum fuse on the hospital's 1000 KVA padmounted transformer is a 100 amp which limits them to 830 KVA of load. The substation and line voltage regulators are going to full boost to maintain the voltage levels and are both fully loaded. The circuit protection and coordination has been maximized with an intermediate line recloser and can not be increased. It is proposed to convert this circuit to 12.5 kV operation to address the loading concerns on the 4.8 kV substation transformer bank and the loading and voltage concerns on Circuit 179. A 115-12.5 kV 10/fut 12/fut 14 MVA spare transformer is available in Brewster which can be installed as a second bank to provide the 12.5 kV source.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$1,511
Planned 2014 investment:	$2,317
Future investment:	$4,161
Total investment:	$7,989

Capital Project Summary - NYSEG

Sloan - Add a Second Transformer Bank and Fourth Circuit Position

Project Scope:

Add a second 34.5-4.8x12.47kV, 12/16/20 MVA LTC transformer and a fourth circuit position at the Sloan Substation.

Reasons and Benefits:

The loading on the existing 7.5 MVA transformer bank at the Sloan Substation has reached 102% of its PLBN rating during the summer peak of 2011. Loss of this transformer could affect 9 MW of load and 4,394 customers.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$10,668
Total investment:	$10,668

South Perry - New 115 kV Transformer

Project Scope:

Add a second 115/34.5 kV, 30/40/56 MVA LTC transformer at the South Perry Substation. Work will include all associated equipment required with this transformer addition.

Reasons and Benefits:

The substation serves approximately 34 MW of load which is 8,144 customers which include Castile. During peak load periods, the existing 115/34.5 kV transformer will overload under normal system conditions or the entire area load will be lost.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$2,441
Planned 2014 investment:	$1,387
Future investment:	$2,534
Total investment:	$6,362

Capital Project Summary - NYSEG

South Perry - New 230 kV Transformer

Project Scope:

Add a new 230/115 kV LTC transformer at the South Perry Substation. Adding a 230 kV transformer may require the addition of a new 230 kV switchyard.

Reasons and Benefits:

The South Perry and Geneseee Region Station 158 serve approximately 90 MW of load to over 17,000 customers. During highload periods, loss of one or both 115 kV lines that supplies that area will cause the other line to overload beyond its LTE rating.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$3,379
Planned 2014 investment:	$3,739
Future investment:	$4,691
Total investment:	$11,809

South Perry - Replace 115/34.5 kV Transformer

Project Scope:

Replace the existing 115/34.5 kV, 20/26/33 MVA, non-LTC transformer at the South Perry Substation with a new 115/34.5 kV, 30/40/50/56 MVA, LTC transformer.

Reasons and Benefits:

During the 2012 summer period, the existing South Perry 115/34.5 kV, 20/26/33 MVA, transformer will exceed its summer rating under normal system conditions. Up to 2 MW and 1,000 customers could be exposed to this problem for up to 225 hours based on 2012 loading conditions.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$2,108
Planned 2014 investment:	$1,434
Future investment:	$0
Total investment:	$3,542

Capital Project Summary - NYSEG

Stephentown Substation - New Transformer

Project Scope:

Install a new 115/34.5 kV, 30/40/56 MVA LTC transformer to operate in parallel with the existing transformer. Work will include all associated equipment required with this transformer addition.

Reasons and Benefits:

Submarginal voltages appear in areas served from the Berlin, Stephentown, West Lebanon, Canaan and Saw+Di Substations upon loss of the Stephentown 115/34.5 kV transformer.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$2,785
Planned 2014 investment:	$1,559
Future investment:	$1,436
Total investment:	$5,780

Stillwater Substation - Upgrade Transformer to 14 MVA

Project Scope:

Upgrade Stillwater substation with a new 34.5-4.8X12.5 kV, 10/12.5(14) MVA, LTC transformer. Convert approximately two miles of distribution to 12.5 kV from the substation to Colonial Dr.

Reasons and Benefits:

The scope is to expand the existing substation to install a new structure to accommodate 34.5 kV motor-operated line load break switches, a 34.5 kV bank breaker, a new 10/12.5(14) MVA, 34.5-4.8x12.5 kV LTC transformer and distribution conversion to 12.5 kV.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$125
Planned 2014 investment:	$260
Future investment:	$3,009
Total investment:	$3,394

Capital Project Summary - NYSEG

Sylvan Lake - Add Second Transformer Bank

Project Scope:

Purchase and install a 115-13.2 kV 12/16/20 MVA transformer and a new 13.2 kV breaker for the fourth distribution circuit with all necessary substaion modifications to accommodate the second bank and fourth circuit. Build about one mile of new distribution.

Reasons and Benefits:

Sylvan Lake is an isolated source with with only one circuit tie to an adjoining substation. The existing 12/16/20 MVA transformer supplies about 20 MVA of load and over 4,900 customers on the three distribution circuits.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$13,870
Total investment:	$13,870

Tom Miller Road - New Substation

Project Scope:

Construct a new 46-12.5 kV distribution substation on company owned property along Tom Miller Road with a new 12/16/20 MVA transformer and three distribution circuit breakers.

Reasons and Benefits:

Hammond Lane is a single bank 46-12.5 kV 12/16/20 MVA station with three distribution feeders. It supplies the commercial area of the City of Plattsburgh. The summer peak load to date was 22,021 KVA or 98% of the banks PLBN rating.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$1,816
Planned 2014 investment:	$2,058
Future investment:	$2,313
Total investment:	$6,187

Capital Project Summary - NYSEG

Walden - Circuit 359 Create Ties

Project Scope:

Reconductor 10 miles of existing circuit with larger conductor, convert two miles of delta construction to wye construction, install a new step transformer, several line reclosures and 21 Scada-Mate Switches

Reasons and Benefits:

There currently are no other means to tie the Walden Circuits with any other source. This work would allow at least XX circuit ties between the two existing Walden Circuits.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,324
Total investment:	$1,324

Watercure Road - Second 345 kV Transformer

Project Scope:

Install a second 400 MVA 360/240/36.2 kV, LTC trasformer at the Watcure Substation. Install three 345 kV circuit breakers and four 230 kV circuit breakers to connect the new transformer in parallel with the existing bank #1.

Reasons and Benefits:

The project will mitigate the emergency conditions encountered after the failure of bank #1.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$4,443
Planned 2014 investment:	$3,186
Future investment:	$5,361
Total investment:	$12,990

Capital Project Summary - NYSEG

West Davenport Substation - Replace Sub-Transformer

Project Scope:

Replace the existing three 1667 KVA sub transformers with a non-LTC 7.5/10.5MVA transf with dual 4.8/12.5 kV winding. Replace the existing recloser on Circuit 22 with a breaker. Upgrade the existing two 167 KVA regulators on Circuits 12 and 22 with three 250 KVA (3-328A) units.

Reasons and Benefits:

The Circuit 12 has reached its loading limit and is a challenge to maintain the voltage at 4.8 kV. There are already three sets of line voltage regulators in series maintaining the voltage over 8.6 miles of line. We have also been unable to serve new block loads.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$6,503
Total investment:	$6,503

West Geneva - Bank #2 Replacement

Project Scope:

The primary goal of this project is to replace the existing 34.5 kV-4.8 kV, 3-3300 kVA substation transformer bank #2 with a new 34.5 kV-12.5 kV, 12/16/20 MVA substation transformer.

Reasons and Benefits:

The existing 34.5 kV-4.8 kV, 3-3300 kVA, #2 substation bank at the West Geneva Substation was loaded to 80% of its top nameplate rating during Summer 2012. West Geneva Bank #2 also serves as a contractually-obligated backup source to Geneva General Hospital.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$6,221
Total investment:	$6,221

Capital Project Summary - NYSEG

Westover Substation - New 115kV Transformer and Binghamton Division Capacitors

Project Scope:

•New Westover (Goudey) 115/34.5 kV, 30/40/50 MVA, LTC transformer bank.
•Install 102 MVAR, two-step, switched capacitor bank, at the Westover (Goudey) Substation 115 kV bus.
•Install 12.6 MVAR switched capacitor bank at the Robble Ave Substation 115 kV bus.
•Install 13.2 MVAR switched capacitor bank at the Noyes Island Substation 34.5 kV bus.
•Install 7.2 MVAR switched capacitor bank at the Oakdale Substation 34.5 kV bus.
•Install 2.4 MVAR switched capacitor bank at the Whitney Ave Substation 34.5 kV bus.
•Install 2.4 MVAR switched capacitor bank along the 34.5 kV transmission Line 431 in the vicinity of the Conklin Substation.
•Install 1.2 MVAR switched capacitor bank along the 34.5 kV transmission Line 453 in the vicinity of the Bevier Street Substation.

Reasons and Benefits:

Submarginal voltages appear in the areas served from the Morgan, Langdon, Fuller Hollow, Jones and Conklin Substations and the LTE rating is exceeded at the Westover #7 115/13.8 kV and 34.5/13.8 kV transformers upon the simultaneous loss of the Oakdale transformers.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$2,132
Planned 2014 investment:	$2,341
Future investment:	$2,571
Total investment:	$7,045

Capital Project Summary - NYSEG

Willet Substation - New Transformer

Project Scope:

Install a second 115/34.5 kV, 20/26/33 MVA LTC transformer to operate in parell with the existing transformer at the substation. Work will include all associated equipment required with this transformer addition.

Reasons and Benefits:

The installation of the second transformer will increase the system reliability by allowing at least one transformer to remain in-service when one of the transformers are out-of-service.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$2,245
Planned 2014 investment:	$3,102
Future investment:	$9,011
Total investment:	$14,357

Windham Substation - 115 kV Capacitor Bank Addition

Project Scope:

Install a new 115 kV, 6 MVAR switched capacitor bank at the Windham Substation

Reasons and Benefits:

The installation of a 115 kV, 5.4 MVAR switched capacitor bank at Windham Substation will allow for adequate voltages and thermal conditions to be maintained in the area for an outage of the Fraser 345/115 kV transformer.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$403
Planned 2014 investment:	$1,262
Future investment:	$1,074
Total investment:	$2,739

Capital Project Summary - NYSEG

Wood Street - Add Third 345/115 kV Transformer

Project Scope:

Install a third 345/115 kV, 150/200/250/280 MVA, LTC transformer at Wood Street Substation and operate it in parallel with the two existing 345/115 kV, 150/200/250/280 MVA LTC transformers.

Reasons and Benefits:

During the 2012 summer period, an outage of one Wood Street 345/115 kV transformer with the other one already out results in low voltage in Brewster. Up to 200 MW and 35,000 customers could be exposed to these potential problems for up to 5,100 hours in 2012.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$107
Planned 2014 investment:	$747
Future investment:	$15,716
Total investment:	$16,570

Add 35 kV Circuit - Offload Circuit 701

Project Scope:

Build a new 34.5kV parallel circuit to offload Circuit 701.

Reasons and Benefits:

L/O 34.5kV Ckt 701 will cause thermal overload on the 34.5kV Ckts 739, 764, and 765 upon transfer of load. The exposure is 2860 hrs/yr, affecting 3105 customers and 29.5 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$20,353
Total investment:	$20,353

Capital Project Summary - RG&E

Add 35 kV Circuit - Offload Circuit 761

Project Scope:

Build a new 34.5 kV parallel circuit to offload Circuit 761.

Reasons and Benefits:

With the loss of 34.5kV Circuit 761 will cause thermal overload on the 34.5 kV Circuit 775 upon transfer of load. The exposure is 130 hrs/yr, affecting 1,617 customers and 16.3 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$6,694
Total investment:	$6,694

Add 35 kV Circuit - Offload Circuit 775

Project Scope:

Build a new 34.5 kV parallel circuit to offload Circuit 775.

Reasons and Benefits:

With the loss of 34.5 kV Circuit 775 will cause thermal overload on 34.5 kV Circuit 761 upon load transfer. The exposure is 130 hrs/yr, affecting 2,847 customers and 28.6 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$22,783
Total investment:	$22,783

Add 35 kV Circuit - Offload Circuit 805

Project Scope:

Build a new 34.5 kV line, Circuit 805, between Substation 136 and Substation 424 in the town of Webster, NY.

Reasons and Benefits:

With the loss of 34.5 kV Circuit 805 will cause thermal overload on the 34.5 kV Circuit 775 upon transfer of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$2,024
Total investment:	$2,024

Add 35 kV Circuit (S42 - S420 - S62 - S85) - Offload Circuit 780

Project Scope:

Build a new 34.5 kV circuit to offload Circuit 780. The new circuit will parallel Circuit 780 (Station 42 - Station 420 - Station 62 - Station 85) and will have the same thermal capacity.

Reasons and Benefits:

Presently, the contingency loss of the 34.5 kV Circuit 780 will cause thermal overload on the 34.5 kV Circuit 759 upon transfer of load to this circuit. Exposure is 480 hrs/yr, affecting 28.1 MW load and 2,631 customers.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$17,236
Total investment:	$17,236

Capital Project Summary - RG&E

Add 35kV Circuit - Offload Circuit 739

Project Scope:

Build a new 34.5kV parallel circuit to offload Circuit 739.

Reasons and Benefits:

With the loss of 34.5 kV Circuit 739 will cause thermal overload on the 34.5 kV Cicuit 740 upon transfer of load. The exposure is 2,860 hrs/yr, affecting 1371 customers and 12.2 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$6
Planned 2014 investment:	$0
Future investment:	$3,736
Total investment:	$3,742

Add 35kV Circuit - Offload Circuit 765

Project Scope:

Build a new 34.5 kV parallel circuit to offload Circuit 765.

Reasons and Benefits:

Under system normal conditions and peak load, the 34.5 kV Circuit 765 will experience thermal overload. The exposure is 50 hrs/yr, affecting 5,030 customers and 21.9 MW of load.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$16,461
Total investment:	$16,461

Capital Project Summary - RG&E

Add 35kV Circuit - Offload Circuit 778

Project Scope:

Build a new 34.5 kV parallel circuit to offload Circuit 778.

Reasons and Benefits:

For the loss of the 34.5 kV Circuit 778 will cause thermal overload on 34.5 kV Circuits 726, 745, and 772 upon load transfer. The exposure is 170 hrs/yr, affecting 12,451 customers and 32 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$31,364
Total investment:	$31,364

Line 735 - Upgrade 34.5 kV Conductor

Project Scope:

Upgrade Line 735 to 60 MVA LTE rating by installing additional conductor.

Reasons and Benefits:

For the loss of 34.5 kV Circuit 726 (S42 - S43), the 34.5 kV Circuit 735 (S7 - S81) becomes thermally overloaded. The exposure is 50 hrs/yr potentially affecting 14,000 customers and 55 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$9,909
Total investment:	$9,909

Capital Project Summary - RG&E

Rochester Area Reliability Project

Project Scope:

The project consists of the following components:
- New BPS (bulk power system) Station 255, located approximately 3.8 miles west of the RG&E Station 80, 345/115 kV 800 MVA, two transformers of 400 MVA.
- Two NYPA 345 kV cross-state transmission lines, SR1-39 (Somerset - Rochester) and NR-2 (Niagara - Rochester), will be brought in and out of the new station.
- A breaker-and-a-half setup for the 345 kV bus
- A 115 kV breaker-and-a-half bus
- New Line 940 (approximately 10 miles in length) will tie into the western part of the RG&E 115 kV system at Station 418.
- New Line 941 (approximately 14.3 miles in length, 7.9 miles overhead and 6.4 miles underground) will tie into the RG&E 115 kV system at Station 23.

Reasons and Benefits:

For the loss of Ginna and one 345/115 kV transformer, the remaining transformer capacity will be insufficient due to load growth. Station 255 will provide needed transformer capacity. Two new 115 kV sources will help with local voltage and flow problems.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$25,838
Planned 2014 investment:	$25,735
Future investment:	$195,703
Total investment:	$247,276

Sectionalize and Reconductor 115 kV Circuit 917 (S7 - S418)

Project Scope:

Sectionalize Circuit 917. Use automatic motor operators at Station 93, Station 69 and Station 113. Use 115 kV circuit breakers at Station 70.

Reasons and Benefits:

Sectionalization of Circuit 917 will allow automatic isolation of a persistent fault on any line section, and quick restoration of electric service to 34,000 customers and 115 MW of load. Updating will prevent thermal overload on remaining sections.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$3,216
Planned 2014 investment:	$1,015
Future investment:	$1,000
Total investment:	$5,231

Station 117 - Replace #1 Transformer Bank and Convert Three Circuits to 12 kV

Project Scope:

Replace transformer bank #1 at Station 117 with a new 34.5-4.16x12.5 kV, 13.4/17.9/22.4 MVA transformer Bank and convert the three existing 4.16 kV distribution circuits to 12.5 kV.

Reasons and Benefits:

The loading on the existing 5.25 MVA transformer banks #1 at Station 117 has reached 92% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$32,722
Total investment:	$32,722

Station 121 - Add Second 115/34.5 kV Transformer

Project Scope:

Install a second 115/34.5 kV, 30/40/50/56 MVA, LTC transformer at Station 121 and operate it in parallel with the existing 115/34.5 kV, 30/40/50/56 MVA, LTC transformer.

Reasons and Benefits:

During the 2015 summer period, loss of the Station 121 115/34.5 kV transformer would result in low voltages in the area and cause the bank #1 at Station 127 to exceed it summer LTE rating. Up to 5 MW and 1200 customers could be at risk for 40 hrs in 2015

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$8,388
Total investment:	$8,388

Station 149 - Transformer and Facilities Upgrade and Secondary Source Addition

Project Scope:

Replace the existing station transformer with a new transformer. Add second 10 MVA, LTC type transformer. Upgrade existing distribution circuits from 4 kV to 12 kV. Reconductor primary feeder for ratings increase.

Reasons and Benefits:

Upgrade will unburden existing overloaded station transformer, accommodate anticipate area load growth, enhance sister station circuit ties with 12 kV upgrade and facilitate better secondary source contingency.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$52,264
Total investment:	$52,264

Station 156 - Transformer Bank Upgrade and 12 kV Conversion

Project Scope:
Replace substation transformer.

Reasons and Benefits:
Substation transformer loaded to 93.5% of rating based on 2012 loading.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$9,748
Total investment:	$9,748

Station 158 - Replace Two Existing 115/34.5 kV Transformers with a 50 MVA LTCs

Project Scope:
Replace the two 115/34.5 kV transformers at Station 158 with two new 115/34.5 kV, 30/40/50 MVA, LTC transformers.

Reasons and Benefits:
During the 2012 summer period, loss of one of the 115/34.5 kV transformers at Station 158 would cause the remaining bank at Station 158 to exceed its summer LTE rating. Up to 10 MW and 5,000 customers could be at risk for 40 hrs based on 2012 loading.

Investment Classification:
Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$12,150
Total investment:	$12,150

Capital Project Summary - RG&E

Station 168 Service Area Reinforcement

Project Scope:

Sectionalize National Grid 115 kV trunks #2 and #4 at Station 168 with 115 kV circuit breakers. Install fixed and switched voltage controlled capacitors along 34.5 kV circuits presently served from Station 168.

Reasons and Benefits:

In the event of a contingency under summer peak or winter peak load conditions, the remaining 115/34.5 kV transformer at Station 168 will be loaded above its thermal capacities.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$3,527
Planned 2014 investment:	$9
Future investment:	$10,493
Total investment:	$14,030

Station 192 - Transformer and Facilities Upgrade

Project Scope:

Replace the existing 1500 KVA station transformer with new 5/7 MVA transformer and upgrade station equipment to facilitate new installation. Included in the upgraded equipment are:

1) replace existing secondary switch,
2) relocate exsiting regulator and
3) add new regulator to individual station circuits.

Reasons and Benefits:

Existing station transformer is overloaded per the 2012 summer survey. The project will satisfy existing demand requirements.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$5,105
Total investment:	$5,105

Station 204 - Add 115-35kV 75 MVA LTC Transformer

Project Scope:
Add a third 115/34.5 kV transformer that is rated for 75 MVA with LTC at Station 204.

Reasons and Benefits:
The loss of one of the two Station 204 115/34.5 kV transformers, from the loss of feeder lines or transformer outage will cause the remaining Station 204 115/34.5 kV transformer to be thermally overloaded. The exposure is 30 hrs/yr, affecting 2,100 customers and 5 MW of load.

Investment Classification:
Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$27,898
Total investment:	$27,898

Station 210 - Transformer Replacement and 4 kV Circuit Conversion to 12 kV

Project Scope:
Replace the existing transformer with a new 34/12 kV, 22.4 MVA LTC type. Update associated equipment. Reconfigure existing four 4 kV circuits into three 12 kV circuits.

Reasons and Benefits:
The 34/4 kV transformer was installed in 1966. This 5.25 MVA unit supports four distribution circuits. The associated equipment is obsolete. The conversion to 12 kV will enhance station capacity and adjacent station 12 kV circuit tie over for contingency.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$6,161
Total investment:	$6,161

Capital Project Summary - RG&E

Station 218 to Clyde - New 34.5 kV Transmission Line

Project Scope:

Add a new eight mile, 34.5 kV 35 MVA line from the Clyde Substation to Station 218.

Reasons and Benefits:

A new 34.5 kV line (from the Clyde Station to Station 218) will relieve the existing 34.5 kV line (from the Clyde Station to Station 218) of thermal stress through parallel operation.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$4,365
Planned 2014 investment:	$4,809
Future investment:	$0
Total investment:	$9,174

Station 23 - Add Transformer and 11 kV Switchgear

Project Scope:

Add an 11 kV GIS and two 115/11 kV transformers to Station 23. Add double bus configuration to the 115 kV GIS.

Reasons and Benefits:

Transformer replacements are due to aging infrastructure. 1T and 2T are leaking and reaching the end of their useful lives. Two of the four bus sections of 11 kV are overdutied and need to be upgraded for proper fault current ratings. Bus 3-4 today is at 96% of rated interrupt capacity.

Investment Classification:

Asset Condition Replacement

Planned Capital Investment (000s)

Prior years investment:	$6,106
Planned 2014 investment:	$5,430
Future investment:	$0
Total investment:	$11,536

Station 23 - New Downtown 115 kV Source

Project Scope:

This project consists of the following components:
- New gas-insulated 115 kV bus at Station 23
- Two new 115/34.5 kV, 65 MVA, transformers at Station 23
- Station 3 will be rebuilt as Station 137.
- Two new 2.5-mile, 34.5 kV, feeds from Station 23 to Station 137.
- Swap Lines 901 and 902 from Station 82 to Station 33
- Re-conductor the Line 901 to 400 MVA.
- Add a phase-shifting transformer on Line 920 at Station 42.
- Relocate 11 kV phase-shifting transformer from Station 23 to new Station 137.

Reasons and Benefits:

New 34.5 kV feeds will reduce load on 34.5 kV circuits from Station 33 to Station 137 and off-load Station 33 transformers. A phase shifting transformers at Station 42 will provide controllable third source to Station 42. The exposure to this contingency is 50 hrs/yr, affecting 12,440 customers and 60 MW of load.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$19,464
Planned 2014 investment:	$13,462
Future investment:	$12,489
Total investment:	$45,415

Station 246 - Add Second Transformer and Circuits

Project Scope:

Install second 34.5/4 kV, 5/7 MVA, LTC transformer (2T), new 4 kV switchgear for existing circuits and two new circuits with bus tie and low side transformer breakers. Extend 34 kV subtransmission line.

Reasons and Benefits:

Geneseo is supplied by 4 kV distribution out of Stations 167 and 246. Loading is such that the load can not be supplied without Station 246 during the summer. National Grid's franchise surrounds Geneseo, leaving no other tie circuits.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$5,332
Total investment:	$5,332

Station 262 - New 115 kV/34.5 kV Substation

Project Scope:

The project includes the following components:

- New 115/34.5 kV, 57 MVA substation, one transformer of 57 MVA in Rochester
- New 1.5-mile, 34.5 kV line from the new substation to Station 26
- New 34.5/11.5 kV, 37 MVA, transformer at Station 26

Reasons and Benefits:

Loss of circuit 741 (S33-S26) or loss of 34.5/11.5 kV transformer at Station 26 results in excessive overload of 11.5 kV Circuit 629. Exposure is 175 hours per year, potentially affecting 700 customers and 38 MW of load.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$7,650
Planned 2014 investment:	$3,440
Future investment:	$7,489
Total investment:	$18,579

Station 40 - Circuit 550 Cable Replacement

Project Scope:

Replace approximately 14, 000 feet of conductor to facilitate switching supply of Station 68 from Station 40 (transformer 5T) to Station 49

Reasons and Benefits:

The loading on the existing 10 MVA transformer bank #5 at Station 40 has reached 138% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$1,168
Planned 2014 investment:	$1,405
Future investment:	$0
Total investment:	$2,572

Station 40 - Replace #5 Transformer Bank

Project Scope:

Replace Transformer Bank #5 at Station 40 with a new 34.5-11.5 kV, 13.4/17.9/22.4 MVA transformer.

Reasons and Benefits:

The loading on the existing 10 MVA transformer bank #5 at Station 40 has reached 144% of its PLBN rating during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$1,000
Total investment:	$1,000

Station 43 - Replace #3 and #4 Transformer Banks

Project Scope:

Replace transformer banks #3 and #4 at Station 43 with two new 34.5-4.16x12.5 kV, 13.4/17.9/22.4 MVA transformer banks.

Reasons and Benefits:

The loading on the existing 6.25 MVA transformer banks #3 and #4 at Station 43 has reached 113% and 95% of their PLBN rating respectively during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$11,374
Total investment:	$11,374

Station 46 - Replace #1 and #3 Transformer Banks

Project Scope:

Replace transformer banks #1 and #3 at Station 46 with two new 34.5-4.16x12.5 kV, 13.4/17.9/22.4 MVA transformer banks.

Reasons and Benefits:

The loading on the existing 6.25 MVA transformer banks #1 and #3 at Station 46 has reached 99% and 82%, respectively, of their PLBN rating respectively during the summer peak of 2011.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$9,080
Total investment:	$9,080

Station 48 - Replace Two 115-34.5 kV Transformers

Project Scope:

Replace the two 115/34.5 kV transformers at Station 48 with 100 MVA LTC units.

Reasons and Benefits:

For the loss of one of the two 115/34.5 kV transformersat Station 48, the remaining 115/34.5 kV transformer will be thermally overloaded. The exposure is 39 hrs/yr, affecting 465 customers and 20 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$7,400
Total investment:	$7,400

Station 51 - Transformer and Facilities Upgrade and Secondary Source Addition

Project Scope:

Replace existing Station 51 transformer with a new 10 MVA 11/4 kV LTC type transformer and upgrade the existing facilities as required. Add a second 10 MVA, LTC type 34.5/4 kV transformer and extend Circuit 773 from a location at or near Station 88.

Reasons and Benefits:

Comply with SAIFI requirement to increase Station 51 capacity and develop a second source contingency. This is a reliability improvement project.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$39
Planned 2014 investment:	$0
Future investment:	$12,936
Total investment:	$12,975

Capital Project Summary - RG&E

Station 56 - Additional 12 kV Source

Project Scope:

Install a second 115/12kV transformer with provisions for three new circuit positions.

Reasons and Benefits:

This project will improve potential reliability to the entire area while allowing further room growth. This is an Appendix L project

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$8,793
Planned 2014 investment:	$7,137
Future investment:	$0
Total investment:	$15,930

Station 58 - Upgrade Transformer to 34/12 kV and Convert Circuits to 12 kV

Project Scope:

Replace the existing 34/4 kV transformer to 34/12 kV. Convert three existing circuits to 12 kV.

Reasons and Benefits:

This 4 kV substation borders an existing 12 kV service area that has experienced significant load growth and consequently is in need of additional 12 kV capacity. This project will provide the necessary circuit capacity.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$25,196
Total investment:	$25,196

Station 67 - Add 115-34.5 kV Transformer

Project Scope:

Add a second 30/40/50/56 MVA 115/34.5 kV transformer with LTC at Station 67.

Reasons and Benefits:

For the loss of 115 kV Circuit 926 under peak load, the Station 67 115/34.5 kV transformer will be thermally overloaded above STE. The exposure is 30 hrs/yr, affecting 450 customers and 5 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$10,313
Total investment:	$10,313

Station 69 - Transformer Bank #1 Replacement

Project Scope:

Replace substation transformer.

Reasons and Benefits:

Substation transformer is loaded to 93.5% of rating based on 2012 loading.

Investment Classification:

System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$11,398
Total investment:	$11,398

Capital Project Summary - RG&E

Station 70 - Transformer Bank #1 Replacement

Project Scope:
Replace substation transformer.

Reasons and Benefits:
Substation transformer is loaded to 93.5% of rating based on 2012 loading.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$8,410
Total investment:	$8,410

Station 89 - Replace #2 Transformer

Project Scope:
Replace the existing 34/4 kV transformer with a 34/12 kV unit. Convert the two existing 4 kV circuits to 12 kV.

Reasons and Benefits:
The service area of this new 12 kV source can be extended northward where the 12 kV capacity will benefit an adjacent town that is experiencing significant new residential and commercial growth with limited 4 kV supply capacity.

Investment Classification:
System Capacity

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$16,816
Total investment:	$16,816

Capital Project Summary - RG&E

Stations 67 to 418 - New 115 kV Transmission Line

Project Scope:

Add a second 115 kV line from Station 67 to Station 418 with a summer normal rating of at least 250 MVA.

Reasons and Benefits:

For the loss of Circuit 910 (S67-S418), submarginal voltages and thermal overload appear on Circuit 917 (S7-S418). The exposure is 300 hrs/yr, affecting 39,000 customers and 160 MW of load.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$2,319
Planned 2014 investment:	$5,382
Future investment:	$1,114
Total investment:	$8,815

University of Rochester - New 115-34 kV Substation 251

Project Scope:

This is a new 115-34 kV substation being built based on University of Rochester needs due to growth of the University and Medical Center.

Reasons and Benefits:

This is a new 115-34.5 kV substation to be built to serve additional University of Rochester load and offload Station 33. This project is partially reimbursable by University of Rochester.

Investment Classification:

Mandatory

Planned Capital Investment (000s)

Prior years investment:	$6,487
Planned 2014 investment:	$7,897
Future investment:	$0
Total investment:	$14,384

Capital Project Summary - RG&E

Upgrade 11 kV Circuit 641 (Station 3 - Station 34)

Project Scope:

Up-rate or build parallel 11.5 kV line to 11.5 kV Line 641 (Station 3 - Station 34) for a total summer LTE rating of at least 12 MVA.

Reasons and Benefits:

For the loss of 11.5 kV Circuit 640 (S34 - S3) using the loading conditions for 2017, the 11.5 kV Cicuit 641 (S34 - S3) becomes thermally overloaded. In 2017, the exposure is 25 hours/yr, affecting 627 customers and 10.6 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$3,492
Total investment:	$3,492

Upgrade 11 kV Circuit 676 (Station 46 - Station 403)

Project Scope:

Upgrade/Uprate 11.5 kV Line 676 (Station 46 - Station 403) to at least 10 MVA summer normal rating.

Reasons and Benefits:

For the loss of 34.5 kV Cicuit 768 (S46 - S7) based on 2019 load forecasting, the 11.5 kV Circuit 676 (Station 46 - Station 403) becomes thermally overloaded. In 2019, the exposure is 25 hours/yr, affecting 5,126 customers and 4.9 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$6,614
Total investment:	$6,614

Capital Project Summary - RG&E

Upgrade 35 kV Circuit 726 (Station 42 - Station 43)

Project Scope:

Up-rate or build a parallel 34.5 kV line to 34.5 kV Line 726 (Station 42 - Station 43) for a total summer LTE rating of at least 95 MVA.

Reasons and Benefits:

For the loss of 34.5 kV Cicuit 735 (S7-S81), the 34.5 kV Circuit 726 (S42 - S43) becomes thermally overloaded. The exposure is 95 hrs/yr, affecting 6,813 customers and 13.1 MW of load.

Investment Classification:

Reliability Risk

Planned Capital Investment (000s)

Prior years investment:	$0
Planned 2014 investment:	$0
Future investment:	$11,692
Total investment:	$11,692

Attachment 4

List of Electric Projects Included in Mandatory

NYSEG	2014	2015	2016	2017	2018
PSC/NERC/FERC	**7,645,000**	**7,945,000**	**10,741,350**	**19,586,591**	**38,051,898**
Distribution Line Inspections	5,000,000	5,000,000	5,150,000	5,304,500	5,463,635
Storm	1,545,000	1,545,000	1,591,350	1,639,091	1,688,263
Bright Line	600,000	1,400,000	4,000,000	12,643,000	30,900,000
New Gardenville 230 kV Substation Install DME	500,000	-	-	-	-
Contractual	**5,450,000**	**1,787,500**	**1,826,125**	**1,865,909**	**1,906,886**
Homer City Capital	-	500,000	500,000	500,000	500,000
Relocate Electric Facilities	1,250,000	1,287,500	1,326,125	1,365,909	1,406,886
TRANSCO	4,200,000				-
Customer Driven	**25,898,634**	**32,015,649**	**15,128,516**	**15,582,372**	**16,049,843**
AES Projects	10,015,185	16,248,910	-	-	-
Capacitors	150,000	150,000	154,500	159,135	163,909
Industrial/Commercial	1,140,000	1,140,000	1,174,200	1,209,426	1,245,709
Major Customer projects	2,480,000	2,480,000	2,554,400	2,631,032	2,709,963
Meters	2,372,880	2,372,880	2,444,066	2,517,388	2,592,910
Regulators	200,000	200,000	206,000	212,180	218,545
Residential	4,520,000	4,520,000	4,655,600	4,795,268	4,939,126
Service Connects	2,795,000	2,795,000	2,878,850	2,965,216	3,054,172
Street Lighting	1,030,000	1,030,000	1,060,900	1,092,727	1,125,509
Cayuga Marketing - 34.5kV Supply - 100% Reimb	(219,148)	-	-	-	-
Mechanicville Reinforcement Project, Construct New Luther Forest Substation	1,414,717	1,078,859	-	-	-
Safety and Environmental	**3,204,372**	**1,413,807**	**-**	**-**	**-**
Clark Street MGP Remediation - Auburn	200,000	-	-	-	-
McMaster St. MGP Remediation	100,000	100,000	-	-	-
Transit St Substation MGP Remediation	2,285,597	631,850	-	-	-
State Street 3rd 12.5 KV Circuit - Auburn	-	210,000	-	-	-
Keuka Substation - Replace Bank #2 Transformer	198,575	357,357	-	-	-
Spectrum security wrapper	420,200	114,600	-	-	-
Appendix L	**42,960,228**	**30,151,009**	**25,000,000**	**45,000,000**	**46,000,000**
Energy Control Center (Integrated EMS/DMS/OMS Project)	4,893,000	1,210,000	-	-	-
Wood Street - Add 3rd 345/115 kV Transformer	746,549	5,288,714	10,214,859	212,467	-
Coopers Corners, Add 3rd 345/115 kV Transformer	1,000,000	2,772,273	7,524,842	2,345,742	13,000,000
Richfield Springs Substation New Transformer	10,560	-	-	-	-
Coddington Add LTC Capability to 115/34.5kV Transformer	14,784	-	-	-	-
Flat Street Substation New Transformer	2,634,271	3,592,300	-	-	-
Willet Substation New Transformer	3,102,023	6,067,854	2,942,821	-	-
South Perry New 115kV Transformer	1,387,184	100,000	1,053,892	1,379,777	-
Columbia County Transmission Project (Klinekill 115kV)	1,234,012	100,000	791,606	13,721,699	13,691,050
Meyer Substation New Transformer - 115/34.5kV	1,952,794	100,000	904,231	893,433	-
Windham Substation 115 KV Capacitor Bank Addition	1,261,543	100,000	100,000	874,244	-
Eelpot New Transformer	2,937,528	100,000	100,000	3,231,379	-
Fraser Sub - Add 2nd 345/115 kV Transformer	700,000	100,000	100,000	5,215,031	11,714,871
Auburn Transmission Project (Auburn 345kV Source)	3,018,015	100,000	100,000	7,693,696	7,325,472

Perry Center Area Install New 34.5kV Substation	2,187,274	100,000	100,000	1,973,694	-
South Perry New 230kV Transformer	3,739,172	100,000	100,000	4,222,835	268,607
Westover Substation New 115kV Transformer and Binghamton Division Capacitors	2,341,120	100,000	470,895	2,000,000	-
Fraser-Gilboa 345kV 35 Line(GF5) Relay & Comm. Replacement	374,121	100,000	396,854	-	-
Meyer - Add 115kV Capacitor Bank	100,000	-	-	-	-
Stephentown Substation New Transformer	1,558,760	100,000	100,000	1,236,004	-
Tom Miller Rd New Substation	2,058,137	2,312,521	-	-	-
Harris Lake - Diesel Generator Upgrade	3,392,296	3,546,232	-	-	-
Silver Creek Substation New Transformer	2,317,085	4,161,115	-	-	-
Grand Total	**85,158,234**	**73,312,965**	**52,695,991**	**82,034,871**	**102,008,627**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
PSC/NERC/FERC	**7,490,000**	**6,730,000**	**7,480,000**	**17,080,871**	**17,293,297**
Bright Line	1,010,000	250,000	1,000,000	10,000,000	10,000,000
Distribution Line	4,680,000	4,680,000	4,680,000	5,113,962	5,267,381
Distribution Line Inspections	1,500,000	1,500,000	1,500,000	1,639,091	1,688,263
Storm	300,000	300,000	300,000	327,818	337,653
Appendix L	**71,219,746**	**94,473,074**	**122,870,893**	**-**	**-**
Energy Control Center (Integrated EMS/DMS/OMS Project)	1,693,000	549,000			
RARP	25,735,081	73,000,000	122,702,723		-
Station 56 Additional 12kV Source	7,136,671	-	-	-	-
Station 124 New SVC	100,000	-	-	-	-
Station 124 New Phase Shifter Transformer	100,000	-	-	-	-
Station 173 34.5 kV Switched Capacitor Bank Addition	316,040	-	-	-	-
Station 69 New 115kV Capacitor (formerly Station 71)	311,038	-	-	-	-
Station 178 - 34kV Cap banks	166,828	-	-	-	-
Station 218 to Clyde New 34.5kV Transmission Line	4,808,864	-	-	-	-
Stations 67 to 418 New 115kV Transmission Line	5,382,141	1,113,945	-	-	-
U of R New 115-34kV Substation 251-($7,638k reimbursable by U of R)	7,896,780	-	-	-	-
Station 262- New 115kV/34.5kV Substation	3,440,000	7,488,819	-	-	-
Station 23 - New Downtown 115kV Source	13,461,838	12,321,310	168,170	-	-
Station 180 - 34kV cap Bank	247,105	-	-	-	-
Stations 180 & 128, Add 115 kV Capacitors	424,360	-	-	-	-
Customer Driven	**6,527,000**	**6,527,000**	**6,527,000**	**8,243,532**	**8,490,838**
Capacitors	25,000	25,000	25,000	27,318	28,138
Industrial/Commercial	1,130,000	1,130,000	1,130,000	1,234,782	1,271,825
Major Customer projects	800,000	800,000	800,000	1,985,485	2,045,050
Meters	1,177,000	1,177,000	1,177,000	1,286,140	1,324,724
Regulators	150,000	150,000	150,000	163,909	168,826
Residential	1,745,000	1,745,000	1,745,000	1,906,809	1,964,013
Service Connects	1,000,000	1,000,000	1,000,000	1,092,727	1,125,509
Street Lighting	500,000	500,000	500,000	546,364	562,754
Contractual	**8,568,000**	**8,568,000**	**8,568,000**	**9,362,485**	**9,643,359**
Major Relocation Projects	8,038,000	8,038,000	8,038,000	8,783,340	9,046,840
Relocate Electric Facilities	530,000	530,000	530,000	579,145	596,520

RG&E	2014	2015	2016	2017	2018
Safety and Environmental	**1,018,176**	**35,400**	**-**	**-**	**-**
Spectrum security wrapper	129,800	35,400	-	-	-
Oil Containment Compliance with EPA Rgulations (SPCC)	127,877	-	-	-	-
Station 33 - Spare Transformer	760,499	-	-	-	-
Grand Total	**94,822,922**	**116,333,474**	**145,445,893**	**34,686,888**	**35,427,495**
TOTAL	**179,981,156**	**189,646,439**	**198,141,884**	**116,721,760**	**137,436,122**

Attachment 5

System Planning Projects

Company	Title	Investment Clasification	2014	2015	2016	2017	2018
NYSEG	Cayuga Marketing - 34.5kV Supply - 100% Reimb	Mandatory	(219,148)	-	-	-	-
NYSEG	Mechanicville Reinforcement Project, Construct New Luther Forest Substation	Mandatory	1,414,717	1,078,859	-	-	-
NYSEG	Wood Street - Add 3rd 345/115 kV Transformer	Mandatory	746,549	5,288,714	10,214,859	212,467	-
NYSEG	Coopers Corners, Add 3rd 345/115 kV Transformer	Mandatory	1,000,000	2,772,273	7,524,842	2,345,742	13,000,000
NYSEG	Richfield Springs Substation New Transformer	Mandatory	10,560	-	-	-	-
NYSEG	Coddington Add LTC Capability to 115/34.5kV Transformer	Mandatory	14,784	-	-	-	-
NYSEG	Flat Street Substation New Transformer	Mandatory	2,634,271	3,592,300	-	-	-
NYSEG	Willet Substation New Transformer	Mandatory	3,102,023	6,067,854	2,942,821	-	-
NYSEG	South Perry New 115kV Transformer	Mandatory	1,387,184	100,000	1,053,892	1,379,777	-
NYSEG	Columbia County Transmission Project (Klinekill 115kV)	Mandatory	1,234,012	100,000	791,606	13,721,699	13,691,050
NYSEG	Meyer Substation New Transformer - 115/34.5kV	Mandatory	1,952,794	100,000	904,231	893,433	-
NYSEG	Windham Substation 115 KV Capacitor Bank Addition	Mandatory	1,261,543	100,000	100,000	874,244	-
NYSEG	Eelpot New Transformer	Mandatory	2,937,528	100,000	100,000	3,231,379	-
NYSEG	Fraser Sub - Add 2nd 345/115 kV Transformer	Mandatory	700,000	100,000	100,000	5,215,031	11,714,871
NYSEG	Auburn Transmission Project (Auburn 345kV Source)	Mandatory	3,018,015	100,000	100,000	7,693,696	7,325,472
NYSEG	Perry Center Area Install New 34.5kV Substation	Mandatory	2,187,274	100,000	100,000	1,973,694	
NYSEG	South Perry New 230kV Transformer	Mandatory	3,739,172	100,000	100,000	4,222,835	268,607
NYSEG	Westover Substation New 115kV Transformer and Binghamton Division Capacitors	Mandatory	2,341,120	100,000	470,895	2,000,000	
NYSEG	Fraser-Gilboa 345kV 35 Line(GF5) Relay & Comm. Replacement	Mandatory	374,121	100,000	396,854	-	-
NYSEG	New Gardenville 230 kV Substation Install DME	Mandatory	500,000	-	-	-	-
NYSEG	Meyer - Add 115kV Capacitor Bank	Mandatory	100,000	-	-	-	-
NYSEG	Stephentown Substation New Transformer	Mandatory	1,558,760	100,000	100,000	1,236,004	
		Mandatory Total	31,995,279	20,000,000	25,000,000	45,000,000	46,000,000
NYSEG	Main St, V/Warsaw Circuit Reconductor - Warsaw Sub circuit 381 Phase #2	System Capacity	-	170,000		-	-
NYSEG	Roll Road, Add 34.5 kV Switched Capacitor Bank	System Capacity	-	-	320,387	1,926,316	31,789
NYSEG	Line 526, Rebuild Coddington-South Hill 34.5 kV Line	System Capacity	-	-	200,000	700,000	-
NYSEG	South Perry - Replace 115/34.5 kV Transformer	System Capacity	1,433,917	-	-	-	-
NYSEG	Line 807, Convert to 115kV Operation, Brewster	System Capacity	2,862,039	3,051,767	673,149	-	-
		System Capacity	4,295,956	3,221,767	1,193,536	2,626,316	31,789
NYSEG	Mechanicville, Circuit 625 & 626 (COMSTOCK - Franchise Line), Upgrade Conductor	Reliability Risk	-	486,277	-	-	-
NYSEG	Line 810, Rebuild Carmel-Adams Corners 46 kV Line	Reliability Risk	-	313,723	386,277	-	-
NYSEG	Erie Street, Add 3rd 115/34.5 kV Transformer	Reliability Risk	-	-	-	-	1,027,000
NYSEG	Gardenville, Add 3rd 230/115 kV Transformer	Reliability Risk	-	-	660,072	12,682,962	4,085,552
NYSEG	Mechanicville, Circuit 620 (BRAINARD TAP - WEST LEBANON Sw. Sta.), Install Static and Ground Wires	Reliability Risk	-		753,650	6,108,885	
NYSEG	Davis Road, Replace 115/34.5 kV Transformers #2 & #3 with new LTC's	Reliability Risk	-	-	-	10,869,255	2,894,617
NYSEG	Colliers, Replace existing 115/46 kV Non-LTC Transformers with new LTC Transformers	Reliability Risk	-			327,961	9,074,299
NYSEG	Morrisville, Add 46 kV Switched Capacitor Bank	Reliability Risk	-			256,459	760,744
NYSEG	Cobble Hill, Add 2nd 115/34.5 kV Transformer	Reliability Risk	-			98,475	2,834,095
NYSEG	Peach Lake, Add 46 kV Switched Capacitor Bank	Reliability Risk	-			271,340	805,967
NYSEG	North Broadway, Add 2nd 115/34.5 kV Transformer	Reliability Risk	-	-		449,615	1,279,526
NYSEG	Carmel, Add 2nd 115/46 kV Transformer	Reliability Risk	-	-		101,172	3,906,756
NYSEG	Auburn, Reconductor 35kV Line 525 (Centerport - State St)	Reliability Risk	-			1,600,000	-
NYSEG	Auburn, Add 35kV Line Segment (State St - Miller Tap)	Reliability Risk	-			500,000	500,000
NYSEG	Auburn, Reconductor 35kV Line 505 (Green St - Alco)	Reliability Risk	-			300,000	-
NYSEG	Dingle Ridge, Add 46 kV Switched Capacitor Bank	Reliability Risk	-			1,099,563	1,659,102
NYSEG	Auburn, Add 35kV Line Segment (Grant Avenue Tap - State St)	Reliability Risk	-			1,300,000	-
NYSEG	Cowlesville, Add 34.5 kV Switched Capacitor Bank	Reliability Risk	-	-		1,701,746	1,483,803
NYSEG	Line 911, Install 115kv switches	Reliability Risk	-			250,000	-
NYSEG	Afton Substation, Add new 34.5kV Circuit	Reliability Risk	-			217,824	1,711,266
NYSEG	2012 - New Bulk Spare Power Transformer	Reliability Risk	751,005	-	-	-	-

Company	Title	Investment Clasification	2014	2015	2016	2017	2018
NYSEG	Hancock 216 create tie with Roscoe 286	Reliability Risk	-	-		700,000	500,000
NYSEG	Milford circuit 258 - Install Substation	Reliability Risk	-	-		500,000	1,000,000
NYSEG	Sciota-Flatrock 517 Improve Reliabilty and Switching of 5 circuits on existing 35kv loop	Reliability Risk	-	-		285,000	1,000,000
NYSEG	Watercure Rd. - 2nd 345 kV Transformer	Reliability Risk	3,186,355	100,000	100,000	279,744	1,259,017
NYSEG	Oakdale Reconfiguration Project	Reliability Risk	300,000	100,000	100,000	100,000	218,254
		Reliability Risk Total	**4,237,360**	**1,000,000**	**2,000,000**	**40,000,000**	**36,000,000**
NYSEG	Robinson Road 230kV Transformer Replacement Project - Lockport	Asset Condition Replacement	575,138				
NYSEG	NYSEG TDIRP - Electric Capital Delivery	Asset Condition Replacement	37,020				
		Asset Condition Replacement Total	**612,158**	-	-	-	-
RG&E	Station 124 New SVC	mandatory	100,000	-	-	-	-
RG&E	Station 124 New Phase Shifter Transformer	mandatory	100,000	-	-	-	-
RG&E	Station 173 34.5 kV Switched Capacitor Bank Addition	mandatory	316,040	-	-	-	-
RG&E	Oil Containment Compliance with EPA Rgulations (SPCC)	Mandatory	127,877	-	-	-	-
RG&E	Station 69 New 115kV Capacitor (formerly Station 71)	Mandatory	311,038	-	-	-	-
RG&E	Station 178 - 34kV Cap banks	mandatory	166,828	-	-	-	-
RG&E	Station 33 - Spare Transformer	mandatory	760,499	-	-	-	-
RG&E	Station 218 to Clyde New 34.5kV Transmission Line	mandatory	4,808,864	-	-	-	-
RG&E	Stations 67 to 418 New 115kV Transmission Line	mandatory	5,382,141	1,113,945	-	-	-
RG&E	U of R New 115-34kV Substation 251-($7,638k reimbursable by U of R)	mandatory	7,896,780	-	-	-	-
RG&E	Station 262- New 115kV/34.5kV Substation	Mandatory	3,440,000	7,488,819	-	-	-
RG&E	Station 23 - New Downtown 115kV Source	Mandatory	13,461,838	12,321,310	168,170	-	-
RG&E	Station 180 - 34kV cap Bank	Mandatory	247,105	-	-	-	-
RG&E	Stations 180 & 128, Add 115 kV Capacitors	Mandatory	424,360	-	-	-	-
		Mandatory Total	**37,543,370**	**20,924,074**	**168,170**	**-**	**-**
RG&E	RIT 34 kV for New Substation - 70% contribution	Growth/System Capacity	40,000	-	-	-	-
RG&E	Rochester - Add 35kV Circuit - Offload Circuit 765	Growth/System Capacity	-	8,400,484	8,060,060	-	-
		System Capacity Total	**40,000**	**8,400,484**	**8,060,060**	**-**	**-**
RG&E	Station 168 Service Area Reinforcement	Reliability Risk	9,329	2,068,648	3,081,139	5,343,704	-
RG&E	Station 95 - Add 2nd 34.5-11.5kV Transformer - Rochester	Reliability Risk	635,174	-	-	-	-
RG&E	Rochester - Add 35kV Circuit - Offload Circuit 739	Reliability Risk	-			334,217	3,402,135
RG&E	Station 49 - Replace 34.5-11.5kV Xfmr - Rochester	Reliability Risk	626,898	-	-	-	-
RG&E	Rochester - Add 35kV Circuit - Offload Circuit 701	Reliability Risk	-			322,079	9,548,625
RG&E	Line 926 - Upgrade 115kV Line - Rochester	Reliability Risk	12,000	100,000	518,861	-	-
RG&E	Add 35kV Circuit (S42 - S420 - S62 - S85), Offload Circuit 780	Reliability Risk	-			4,667,834	4,621,311
RG&E	Rochester - Add 35kV Circuit - Offload Circuit 778	Reliability Risk	-			6,453,476	10,570,579
RG&E	Rochester - Upgrade 35kV Circuit 726 (Station 42 - Station 43)	Reliability Risk	-			5,150,138	6,542,028
RG&E	Station 158, Replace Existing 115/34.5 kV Transformers with a 50 MVA LTCs	Reliability Risk	-	-		172,654	6,589,595
RG&E	Rochester - Add 35kV Circuit - Offload Circuit 761	Reliability Risk	-	-		2,794,975	3,898,796
RG&E	Rochester, Upgrade 11kV Circuit 676 (Station 46 - Station 403)	Reliability Risk	-			1,760,923	3,858,742
RG&E	Rochester - Add 35kV Circuit - Offload Circuit 775	Reliability Risk	-	-	-		7,072,043
RG&E	Station 121, Add 2nd 115/34.5 kV Transformer	Reliability Risk	-	-			129,259
RG&E	Station 48 - Replace (2) 115-34.5kV Transformers - Rochester	Reliability Risk	-	-	-		3,000,000
RG&E	Rochester - Station 204, Add 115-35kV 75 MVA LTC Transformer	Reliability Risk	-	-			8,658,224
RG&E	Station 67 - Add 115-34.5kV Transformer - Rochester	Reliability Risk	-				137,039
RG&E	Rochester - Sectionalize and Reconductor 115kV Circuit 917 (S7 - S418)	Reliability Risk	1,014,908	100,000	900,000	-	-
		Reliability Risk	**2,351,723**	**2,268,648**	**4,500,000**	**27,000,000**	**68,028,376**
RG&E	Station 80 - Replace 1T and 3T Transformers	Asset Condition Replacement	70,574	-			
RG&E	Station 23 Transformer & 11kV Switchgear	Asset Condition Replacement	5,429,999	-	-		
		Asset Condition Replacement Total	**5,500,573**	-	-	-	-

Attachment 6

Distribution Planning Projects

Company	Title	Investment_Classification	2014	2015	2016	2017	2018
NYSEG	State Street 3rd 12.5 KV Circuit - Auburn	Mandatory	-	210,000	-	-	-
NYSEG	Tom Miller Rd New Substation	Mandatory	2,058,137	2,312,521	-	-	-
NYSEG	Harris Lake - Diesel Generator Upgrade	Mandatory	3,392,296	3,546,232	-	-	-
NYSEG	Silver Creek Substation New Transformer	Mandatory	2,317,085	4,161,115	-	-	-
NYSEG	Keuka Substation - Replace Bank #2 Transformer	Mandatory	198,575	357,357	-	-	-
		Mandatory	**7,966,093**	**10,587,225**		**-**	**-**
NYSEG	Walden 35kV Conversion	System Capacity	-	100,000	500,000	-	-
NYSEG	Hertiage Hills Facility Upgrade	System Capacity	-	200,000	200,000	200,000	-
NYSEG	Roll Road 529 & 545 35kV Voltage Conversions	System Capacity	-	100,000	150,000	-	-
NYSEG	Cantitoe 3rd 13.2 kV circuit and voltage conversion	System Capacity	-	-	-	200,000	600,000
NYSEG	Crafts - Add 2nd Transformer and 4th 13.2kV circuit position	System Capacity	500,000	1,564,000	-	-	-
NYSEG	West Varysburg 2nd Cicruit (Unload Wales Center)	System Capacity	-	750,000	-	-	-
NYSEG	Chenango Bridge Substation 743 Regulation	System Capacity	-	250,000	-	-	-
NYSEG	Jay 411 Voltage Conversion	System Capacity	-	250,000	750,000	-	-
NYSEG	Grant Avenue - Add 2nd Transformer and 4th circuit position	System Capacity	-	-	-	260,000	1,000,000
NYSEG	Cemetery RD - Replace Transformer Bank #1 and add 4th 12kV Circuit Position.	System Capacity	-	169,761	3,030,259		
NYSEG	Marcellus Sub - Transformer Replacement	System Capacity	-	-	-	250,000	1,000,000
NYSEG	Glenwood - Replace Substation Transformers	System Capacity	1,693,037	1,712,120	-	-	-
NYSEG	Pershing Ave Step Transformer Replacement	System Capacity	500,000		-	-	-
NYSEG	New Johnson City 12kV Substation	System Capacity	-	495,710	3,063,796	1,795,267	
NYSEG	Bulkhead - Replace Transformer Bank#2	System Capacity	-	6,952	1,577,035	3,821,615	86,532
NYSEG	Morningside Heights - Add a 2nd Transformer Bank and 3rd circuit position	System Capacity	260,000	1,000,000	-	-	-
NYSEG	Orchard Park - Add a 2nd Transformer Bank	System Capacity	-	67,879	4,136,119	4,483,537	58,390
NYSEG	Holland Transformer Replacement	System Capacity	-	-	56,093	3,290,740	3,657,026
NYSEG	Sackett Lake Sub - Replace transformer with 7.5MVA unit and convert distribution to 12.5KV	System Capacity	500,000	1,452,450	-	-	-
NYSEG	Port Byron Transformer Replacement	System Capacity	-	-	-	4,664	1,053,157
NYSEG	New Waterloo Substation	System Capacity	-		3,231,647	4,059,236	
NYSEG	Hamburg - Replace Transformer Banks #1 & 2	System Capacity	-	-	782,998	7,889,160	890,132
NYSEG	Sloan - Add a 2nd Transformer Bank and 4th circuit position.	System Capacity	-		2,000,000	2,043,124	6,624,845
NYSEG	Alden - Add 2nd Transformer Bank	System Capacity	-	-	-	147,844	3,809,090
NYSEG	Grand Gorge #1 Sub - Replace with transformer with 12/16/20MVA	System Capacity	-	-	10,234	2,521,668	5,336,183
NYSEG	Cass Hill 12kV Conversion	System Capacity	500,000		-	-	-
NYSEG	Sylvan Lake add Second Bank	System Capacity	-	-	1,249,743	10,238,830	2,381,689
NYSEG	Old Fall substation - Install 2nd LTC Transformer	System Capacity	308,909	1,000,000	4,000,000	5,737,165	-
NYSEG	Stillwater Substation- Upgrade Transformer to 14MVA	System Capacity	260,000	555,600	2,453,666		
NYSEG	West Geneva Bank #2 Replacement	System Capacity	-	8,133	1,687,027	4,425,970	100,081
NYSEG	West Davenport Sub - Replace sub transformer with non-LTC 7.5/10.5MVA unit.	System Capacity	-	-	19,948	2,806,944	3,574,913
NYSEG	Ebenezer - Add a 2nd Transformer Bank and 2 new circuit positions	System Capacity	-		2,662,032	1,979,923	2,168,948
NYSEG	Fourth Street 12.5kV Conversion	System Capacity	-	-		4,848,488	10,726,911
NYSEG	Keuka New Substation	System Capacity	-		3,045,609	5,950,021	3,562,095
NYSEG	New South Niagara Substation	System Capacity	-			3,210,499	3,189,769
NYSEG	Dingle Ridge - 2nd Bank and 13.2kV Conversion	System Capacity	500,000	100,000	100,000	1,000,000	3,300,000
NYSEG	Hilldale 115kV source, transformer bank upgrade and 2nd 12kV distribution circuit.	System Capacity	-			4,660,759	5,031,821
NYSEG	Kent 2nd 13.2 KV Ckt and Bank Upgrade - Brewster	System Capacity	-		520,462	5,647,687	6,628,287
NYSEG	Concord Transformer Bank Replacement	System Capacity	-	-		9,391	675,534
NYSEG	Lourdes Hospital Sub Replace Transformer	System Capacity	500,000	-	-	-	-
NYSEG	Java 2nd Transformer and 12kV Conversion	System Capacity	250,000	100,000	489,115	4,048,207	3,803,066
		System Capacity	**5,771,946**	**9,882,605**	**35,715,783**	**85,530,738**	**69,258,470**
NYSEG	Endicott Clark Street 2nd 12kV Circuit	Reliability Risk				-	100,000
		Reliability Risk Total	**-**	**-**	**-**	**-**	**100,000**

Company	Title	Investment_Classification	2014	2015	2016	2017	2018
RG&E	Station 56 Additional 12kV Source	Mandatory	7,136,671				
		Mandatory Total	**7,136,671**	-	-	-	-
RG&E	Station 136, Add 2nd Transformer	System Capacity	362,000	-	-	-	-
RG&E	Sta 419- Add new 12kv circuit	System Capacity	500,000	-	-	-	-
RG&E	Station 40 - Replace #5 Transformer Bank	System Capacity	-	1,000,000	-	-	-
RG&E	Station 40 - circuit 550 Cable Replacement	System Capacity	1,404,840	-	-	-	-
RG&E	Station 70 Transformer Bank #1 Replacement	System Capacity	-	-	432,010	6,054,941	1,923,516
RG&E	Station 46 - Replace #1 and #3 Transformer Banks	System Capacity	-	8,269	2,629,610	6,322,828	119,453
RG&E	Station 43 - Replace #3 and #4 Transformer Banks.	System Capacity	-	263,122	3,825,689	7,134,957	150,266
RG&E	Station 69 Transformer Bank #1 Replacement	System Capacity	-	-	122,737	9,719,722	1,555,405
RG&E	Station 210 transformer replacement and 4kV circuit conversion to 12kV	System Capacity	-	8,007	799,030	5,255,514	98,734
RG&E	Sta 246 Add Second Transformer and Circuits	System Capacity	-	-	7,016	1,500,000	3,738,679
RG&E	Station 89, Replace #2 Transformer	System Capacity	-	7,801,833	1,977,979	1,981,560	54,154
RG&E	Station 117 - Replace #1 Transformer Bank and convert 3 circuits to 12kV operation.	System Capacity	-			11,756,698	3,132,149
RG&E	Station 192 transformer/facilities upgrade	System Capacity	-		13,631	1,803,621	3,209,124
RG&E	Station 156 Transformer Bank Upgrade & 12kV Conversion	System Capacity	-	-		54,227	4,186,414
RG&E	Sta 58, Upgrade Transformer to 34/12kV and Convert Circuits to 12kV	System Capacity	-			9,963,758	4,342,149
RG&E	Station 149 transformer/facilities upgrade and secondary source addition	System Capacity	-	2,211,872	676,370	13,736,246	15,851,334
		System Capacity	**2,266,840**	**11,293,102**	**10,484,071**	**75,284,071**	**38,361,378**
RG&E	Station 51 transformer/facilities upgrade and secondary source addition	Reliability Risk	-			6,726,773	2,127,114
		Reliability Risk Total	**-**	**-**	**-**	**6,726,773**	**2,127,114**

Attachment 7

List of Electric programs included in Asset Condition Replacement

NYSEG	2014	2015	2016	2017	2018
Batteries	758,000	780,740	804,162	828,287	853,136
Breakers	2,000,000	2,060,000	2,121,800	2,185,454	2,251,018
Distribution Line	12,356,000	12,356,000	12,726,680	13,108,480	13,501,735
Distribution Pole replacement program	9,100,000	9,100,000	9,373,000	9,654,190	9,943,816
Distribution substation work	1,250,000	1,250,000	1,287,500	1,326,125	1,365,909
General Equipment Electric	371,801				
Lifecycle Replacement - ECC/XECS systems	-	110,000	105,000	105,000	105,000
Silicon Carbide Change out Program	300,000	500,000	500,000	500,000	250,000
Substation Insulator Change out Program	-			950,000	950,000
Switch Replacement Program	-	300,000	300,000	300,000	-
T&D Reject Pole Replacement	315,000	750,000	772,500	795,675	819,545
Transformers	12,100,000	12,100,000	12,463,000	12,836,890	13,221,997
Transmission and Distribution Fault Indicators	-	-	250,000	500,000	500,000
Transmission Line	5,000,000	5,000,000	5,150,000	5,304,500	5,463,635
Asset Condition - Transmission Projects	612,158	-	-	-	-
Transmission 115 kV Line Replacement program		-		2,200,000	2,200,000
SubTrans OH Trans Line replacement program		-		2,150,000	2,150,000
Substation Modernization (90%)		-	-	200,000	500,000
Substation Transformer Distribution Replacement program	-	-	1,000,000	1,000,000	1,000,000
Substation Transformer Transmission Replacement program	428,000	1,000,000	1,000,000	1,000,000	1,000,000
Minor asset condition projects	1,270,000	-	-	-	-
Grand Total	**45,860,959**	**45,306,740**	**47,853,642**	**54,944,601**	**56,075,790**
RG&E	**2014**	**2015**	**2016**	**2017**	**2018**
Batteries	1,500,000	1,517,740	1,562,200	1,609,066	1,657,337
Distribution Fault Indicators	-	150,000	100,000	100,000	-
Distribution Pole replacement program	6,000,000	6,000,000	6,000,000	6,556,362	6,753,053
Distribution substation work	1,000,000	1,000,000	1,000,000	1,688,000	1,739,000
General Equipment in Groups	74,817				
Lifecycle Replacement - ECC/XECS systems	145,000	139,000	139,000	139,000	139,000
Old Insulator Change out Program	-		750,000	750,000	750,000
Padmount Switchgear Replacement	109,000	300,000	300,000	300,000	300,000
Silicon Carbide Change out Program	150,000	150,000	150,000	150,000	150,000
Substation Transformer Distribution Replacement program	-	-		3,000,000	3,000,000

RG&E	2014	2015	2016	2017	2018
T&D Reject Pole Replacement	605,000	605,000	605,000	1,060,900	1,092,727
T&D Switch Replacement Program	-	-	-	318,270	327,818
Transformers	4,600,000	4,600,000	4,600,000	5,026,544	5,177,341
Transmission Line	500,000	500,000	500,000	546,364	562,754
Asset Condition - Transmission Projects	5,500,573	-	-	-	-
Transmission 115 kV Line Replacement program	-	-	-	2,291,316	2,291,316
SubTrans OH Trans Line replacement program	-	-	-	1,601,260	1,601,260
Cablecure	-	-	-	1,060,900	1,092,727
Substation Transformer Transmission Replacement program	-	-	-	1,000,000	3,000,000
Breakers	1,462,000	1,400,908	1,989,008	3,078,679	3,171,039
Substation Modernization (90%)	1,182,038	-	-	1,800,000	1,800,000
Grand Total	**22,828,428**	**16,362,648**	**17,695,208**	**32,076,661**	**34,605,372**
TOTAL	**68,689,387**	**61,669,388**	**65,548,850**	**87,021,262**	**90,681,161**

Attachment 8

List of Gas Projects/Programs included in Mandatory

NYSEG	2014	2015	2016	2017	2018
Mandatory	**33,864,878**	**30,859,688**	**35,115,312**	**48,757,750**	**40,965,816**
Program					
Gas Meters	3,442,304	3,751,573	3,751,573	4,417,135	4,549,649
Gas Regulators	236,500	449,595	449,595	914,066	941,488
Leak Prone Services Replacement Program	4,851,200	5,263,366	5,263,366	6,239,541	6,426,727
Minor Distribution Mains, Install Gas Mains	1,754,637	1,807,276	1,807,276	2,300,000	2,400,000
Minor Services, Install Gas Service	4,985,966	5,341,545	5,341,545	6,097,570	6,280,498
Leak Prone Main Replacement Program	12,588,586	12,751,957	12,751,957	18,158,438	16,745,654
Project					
Large Government Jobs (to be identified) - NYSEG	-	-	2,000,000	2,060,000	2,121,800
Mandatory- Customer requirement	3,742,259	150,000	250,000	1,400,000	-
Minor Government Jobs, Replace Gas Mains, NYSEG	1,111,045	1,144,376	1,200,000	1,500,000	1,500,000
Phelps (South) Transmission Replacement	-	200,000	2,300,000	5,671,000	-
Seneca West Pipeline Interconnect to Elmira	80,743	-	-	-	-
SmarTRAC Replacement, NYSEG	1,071,638	-	-	-	-
Grand Total	**33,864,878**	**30,859,688**	**35,115,312**	**48,757,750**	**40,965,816**

RG&E	2014	2015	2016	2017	2018
Mandatory	**25,373,472**	**22,990,895**	**24,295,395**	**35,749,129**	**39,542,176**
Program	22,205,345	22,990,895	22,990,895	30,285,494	34,042,176
Gas Meters	2,500,285	2,863,694	2,863,694	3,650,020	3,759,520
Leak Prone Services Replacement Program	2,325,967	2,400,000	2,400,000	3,541,492	3,647,737
Minor Distribution Mains, Install Gas Mains	1,048,856	1,080,322	1,080,322	2,200,000	2,400,000
Minor Government Jobs, Replace Gas Mains	647,455	666,879	666,879	710,273	715,000
Minor Services, Install Gas Service	4,295,282	4,300,000	4,300,000	5,683,709	5,854,220
Gas Regulators	780,712	780,000	780,000	2,500,000	3,000,000
Leak Prone Main Replacement Program	10,606,788	10,900,000	10,900,000	12,000,000	14,665,699
Project	3,168,127	-	1,304,500	5,463,635	5,500,000
Mandatory- Customer requirement	2,333,039	-	-	-	-
SmarTRAC Replacement, RG&E	856,104	-	-	-	-
West Henrietta @ Canal, I-390 Highway Improvement Phase 4 (100% contribution)	(21,016)	-	-	-	-
Large Government Jobs (to be identified) - RG&E	-	-	1,304,500	5,463,635	5,500,000
Grand Total	**25,373,472**	**22,990,895**	**24,295,395**	**35,749,129**	**39,542,176**

TOTAL	59,238,350	53,850,583	59,410,707	84,506,879	80,507,992

Attachment 9

List of Gas Projects included in Distribution Mains – System Capacity

Distribution Mains - System Capacity	2014	2015	2016	2017	2018
NYSEG					
Distribution Mains - Projects to be identified - NYSEG	-	-	1,100,000	5,000,000	10,000,000
Binghamton 60-PSI System Improvements	-	600,000	-	-	-
Gas Pipeline Susquehanna River Bore Extension Project Town of Vestal and Village of Johnson City, Binghamton, NY	-	-	1,300,000	-	-
Groveland System Reinforcement, Install Gas Mains	-	-	520,000	430,000	200,000
Boswell Hill Bare Steel Main Replacement Project Town of Union, Binghamton, NY Phases 1, 2, & 3	-	-	1,400,000	1,488,000	1,480,000
Port Dickinson Gas Pipeline Loop Extension Towns of Port Dickinson and Fenton, Binghamton, NY	-	-	1,419,000	1,508,000	1,508,000
Tow Path Road Gas Regulator Station Installation, Town of Fenton Binghamton, NY	-	225,000	-	-	-
Mechanicville Gas System Reinforcement - National Grid Supply	-	500,000	-	-	-
Dunham Farms, Install Gas Mains, Lockport	701,161	-	-	-	-
Ithaca/Dryden Gas Distribution, Install Gas Mains, Ithaca	1,651,034	5,649,000	-	-	-
TOTAL NYSEG - Distribution Mains - System Capacity	**2,352,195**	**6,974,000**	**5,739,000**	**8,426,000**	**13,188,000**
RG&E					
Distribution Mains - Projects to be identified - RG&E	-	-	1,574,000	6,900,000	6,180,000
Henrietta 42 Phase 3B, Install Gas Mains - RGE	24,892	-	-	-	-
Henrietta 42 Phase 4, Install Gas Mains, Roch	-	306,000	-	-	-
Henrietta 42 Phase 5, Install Gas Mains, Roch	379,010	-	-	-	-
MF13 Geneseo Improvement, Install Gas Mains, Roch	-	-	-	500,000	-
MF35 Walworth System Improvement, Install Pipe and Regulator Stations	-	-	-	950,000	-
MF60 Southeast: Boughton Hill Rd, Install Gas Mains, Roch	-	-	900,000	-	-
MF60 Southeast: Collett Rd, Install Gas Mains, Roch	-	350,000	-	-	-
MF60 Southeast: County Rd 41, Install Gas Mains, Roch	-	150,000	-	-	-
MF60 Southeast: New Michigan Rd, Install Gas Mains, Roch	-	270,000	-	-	-
MF60 Southeast: NYS Route 444, Install Gas Mains, Roch	-	-	250,000	-	-
Northeast 60 - Penfield, Install Gas Mains - RGE	276,610	-	-	-	-
Northeast 60, Phase 1 Install Gas Mains, Roch	-	306,000	470,000	-	-
Northeast 60, Phase 2A Install Gas Mains, Roch	-	1,200,000	-	-	-
Northeast 60, Phase 2B Install Gas Mains, Roch	-	-	2,500,000	-	-
Northwest 60, Install Gas Mains and Regulator Stations, Roch	-	891,000	-	-	-
Whittier Road Improvements, Phase 4, Install Gas Mains, Rochester	-	-	-	210,000	-
TOTAL RG&E - Distribution Mains - System Capacity	**680,512**	**3,473,000**	**5,694,000**	**8,560,000**	**6,180,000**

Attachment 10

Description of the Most Significant Gas Projects

NYSEG

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	Prior
Ithaca/Dryden Gas Distribution, Install Gas Mains	0	1,651	5,649	0	0	0	

Total Costs: $ 7,300

Description: Install approximately 7 miles of 8-inch wrapped steel 124 psig gas main along West Dryden Road and a new 60 psig MAOP Regulator Station at the intersection of Warren Road and West Dryden Road.

Reason and benefits: Existing system is below 70% of maximum operating pressure on design day. The system is experiencing growth and lacks capacity to support additional load. This will facilitate more efficient distribution through the Ithaca/Dryden Gas Distribution pressure system and help compensate for recent and future increases in customer load demands.

Year started: 2014

Year in service: 2015

Current Status: In Design

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	Prior
Groveland System Reinforcement – Interconnect to RGE	0	0	0	520	430	200	

Total Costs: $ 3,185

Description: Phase 1 - Install 2.8 miles of 6" polyethylene and Phase 2 – Install 1.4 miles of 8" high density polyethylene gas mains.

Reason and benefits: Existing endpoint system pressure is below 70% of outlet set pressure of the serving Groveland regulator station and near 50% maximum allowable operating pressure (MAOP) on design day for the system. The system is experiencing growth and lacks capacity to support additional load. In Phase 1 install new gas mains on the medium pressure (MP) 60 psig MAOP gas pressure system along Groveland Hill Road north of Dennison Road and along Abele Road will improve the endpoint system pressure at Gypsy Lane. In Phase 2 install new gas main on the higher pressure 124 psig MAOP gas pressure system along Kysarville Byarsiville Road south of Dansville-Mt. Morris Road and upgrade the existing regulators at Groveland regulator station with low differential pressure regulators.

Phase 2 improvements would reinforce and increase the system inlet pressure of the 124 psig system from 49.3 psig to 57.0 psig providing natural gas to the Groveland regulator station and raise the outlet set pressure from 46 psig to 52 psig. This improved outlet set pressure improves the endpoint pressure at Gypsy Lane from 33.9 psig to 41.2 psig. This equates to a system pressure at 80% of outlet set pressure of the serving Groveland regulator station and 70% maximum allowable operating pressure (MAOP) on design day for the system.

Investment Reason: System Capacity

Year started: 2016

Year in service: 2018

Current Status: In Planning

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	Prior
Boswell Hill Bare Steel Main Replacement Project	0	0	0	1,419	1,508	1,508	
Total Costs: $ 4,435							
Description: Install new 10 inch wrapped steel gas main. **Reason and benefits:** Existing gas main is unprotected steel and undersized for system capacity. This project will replace sections over a three year period with the tie in and abandonment of the unprotected steel to take place in the third year. **Investment Reason:** System Capacity							
Year started: 2016 **Year in service:** 2018 **Current Status:** In Planning							

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	Prior
Robinson Road Gate Station Rebuild	1,134	1,439	1,900	0	0	0	

Total Costs: $ 4,473

Description: Rebuild Robinson Road gate station including new: metering, regulators and monitors, catalytic heaters, odorization equipment and control lines, SCADA, RTU, phone and electric lines, relief valves and buildings. A new regulator station will also be constructed to serve the Robinson Road, West Loop, and State Road Distribution mains. The gate station MAOP is 877 psig. The gate station is currently serviced by a single tap on the existing wrapped steel 20-inch transmission gas main operated by Tennessee Gas Pipeline (TGP). The project includes a second tap on the 30-inch steel wrapped transmission gas main operated by TGP to improve reliability.

Reason and benefits: The existing gate station cannot supply demand, the equipment is outdated, and the heater is beginning to fail. The rebuild will result in a safer station, fewer long term maintenance issues, minimize maintenance costs and increase reliability. Any interruption of this gate station on a high use day would result in major outage across the Lockport system, which currently supplies more than 36,000 customers in two counties. Having the second tap provides station redundancy and guarantees flows from the TGP Transmission network in the event one main is out of service for maintenance or experiences low pressure.

Investment Reason: Asset Condition

Year started: 2011

Year in service: 2015

Current Status: Preliminary engineering. Project construction work will start in June

RG&E

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	>
Buffalo Road Rebuild Regulator Station and Replace Gas Main	0	261	1,140	1,000	0	0	

Total Costs: $ 2,401M

Description: Work involves rebuilding the Buffalo Rd Regulator Station (RS), which includes Regulator Station 290, 291 and 343. Replace all inlets piping to operate at 330 psig MAOP. Install new regulators, and new branch and relief stack piping for RS 290 and RS 343. Install new inlet and outlet valves and bypass valves. Install new station SCADA and automation for the Buffalo Rd station. Work also involves replacing approximately 113' of 20" WRST crossing Buffalo Road near the barge canal originally installed in 1951 with approximately 120' of new 20" wrapped steel gas main.

Reason and benefits: Replaces fifty year old regulator equipment and piping. Improves system reliability and capacity for the MF120 Western Monroe, MF99 East Station and SF180 CM1B systems. This project is part of the overall transmission system and feeder main system improvement projects, including the New Empire West Gate station and CM1 replacement.

Investment Reason: Asset Condition and Growth

Year started: 2014

Year in service: 2016

Current Status: In Planning

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	>
New Empire West Gate Station, Build New Gate Station	2,481	2,074	2,700	2,000	0	0	

Total Costs: $ 9,255

Description: Install new gate station located near Humphrey Rd and Route 386, Town of Chili, New York. Rebuild regulator station (RS) 424 Middle Road and RS 425 Ballantyne Road. Replace inlet piping to RS 214, 295, 355, 358, 460, 461, and Buffalo Road Station

Reason and benefits: Improve pipeline safety, system reliability, and reduce system supply and operating constraints. Improve pipeline safety by reducing operating pressures and replace pipeline sections to less than 20% SMYS. Improve overall transmission and feeder system reliability, and improve system pressures at major distribution stations. Improve system supply and operating constraints by allowing greater flexibility year round for system nominations between suppliers. The removal of supply constraints will reduce the cost of gas supply to customers. Increase overall system capacity by 20% for long term load growth.

Investment Reason: Growth

Year started: 2012

Year in service: 2016

Current Status: Preliminary engineering. Project construction work will start in June

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	>
Northeast 60 Phase 2A, Install Gas Mains	0	0	1,200	0	0	0	
Total Costs: $ 1,200							
Description: Install 5,100 feet of 12” steel and 1,500 feet of 6” plastic gas main. Rebuild regulator stations 247 and 319. **Reason and benefits:** Existing system is at 50% of maximum operating pressure on design day. The system is experiencing growth and lacks capacity to support additional load. **Investment Reason:** System Capacity							
Year started: 2015 **Year in service:** 2015 **Current Status:** In Planning							

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	>
Northeast 60 Phase 2B, Install Gas Mains	0	0	0	2,500		0	
Total Costs: $ 2,500							
Description: Install 4 miles of 12" steel gas main. Rebuild two regulator stations **Reason and benefits:** Existing system is at 50% of maximum operating pressure on design day. The system is experiencing growth and lacks capacity to support additional load. **Investment Reason:** System Capacity							
Year started: 2016 **Year in service:** 2016 **Current Status:** In Planning							

Project	Prior	2014 Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget	>
CM1 Replacement Humphrey to Ballantyne Road, Replace Gas Mains	0	431	5,200	4,150	0	0	

Total Costs: $ 9,781

Description: Install 22,800'- 24" wrapped steel pipeline parallel to CM1 22 ½" pipeline from new Empire Tap north to regulator station 425 on Ballantyne Rd. This is an Article VII project. **Reason and benefits:** Transmission pipeline leak and material (1950s). New pipeline design for less than 20% SMYS. This project removes the operating constraint on gas supply from the Empire Pipeline by allowing 100% of design day supply to flow from Empire, RG&E's Mendon Gate Station. Improved transmission system reliability and capacity. This is an Article VII project with engineering planned to begin in 2013 ($500,000). Delay of this project puts off ability to serve new load growth in the RG&E system similar to the New Empire West Gate Station project and other new Rochester area gas loads that may be requested. In addition to accommodating load growth, this project removes gas supply constraints on the Empire Pipeline. The removal of supply constraints may reduce the cost of gas supply. Delay of this project also continues a transmission asset integrity issue due to a past leak on the CM1 transmission gas main. Improve pipeline safety by reducing operating pressures on CM1 section from Ballantyne Rd north to Buffalo Rd to 120 psig, and replace CM1 pipeline section from Humphrey Rd to Ballantyne Rd with a 24 inch pipeline designed to less than 20% SMYS.
Investment Reason: Asset Condition

Year started: 2014

Year in service: 2016

Current Status: In Planning