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INTRODUCTION

Q. Please state your names, business addresses and employer.
A. Victor E. Mullin, 4 Irving Place, New York, NY, 10003, Gary Hugo, 506 East 75th Street, New York, NY, 10021, Robert Boyle, 750 East 16th Street, New York, NY, 10009, and John Catuogno, 4 Irving Place, New York, NY, 10003. We are employed by Consolidated Edison Company of New York, Inc. (“Con Edison” or the “Company”) and are testifying jointly as the Steam Infrastructure and Operations Panel.

Q. In what capacity are you employed?
A. (Mullin) I am the Chief Civil/Mechanical Engineer. (Hugo) I am the Plant Manager of the East 74th Street Generating Station (“74th Street”). (Boyle) I am the General Manager of Steam Distribution. (Catuogno) I am the Department Manager of Steam Operations’ Customer and Business Services Department.

Q. How long have you been employed by Con Edison and what positions have you held?
A. (Mullin) I have been with Con Edison for approximately 30 years. I was employed by Con Edison in February 1982 and have held various engineering and management
positions in Central Engineering, Nuclear Power, Substations, and Gas Operations. In April 2005, I was assigned to Gas Operations as the Chief Gas Transmission Engineer. Since December 2008, I have been the Chief Civil/Mechanical Engineer.

(Hugo) I have been employed by Con Edison for over 30 years. I started with the Company in 1978, and have held various management positions of increasing responsibility within Central Operations that included Shift Supervisor, Test and Performance Manager, and Operations Manager at Indian Point and Astoria Generating Station. Beginning in 1999, when the Company divested its power generation plants, I was away from the Company as the Operations Manager for the Astoria Generating Station until returning to Con Edison in 2003 as Manager of Mechanical Engineering, then as Shared Services Manager, and subsequently my current position as 74th Street Plant Manager since December 2008.

(Boyle) I have been employed by Con Edison since 1986 when I joined the Company as a management intern. Since then, I have held various management positions of increasing responsibility, including Section Manager of Contract Administration and Inspection,
General Manager of Public Improvement and Engineering, General Manager of Substation Operations Planning, and General Manager of Substation and Transmission Construction. In 2011, I assumed my present position as the General Manager of Steam Distribution.

(Catuogno) I have been employed with Con Edison for approximately 21 years. I joined Con Edison in 1991 and have held various positions of increasing responsibility in the Fossil Power, Nuclear Power Engineering, Energy Management, and Steam Operations Departments. Since January 2010, I have been the Department Manager of Steam Operations’ Customer and Business Services.

Q. Please discuss your educational background.

A. (Mullin) I received a Bachelors of Nuclear Science Degree from SUNY Maritime College in 1978. I also received a Masters of Management Science from Pace University in 1994 and completed the Public Utility Executive Program in July 1995 at the University of Michigan.

(Hugo) I received a Bachelors of Nuclear Science Degree from SUNY Maritime College in 1978. I also received a Masters of Management Science from Pace University in 1994.
Boyle: I graduated from Manhattan College in 1986 with a Bachelor of Science degree in Civil Engineering. I received an MBA in Finance from Manhattan College in 1989.

Catuogno: I graduated from Polytechnic University with a Bachelor of Science degree in Mechanical Engineering in 1991 and with a Master of Science degree in Management in 2002. I am a registered Professional Engineer in the State of New York.

Q. What are your current responsibilities?

A. Mullin: I am responsible for providing engineering leadership and oversight for the safe and sustained operation and maintenance of specific systems within their design criteria. These systems include: portions of the electric system and transmission operations infrastructure, the steam distribution and transmission systems, and the mechanical and structural systems and equipment that support both the steam and electric generating stations.

Hugo: I am responsible for the management of all activities required to safely and reliably produce steam and/or electricity from 74th Street Station, 60th Street Generating Station (“60th Street”), Ravenswood A House (“Ravenswood”) and Hudson Avenue Generating
Station ("Hudson Avenue"). This includes managing the annual operation and maintenance ("O&M") and capital budgets for all locations.

(Boyle) I am responsible for the management of all activities required to safely and reliably distribute steam in the borough of Manhattan. This includes developing and managing the O&M and capital programs for the Steam Distribution system.

(Catuogno) I am responsible for the oversight of the business development, customer operations, communications, operations planning, technical analysis, and long term planning areas for Steam Operations.

Q. Have you previously testified before the New York State Public Service Commission ("Commission")?

A. (Mullin) Yes. I have provided testimony to the Commission in the Company’s last steam rate filing (09-S-0794) with regard to the steam capital construction programs, as well as the last electric rate filing (09-E-0428) with respect to the electric capital construction programs. I am also providing testimony in the contemporaneous Electric filing.

(Hugo) No, I have not previously provided testimony to the Commission.
(Boyle) Yes. I have provided testimony to the Commission in the Company’s electric, gas and steam rate filings (03-G-1671, 03-S-1672, and 04-E-0572) with regards to Public Improvement Interference programs.

(Catuogno) Yes, I have testified in Cases 09-S-0794, 09-S-0029, and 07-S-1315.

Q. Please briefly describe the purpose of the Panel’s testimony.

A. Our testimony addresses the Company’s planned capital and O&M spending for its steam production and steam distribution facilities. For capital, the Company projects to spend approximately $110.5 million in 2013, $58.7 million in 2014, $64.7 million in 2015, $63.7 million in 2016, and $58.2 million in 2017. In addition, the Company projects to spend approximately $100 million on storm hardening projects for the period 2013 through 2016 to mitigate the impacts of future storms. In 2013 and 2014, the capital projections include $52.8 million and $10.2 million, respectively, for the 74th Street Generating Station and 59th Street Generating Station Natural Gas Addition (“Gas Addition”) project, as discussed below with respect to the Steam Production Construction Plan.
For O&M, the Company is projecting to spend $80.9 million in the 12-month period ending December 31, 2014 (the “Rate Year”). This represents an increase of approximately $1.8 million from the historic test year. In the two following 12-month periods, ending December 31, 2015, and 2016, the Company expects to maintain this level of O&M expenditures while continuing to provide the same level of safety, service and reliability. We will also discuss the Company’s proposals for net plant reconciliation of capital and the disposition of the Hudson Avenue property.

Q. Has the Company considered the magnitude of its steam capital and O&M spending in this rate request?

A. Yes. The Company’s proposed capital spending is relatively flat as compared to prior years, excluding the expenditures for the Gas Addition project. However, as explained later in this testimony and in the Steam Fuel Panel testimony, the Gas Addition project’s fuel cost savings will result in a net reduction to customer steam bills, while also enabling the Company to comply with new environmental requirements that will provide significant environmental benefits to customers and residents in
the Company’s service territory. Moreover, as explained later in this testimony, the Company has limited its O&M program change requests to those that are based on necessary operating requirements. The Company is committed to implementing a cost management initiative. We highlight the Company’s significant efforts to hold the line on expenditures in this testimony.

Q. Please describe Con Edison’s Steam Long Range Plan (“SLRP”).

A. The Company’s goal for the SLRP is to continue to provide steam service to customers by: maintaining the current high reliability and operational excellence of production and distribution; incorporating technological advancements into the system; optimizing system efficiency; pursuing new opportunities for productivity, performance improvements, and cost reductions; and bringing additional value to the customer base. The SLRP is a road map over the next two decades for serving our customers with cost effective, safe, and reliable steam power. It provides a strategic framework for implementing our plans to manage demand and supply, invest in our infrastructure, provide environmental stewardship, and
serve our customers at a reasonable cost. The SLRP presents our expectation of customer demand on our steam system for the next 20 years (2011-2031), describes the infrastructure that will be required to safely and reliably accommodate that customer demand and estimates the costs and the resulting impacts on our customer bills of the investments required to provide that infrastructure. The SLRP commits the Company to working towards minimizing bill impacts to our customers. Many of the strategies and initiatives discussed in the SLRP are an intrinsic part of this filing.

Q. Please provide an overview of the SLRP.

A. The key objectives of the SLRP are to define the Company’s vision, evaluate the challenges and opportunities facing the Steam Business, discuss future growth prospects in the context of the current and projected future business environment, develop a long-term strategy for achieving that vision, and determine the operational steps necessary to carry out the strategy.

The Steam Distribution System is not anticipated to require any major modifications, so we expect relatively moderate increases in customer bills
attributable to new capital expenditures. Fuel changes from No. 6 oil to natural gas at our 59th Street and 74th Street Generating Stations require infrastructure investment, but this will provide customers with the benefits of lower fuel costs as well as a more diverse fuel mix. Fuel changes will also allow Steam to comply with environmental regulations, providing benefits to the environment in the form of emissions reductions.

The Company will implement initiatives to defer or minimize Steam System investment requirements, increase asset utilization, and improve overall performance. The SLRP builds on the benefits realized from condition based maintenance programs, which provide productivity, efficiency, and cost savings. Advances in plant control system upgrades, distribution remote monitoring technologies and customer demand meters, have and will continue to give greater visibility into the status of system components. The greater visibility will allow the Company to increase system automation, improve the accuracy of predictive system models, and direct efforts to those system components or service areas
that need the most attention, all with the goal of reducing total costs.

Q. Has the Company realized cost savings as a result of the initiatives described in the SLRP?
A. Yes. A key to our long-range planning process is to provide direct line of sight between our various initiatives and their impact on the customer bill. This transparency stresses the importance of cost management.

Accordingly, the following savings have or will be passed on to our customers:

- Hudson Avenue Station Steam Boiler Retirement -

  The Company assessed the total available capacity of the Steam System and compared it to the projected peak demand over the 20-year span of the SLRP. This analysis determined that the projected peak demand could be met without the generation capacity from Hudson Avenue. Without the need for Hudson Avenue, the capital project to replace the existing boilers was no longer needed, and the boilers were instead retired from service. The retirement of the existing boilers provided significant annual fuel savings that were passed along to customers, as well as base
rate savings that are reflected in this rate filing.

- Operating Criteria Changes – The Company also evaluated customer operations in relation to the Steam System’s Operating Criteria. This evaluation led to changes in the Operating Criteria that made possible better utilization of the Company’s cogeneration facilities (and less of the oil-fired generation) with minimal impact on customer operations. This change resulted in annual fuel savings to customers of approximately $16.0 million.

- Ravenswood Operating Contract – The Company evaluated the cost of using Company personnel to perform O&M work at Ravenswood instead of maintaining a contract with TransCanada to perform the work. The Company determined that it would be less expensive for Company personnel to perform the O&M work.

Q. Are these savings reflected in the Company’s rate filing?
A. Yes.

Q. Are there program changes in this rate filing associated with these savings?
A. No, there are no program changes that are being filed in this case as a result of these savings initiatives, as the savings are already reflected in the historical test year. However, the O&M expense request that the Company is filing in this case is significantly lower than the O&M expense request that was filed in the previous steam rate case, and lower than it would have otherwise been.

Q. Briefly describe the Company’s steam system.

A. Con Edison operates the largest district-energy steam system in the United States. The steam system provides service to approximately 1,735 customers in Manhattan, from the Battery (southern tip of Manhattan Island) all the way to 96th Street on the West Side, and 89th Street on the East Side. Steam is used for heating in the winter, air conditioning in the summer, hot water, sterilization, and for humidification. Steam energy is environmentally friendly. In the Steam Production side of the system, steam is generated from Con Edison’s five steam generating plants. The generating stations are East River, 74th Street, 60th Street, 59th Street Generating Stations (“59th Street”) and Ravenswood. The East River Generating Station is comprised of Units 1, 2, 6, 7,
and South Steam Station ("ERSSS") package boilers. The Company also receives steam under a contract from the Brooklyn Navy Yard Cogeneration Partners ("BNYCP"), an independent steam plant located within the confines of the Brooklyn Navy Yard. The Steam Distribution System contains approximately 105 miles of mains and service pipes, and approximately 3,000 steam manholes.

Q. Please describe the importance of the steam system infrastructure to the Company’s service territory.

A. Con Edison’s energy systems are interwoven in the fabric of New York City. Steam sustains healthcare, hospitality, transportation, entertainment, housing and commerce. Steam is the energy of choice for some of Manhattan’s largest hospitals and medical centers, major hotels, museums, financial institutions, and other large commercial buildings and residences. Disruption or loss of steam supply would have significant consequences to necessary services and to everyday life conveniences in the City. Thus, it is imperative that the reliability of the steam system be maintained in order to generate and deliver steam continuously in a safe, reliable and cost effective manner.
Q. Please describe the Steam Production Construction Plan.

A. The Steam Production Construction Plan ("Plan") is the Company’s five-year systematic capital expenditure plan to implement cost effective projects to maintain structures, systems and components over the long term as conditions warrant and as may be required to meet governmental regulations. The Company’s objective is to sustain safety and reliability in steam generation while minimizing the impact on customers’ bills. The Plan is subdivided into a comprehensive set of ten plant functional programs covering: (1) boilers; (2) mechanical equipment; (3) electrical equipment; (4) control systems; (5) structures; (6) waterfront; (7) roofs; (8) security; (9) Environmental, Health and Safety ("EH&S"); and (10) Storm Hardening. Each of these functional programs includes specific projects necessary for the continued safe, efficient and reliable operation of the Company’s steam generating facilities.

Q. Please continue.

A. The Company plans to spend approximately $85.5 million
in 2013 (including Gas Addition), $30.3 million in 2014 (including Gas Addition), $38.8 million in 2015, $39.2 million in 2016 and $36.0 million in 2017. In addition, the Company projects to spend approximately $100 million on storm hardening projects for the period 2013 through 2016 to mitigate the impacts of future storms.

Q. How is the Plan developed?

A. The Plan identifies specific improvement projects based on current information on the condition of each station’s structures, systems and equipment and the relative degree to which such conditions may affect safety, reliability, environmental protection and regulatory compliance. The projects are planned and prioritized based on long lead times for equipment procurement, construction duration, concurrent projects, and current schedules for equipment and station outages, as applicable.

Q. How is the condition of the equipment and structures determined?

A. The condition of the equipment and structures is determined on an on-going basis during routine plant operations, inspections, system assessments or when equipment failure or malfunction occurs. Also,
upgrades are anticipated based on equipment
degradation, discontinued support from Original
Equipment Manufacturers ("OEM"), inability to obtain
spare parts, industry practice and evolving regulatory
requirements.

Q. How are the costs projected?

A. Cost projections included in the Plan are based on a
preliminary scope of the work developed from
inspections of existing conditions, evaluations of
alternatives, past experience with similar projects
and consultations with vendors and contractors. More
detailed cost estimates are prepared for each project
as the project implementation process proceeds, e.g.,
project scopes are finalized, equipment is selected,
and detailed engineering and design is developed.

Q. What measures does the Company use to see that these
projects are implemented at the lowest reasonable
cost?

A. The Company’s processes include several controls for
the efficient and cost effective implementation of
capital and O&M projects. For example, the scope of
each project is defined and, when applicable,
alternatives are evaluated to develop the most cost
effective solution. The Company uses in-house
engineering and construction resources depending on availability and technical specialty. In general, outside services and equipment are purchased using a formal competitive bidding process. A bid package that includes the project’s technical specification and scope of work is prepared and proposals are solicited from pre-qualified vendors. The Company’s engineering, operating, construction, purchasing and other personnel, as applicable, hold an information gathering meeting. This meeting includes a field walk with the prospective bidders to review the proposed scope of work. Each vendor proposal is evaluated and the lowest-cost qualified vendor is selected based upon compliance with the Company’s technical and commercial requirements as specified in the bid documents and other considerations such as experience with similar projects, exceptions or qualifications to Company requirements. Additional controls are imposed to obtain construction contracts with the lowest reasonable cost. For example, proposals for fixed-price contracts are typically requested and the Company’s Bid Check Estimating section prepares a separate sealed “bid check” cost estimate for contracts above a certain
amount. This estimate is then used for comparison with the contractors’ bids. The Company’s Bid Check Estimating section also reviews the competitive construction estimates and provides advice to the construction team so as to provide the best value for our customers. The Company’s Construction Management Department oversees the administration of construction contracts to ensure the terms of the contracts are met.

Q. Has the Panel prepared the 116-page exhibit entitled “CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. – STEAM PRODUCTION CONSTRUCTION PLAN 2013-2017”?

A. Yes.

Q. Please describe this Exhibit.

A. Schedule 1 of this Exhibit summarizes Con Edison’s projected capital expenditures for ten program categories under the Steam Production Construction Plan for the years 2013, 2014, 2015, 2016 and 2017. Schedule 2 of this Exhibit presents the whitepaper discussions of each project that include project description, justification, estimated cash flow and projected in-service date.

Q. How are the costs projected?
A. Cost projections for the Plan are based on preliminary engineering, evaluations of alternatives, and inspection of existing conditions that need to be corrected, past experience with similar projects and consultation with vendors and contractors. These cost projections are used for planning. For 2013, projects are prioritized using a ranking system with strategic alignment drivers along with estimated costs to determine the value of each project versus cost. A comparison of the projects assists in determining the proper projects to be included in the budget.

Detailed cost estimates are prepared as the project scopes are finalized, equipment is selected, and detailed engineering and design is developed.

Q. What measures does the Company apply to implement these projects at reasonable cost?

A. Prior to moving forward with a specific project, the Company prepares detailed cost estimates that are the basis for senior management approval to proceed with the capital expenditure. Higher levels of senior management approvals are required depending on the level of expenditure. Construction services and equipment are procured via a formal bidding process that: a) verifies the technical qualifications of the
bidders to perform the work per Company specifications; and b) for construction work, confirms the reasonableness of the quoted price via an in-house independent bid check estimate. The lowest cost qualified bidders are selected. For construction, the bidders’ prices have to be within ten percent of the bid check estimate to be acceptable, otherwise further fact finding and negotiations are required before a contract is awarded. As construction progresses, the actual expenses are evaluated as compared to the budget to verify that the project is proceeding as planned.

Q. Does the Company plan for unexpected plant conditions?
A. Yes. Capital improvement projects to address conditions that may affect reliability, compliance with regulatory requirements and environmental health and safety are prioritized and are included in the Plan based on current information and their relative importance to improved operations. However, the Company recognizes that plant operations and associated areas that need improvement are dynamic, and changing plant conditions and operational constraints result in uncertainties that often require reallocation of resources to address more immediate,
higher priority projects. Examples include equipment malfunctions or conditions that pose higher risks to personnel and public safety, the environment, and plant reliability, or are required to comply with regulations. Accordingly, the Company allocates capital funding in the Plan for emergent projects and adjusts the Plan to reallocate funding when higher priority needs arise.

Q. How are emergent issues managed?

A. Emergent issues are addressed by adjusting the Plan and rescheduling projects with an emphasis on meeting the immediate needs of continuing plant operations safely and reliably. These adjustments do not invalidate the needs of previously planned improvements, but rather allow the Company the flexibility to allocate capital expenditures where they are needed most to provide continued safe and reliable operations. As such, the timing of the projects and corresponding capital expenditures are rescheduled to address unforeseen needs. Absent unforeseeable circumstances, the Company seeks to complete its planned programs at or below the projected level of capital expenditures.

Q. Given the impacts of Superstorm Sandy, are there any
new initiatives underway that would help to mitigate
the impacts of future storms?

A. Yes. A corporate System Design Task Force was
established to develop and recommend both short and
long-term storm hardening initiatives and system
design changes that would mitigate future weather-
related damage.

Q. Please describe the efforts and objectives of this
task force.

A. We have new initiatives underway in a number of areas
that impacted Company facilities. We are working on
ways to mitigate the effects of both the flooding and
high winds caused by Superstorm Sandy. A cross
functional team has addressed effective and efficient
cost and capability plans for short term solutions
(immediate to three years), near term solutions (three
to seven years), and long term solutions (over seven
years and up to twenty years). The team will develop
a prioritized listing of potential design changes,
operational strategies, procedural modifications and
hardening initiatives to mitigate the impact of severe
weather. Their analysis will include potentially
impacted Company facilities, including steam
production facilities.
Q. Can you describe some of these initiatives to protect against flooding at various Company facilities?

A. Steam generation facilities, transmission substations, area substations, and unit substations all have similar concerns when it comes to flood water. In addition to our numerous substations, we have evaluated six steam generation facilities, which include: East River Units 1 and 2 Heat Recovery Steam Generator ("HRSG," individually "HRSG 10" and "HRSG 20" or "HRSGs 10 and 20" collectively), ERSSS, 59th Street, 74th Street, Ravenswood A-House, and 60th Street. At these facilities, we determined that the main sources of water infiltration were through the intake and discharge tunnels, below grade conduit penetrations, drains to municipal storm sewers and surface runoff (at grade) through egress doorways and driveways. The types of equipment affected were: motor control cabinets ("MCC"s), pumps (such as the brine transfer, heater input, raw water, gas turbine black start fuel oil, primary cooling, CO₂, fire and boiler feed pumps), kerosene and No. 6 fuel oil tanks, Light and Power ("L&P") transformers, auxiliary station transformers, and AC and DC power supplies.

We have reviewed each piece of equipment and factors
such as the protection measures currently in place, criticality to the process and estimated replacement
time. We then determined whether they should be
elevated, contained within a moat with wall heights
above Sandy’s flood elevation, or converted to
submersible units. For those stations with tunnels
that access the East River or Hudson River, our
primary objective will be to permanently seal those
tunnels no longer in use and provide emergent shut-
down mechanisms such as sluice gates and/or mechanical
shut-off valves to prevent the flow of storm surge
from the river towards the station. Each station had
an established Flood Control Level based on historical
data, and various protection measures such as moat
walls and sump pumps were in place at the time of the
storm. Another solution involves the installation of
additional walls and the raising of existing flood
control walls around critical equipment. This will be
complemented with water-tight doors as well as
properly sealing wall penetrations which accommodate
outside piping and conduit entries and drains entering
and exiting the containment moats. In parallel to
this, non-critical equipment will be preemptively de-
energized to protect against failure due to salt water
intrusion that would result in control/power supply short circuits, thereby significantly increasing post storm restoration durations. We are working with our Electric Distribution Department on designing storm hardened feeds to the steam distribution pumps, remote monitoring, and critical customer steam equipment which require electrical feed to operate.

**GAS ADDITION PROJECTS**

Q. What are the Company’s Gas Addition projects?

A. The Company’s Gas Addition projects will install natural gas firing capability at the 59th Street and 74th Street Stations.

Q. Please describe the Gas Addition projects.

A. Currently, the primary fuel at both the 59th and 74th Street Stations is #6 fuel oil. At the 59th Street Station, the two Annex boilers use #6 fuel oil. Natural gas is used for the three package boilers and the Annex boilers’ igniters. At the 74th Street Station, all of the boilers (i.e., three high pressure and six package boilers) use #6 fuel oil.

Q. Please continue.

A. The work to install natural gas firing capability to the 59th Street and 74th Street Stations is underway. The projects are installing gas supply systems at each
station with capacity sufficient to fuel all of the boilers. These projects will convert the stations’ primary fuel to natural gas, while maintaining the dual-fuel firing capability for all boilers. Specifically, each boiler will be capable of using either #6 fuel oil or natural gas. The Gas Addition project at the 59th Street Station consists of installing a natural gas supply system for the high pressure boilers and modifying the existing natural gas supply to the package boilers. The Gas Addition project at the 74th Street Station consists of the installation of a natural gas supply system for three high pressure boilers and six package boilers.

Q. What are the projected costs for these projects?

A. The total cost estimate of the Gas Addition project is $129.0 million, $20.0 million of which is being provided by Extell Development Corporation (“Extell”) for the inclusion of the gas turbines at 59th Street as part of the project. Extell is providing this funding because the height of its building exceeds the height of the combustion turbine’s stack and firing the combustion turbine with kerosene would have more harmful emission dispersion than firing it with natural gas. As such, the addition of the natural gas
firing ability for the gas turbines will reduce the environmental impacts on Extell’s development so that it can proceed with the development.

Q. What capital costs for the Gas Addition are reflected in the projected Steam revenue requirement?

A. The Steam revenue requirement reflects $109.0 million, which is the total projected capital expenditure associated with the Gas Addition projects ($129.0 million) net the $20.0 million contribution from Extell.

Q. Why is the Company proceeding with these projects now?

A. The Company is proceeding with these projects in order to comply with new New York State Department of Environmental Conservation (“NYSDEC”) Nitrogen Oxides (“NOx”) Reasonably Available Control Technology (“RACT”) requirements that go into effect on July 1, 2014. These projects offer significant economic, environmental and other benefits such as the operational flexibility of dual firing capability. The reduction of #6 residual fuel oil burning and the switch to cleaner-burning natural gas that will occur as a result of these projects will provide significant environmental benefits. Comparing the baseline emissions before the projects (average of actual
emissions for years 2008 and 2009) with a three-year average (consisting of years 2014 through 2016) of projected emissions, the projects are projected to produce the following estimated annual emissions reductions: (a) the 59th Street Station’s Annex boilers would likely achieve an annual reduction of approximately 78,000 tons of CO\textsubscript{2}, 190 tons of NO\textsubscript{x}, 380 tons of SO\textsubscript{2}, and 40 tons of PM\textsubscript{10}; and (b) the 74th Street Station boilers would likely achieve annual emissions reductions of approximately 70,000 tons of CO\textsubscript{2}, 330 tons of NO\textsubscript{x}, 640 tons of SO\textsubscript{2}, and 110 tons of PM\textsubscript{10}. These emissions estimates were based on projected sendouts for the forecasted years and compared to the sendouts from the baseline years. The fuel savings associated with these projects are discussed by the Steam Fuel Panel.

Q. Are there any other changes being made as a result of the Gas Addition projects?

A. Yes. As required by the Commission’s Order Denying Accelerated Recovery in Case 09-S-0794, issued February 22, 2012, the Company has evaluated the impact of the Gas Addition equipment and piping on the interdepartmental rent charged to Electric for the space utilized by electric equipment at both the 59th
Street and 74th Street Stations. The current rent allocation, based on square footage of space utilized (excluding common areas) is 40% electric and 60% steam at the 59th Street Station and 53% electric and 47% steam at the 74th Street Station.

Q. I show you a three-page exhibit entitled “REVISED RENT ALLOCATION FOR 59th STREET AND 74th STREET GENERATING STATIONS”, Exhibit ___(SOP-2) and ask whether it was prepared under your direction?

A. Yes.

Q. Please describe this exhibit.

A. We have reviewed the current equipment configuration at both stations as well as the design drawings for the Gas Addition projects. Based upon this review, the square footage utilization will change to 34% electric and 66% steam at the 59th Street Station and 41% electric and 59% steam at the 74th Street Station. This exhibit indicates how the square footage utilization percentages were developed. Based upon the square footage utilizations, effective October 1, 2013, the rents to Electric will be reduced to $3.0 million/year and $2.0 million/year for the 59th Street and 74th Street Stations, from $3.7 and $2.8,
BOILERS

Q. Please describe the capital expenditures for the Boiler projects.

A. Projects in the Boiler Program are needed to maintain the capacity and reliability of the boilers and related equipment. The station boilers are the central equipment at each station that convert water into the steam that is supplied to customers. Capital expenditures for this program are projected as follows: $7.7 million in 2013, $2.1 million in 2014, $1.2 million in 2015, $12.6 million in 2016, and $9.2 million in 2017.

Q. Please describe each of the major anticipated boiler projects.

A. The following major Boiler projects are included in the Plan:

- Replacement of the 74th Street Boilers 121 and 122 Economizers. Recent inspections and localized through wall failures due to residual stresses in the metal from cyclical loading have shown that the economizers are in need of replacement. The Company projects capital expenditures of $2.8 million in 2013 for Boiler 121 and $3.2 million
between 2015 and 2016 for Boiler 122.

- Replacement of the 74th Street Boiler 122 Water Wall Tubes and Tieback. Recent inspections of Boiler 122’s tubes have shown bowing and out of plane conditions, which allow hot gases to pass between the tubes and the refractory wall. Replacement of the tubes and tiebacks are required to correct this problem. The Company projects a capital expenditure of $600,000 in 2016.

- Upgrade the existing fuel oil facilities at the 60th Street Station to allow light oil (kerosene) firing. The new fuel system will make deliveries and burning more reliable, bring the installation up to current applicable National Fire Protection Association (“NFPA”), American Society of Mechanical Engineers (“ASME”), and New York City Building Codes and allow for low NOx operation in compliance with current operating permits or in the event natural gas service is curtailed. The Company projects a capital expenditure of $2.1 million in 2014.

- Replacement of ERSSS Package Boiler Economizers. The five operating package boilers have
economizers that are experiencing failures due to fire side and water side corrosion. For this reason the tubes are planned for replacement during the 2013 unit outage. The Company projects a capital expenditure of $4.4 million in 2013 for installation.

- Replacement of the Generation Banks in 59th Street Boilers 114 and 115. Inspections have shown that there is cracking in the tubes near the mud drums due to normal service cyclical loading and fatigue. The Company projects capital expenditures of $8.3 million in 2016 for Boiler 115 and $8.7 million in 2017 for Boiler 114.

- Upgrade of the Air Pre-heaters on 59th Street Boilers 116 and 117. Visual inspection and reduction in performance has shown that the hot and cold end baskets require replacement. The primary cause of the deterioration of the baskets is age as the equipment is near the end of its normal service life. The Company projects capital expenditures of $360,000 in 2015 and $360,000 in 2016.

- Refurbishment of the Boiler 114 Pre-heater Baskets in 59th Street Station. The deterioration
of the air heater baskets has exceeded the level at which reasonable performance can be expected. The reduction in performance is evidenced by elevated exit gas temperatures and by recent visual inspections. The replacement decision is largely based on potential performance recovery. The Company projects a capital expenditure of $565,000 in 2016.

MECHANICAL, ELECTRICAL, AND CONTROLS

Q. Please describe the Mechanical Equipment Replacement, Electrical Equipment, and Control Systems Programs.

A. These programs include projects to replace equipment and systems in three key functional areas of the station: mechanical, electrical and controls. Systematic planned equipment replacements maintain reliability and reduce problems due to degradation, lack of OEM support and spare parts, malfunction, and failures that affect the safe and reliable operation of the station and that may cause forced outages. Some of these components have long lead procurement times. This means that a failure could cause prolonged forced outages and unit derates, e.g., in the event of a failure or malfunction, the affected boiler may be kept off-line or at limited capacity.
until the replacement parts are procured and installed. In such an event, additional costs would be incurred to install interim repairs to maintain operations until new equipment is purchased and installed.

Q. Does this programmatic approach have additional benefits?

A. Yes. Because the Company will be replacing older and, in many instances, degraded equipment with new equipment these projects have the additional benefit of introducing equipment into the system that is more efficient and more technologically capable. These programs include projects to upgrade equipment and systems by application of new technologies. New technologies expand the capability and efficiency of plant systems, improve response time, and maintain the reliability of the steam supply to the customers. Thus, operators will have additional information regarding plant status and will be able to have more control over plant equipment then they currently do, which will enable the operators to respond more quickly and efficiently. This will help minimize the likelihood, and mitigate the impact of, forced outages. Improving efficiency will result in reduced
fuel and auxiliary power costs that will be passed through to customers via the Fuel Adjustment Clause ("FAC").

MECHANICAL EQUIPMENT

Q. What are the planned expenditures for the Mechanical Equipment Replacement Program?
A. This program includes the replacement and improvement of mechanical equipment, such as pumps, valves, heat exchangers, air compressors, tanks, fire protection, heating and air conditioning systems. The capital expenditures projected for the program are approximately $8.3 million in 2013, $10.1 million in 2014, $21.3 million in 2015, $11.9 million in 2016, and $13.1 million in 2017 (these totals exclude the Gas Addition Project at the 74th Street and 59th Street Generating Stations).

Q. Please describe the Major Mechanical Equipment projects.
A. The following are planned Major Mechanical Equipment projects:

- 74th Street Station High Pressure ("HP") Boiler Condensate Recovery. Currently the condensate from the HP boilers goes to the treated water tank and sometimes this condensate can exceed 120
degrees F, which may damage the tank lining. This project will recover the waste condensate energy and transfer it to the deaerator makeup water, providing cost savings of $400,000 annually. Savings in energy and water will be reflected in lower FAC costs passed along to customers. The Company projects a capital expenditure of $2.2 million in 2013.

Installation of 74th Street Station High Pressure Boiler Deaerator Degasser. This project will install a degassing system to remove dissolved oxygen prior to the deaerators, and to use the deaerators as a direct contact heater. The degassing system eliminates the need for the deaerators to vent steam to the atmosphere to remove dissolved oxygen from the feedwater. The deaerator will function as an open heater after the degassing system, at a cost savings of $1.8 million per year. Savings in energy and water will be reflected in lower FAC costs passed along to customers. The Company projects capital expenditures of $1.0 million in 2013 for material and $3.5 million in 2014 for installation.
• Replacement of 74th Street 120 Induced Draft Fan.

This project consists of replacing the fan shaft, wheel and bearing housing to eliminate fan vibration. The fan is original equipment and almost 50 years old. Fans such as these, in service for this length of time, suffer from long-term stress fatigue, which can result in catastrophic failure. Implementation of this project will eliminate the fan vibration, which would otherwise ultimately destroy the fan wheel, shaft, bearing housing, and compromise the building structure. The Company projects a capital expenditure of $500,000 in 2017.

• Replace High Pressure Boiler Feedwater Motor Operated Valves at 74th Street Station. HP Boilers 120, 121, and 122 feed water block valves are currently operated by using 125V DC supply. These original units are difficult to repair and parts are hard to obtain. The existing feed water block valves will be replaced with a comparable 480V AC design. The 480V AC motor can be more easily maintained and replaced as required. The Company projects a capital expenditure of $600,000 in 2015.
• Replace 74th Street Station HP Fuel Oil Heat Exchangers. This project reduces maintenance costs and resolves tube leak issues. The Company projects capital expenditures of $300,000 in 2015 for material and $900,000 in 2016 for installation.

• Replace 74th Street Station HP Fuel Oil Shuttle Heaters. This project reduces maintenance costs and resolves tube leak issues. The Company projects capital expenditures of $150,000 in 2015 for material and $600,000 in 2016 for installation.

• Replace 74th Street Station Main Control Room ("MCR") Heat, Ventilating, and Air-Conditioning ("HVAC System"). Some of the critical instrumentation and controls equipment in the MCR are sensitive to elevated temperatures and humidity. When these devices are subjected to elevated temperatures and humidity, they are more likely to fail and/or experience accelerated degradation which results in more frequent replacement. This project will replace the existing HVAC Unit with a new and larger cooling capacity unit (including ductwork modifications,
structural supports, and electrical work power new units and controls). The Company projects a capital expenditure of $600,000 in 2015.

• Installation of 74th Street Station Package Boilers Demineralized Water Tie-in. This project will provide a source of demineralized water to the package boilers for blending purposes in order to achieve a quality similar to Catskill Aqueduct water and to ensure steam meets Commission conductivity requirements, even when operating on Croton Aqueduct water. The switch to Croton Aqueduct water is expected to occur in the Spring of 2013. The Company projects a capital expenditure of $2.5 million in 2013 for installation to complete this project which was begun in 2012.

• Replacement of 60th Street Station Air Compressor. The existing air compressors, air receiver and dryer were installed in 1990. They have completed their average useful life, have developed extensive maintenance issues and are due for retirement. The air receiver shows signs of fatigue and is rusted externally. The dryer cannot maintain the required dew point and
requires frequent maintenance. Air compressors and associated equipment are installed below category 1 flood level. These air compressors and dryers will be connected to the Distributed Control System ("DCS") via a mod bus network. A moat will be built around the compressors, dryers and receiver to protect equipment from category 1 flood level. The Company projects a capital expenditure of $1.8 million in 2014.

- Relocation of 60th Street Station Feedwater Heater Piping. Implementation of this project will eliminate numerous leaks and provide safe access to the steam drum gauge glass and provide safe and easy access to the feedwater valve in the front of the boiler for maintenance, which is currently very difficult. The Company projects a capital expenditure of $600,000 in 2015.

- Replacement of the HRSGs 10 and 20 Carbon Monoxide ("CO") Oxidation Catalyst. It is necessary to perform an in-kind replacement of the CO oxidation catalyst in HRSGs 10 and 20. The expected life of the CO oxidation catalyst is four to six years. Testing of removed samples shows the activity of the catalyst has degraded
as expected. If the catalyst is not replaced the unit will not maintain necessary CO reduction rates. The Company projects capital expenditures of $500,000 in 2015 for material and $3.5 million in 2016 for replacement.

- Replacement of the East River Units 1 and 2 HRSG Drain Header. This project will consist of modifying the existing 12-inch superheater manifold located below the HRSG casing so that condensate cannot collect in the superheater inlet manifold prior to GT ignition, particularly when the GT is cranking and unfired. To mitigate the potential for condensate pool in the superheater, causing thermal fatigue damage, additional drain points will be added. The Company projects a capital expenditure of $750,000 in 2015.

- Replacement of the East River Units 1 and 2 HRSG Economizer. The economizers of HRSGs 10 and 20 are counter current cross flow design built in two trains of seven carbon steel harps. This design, as evidenced by inspection and modeling, induces turbulent flow characteristics near the ends of each header due to high fluid velocity.
and flow disruptions. The turbulence, water chemistry requirements, water temperature and the lack of chromium in the carbon steel has led to single phase and dual phase flow accelerated corrosion damage. The worst of these areas failed, leading to the discovery of this corrosion and the necessary replacement of the upper headers and top eighteen inches of Harp 12 and Harp 13 during the spring of 2009. Changes in water chemistry have also been made, but it is expected that normal operational wear will continue in other headers and tubes making replacement necessary by 2017. The Company projects capital expenditures of $500,000 in 2016 for material and $8.0 million in 2017 for replacement.

Installation of Intermittent Blow-Down (“IBD”) on East River HRSGs 10 and 20. These projects will consist of installation of IBD equipment at the East River Station’s HRSGs 10 and 20. The purpose of these systems is to cool down the HRSG IBD and other trap discharges before they are directed to the temporary quenching system. The system currently dumps into the existing drain system to
the river. The new installation will consist of installing one flash tank and associated piping and vent lines for each HRSG. This will significantly minimize the possibility of a SPDES thermal violation due to high temperature and prevent further damage to the existing drain system due to thermal shock. The Company projects capital expenditures of $1.4 million in 2015 for HRSG 10 and $1.4 million in 2015 for HRSG 20.

- Utilization of Main Gas Supply at East River Units 1 and 2. Currently the main gas supply to the units is metered through a common station. Modifications will be made to unitize metering to individual units by means of piping changes and separate meters. Having only a common meter station limits the ability to provide real time performance indications for each unit. Providing piping modifications and separate meters will allow for real time heat rate calculations which can be used as diagnostic tools to improve performance. The Company projects a capital expenditure of $500,000 in 2017.

- Upgrade of the East River Units 1 and 2 Intake Air
Filtration. The project will upgrade existing Units 1 and 2 combustion gas turbine air inlet filtration systems. Testing of the turbine blades was done recently and the results of the analysis indicate significant corrosion resulting from chloride induced pitting on both the rotating and stationary blades. High chloride concentrations can cause accelerated deterioration of the turbine rotating and stationary blades. The optimal filtration system should eliminate ingress of corrosive elements and provide high filtration efficiency without restricting adequate mass flow to the gas turbine over the expected life of the cartridge filters. The Company projects a capital expenditure of $700,000 in 2014.

Installation of ERSSS Package Boiler Deaerator Degasser. This project will install a degassing system to remove dissolved oxygen prior to the deaerators and to use the deaerators as a direct contact heater. The degassing system will eliminate the need for the deaerators to vent steam to atmosphere to remove dissolved oxygen from the feedwater. The deaerator will function
as an open heater after the degassing system, at a cost savings of $260,000 per year. Savings in energy and water will be reflected in lower FAC costs passed along to customers. The Company projects capital expenditures of $1.0 million in 2013 for material and $2.8 million in 2014 for installation.

Installation of Demineralization Plant Water Supply to ERSSS. The Croton Water Supply needs to be processed through the demineralization water plant in order to keep conductivity levels below Commission mandated limits of distribution steam. In order to provide demineralized water to ERSSS and satisfy steam purity requirements, a stainless steel transfer line including valving will be run from the existing Units 1 and 2 demineralized water tanks. This line will run through the connection bridge, bypass the existing softening system, and discharge into the treated water tank. All piping and fittings within the South Steam Station prior to the boiler inlet will be converted to stainless steel. An additional chemical feed system including re-alkalization and phosphate feed
skids will be required to provide high energy boiler feed piping protection and internal boiler chemical treatment. The Company projects a capital expenditure of $4.5 million in 2015. •Replacement of the ERSSS Control Components Inc. (“CCI”) Drag Valves. The existing CCI drag valves require replacement. Currently spare parts for this valve are specially made, making repairs costly. System modifications have made the existing valves oversized for current operating ranges, which range from 50 Mlb/hr steam sendout to 550 Mlb/hr. The new valves will be sized appropriately. The Company projects a capital expenditure of $950,000 in 2015. •Consolidation and replacement of 59th Street Station Surge Tanks 7 and 8. During a recent inspection, the overall integrity of Surge Tanks 7 and 8 was identified as “satisfactory to poor.” Surge Tanks 7 and 8 collect non-treated water and condensate for re-circulation to the raw water tank; if not collected, this water has to be sent to the discharge tunnel, increasing the fresh water usage of the station. The existing tanks and associated appurtenances will be disconnected and
removed. New tanks, piping, controls, and instrumentation will be installed in the basement of the plant. The Company projects capital expenditures of $3.0 million in 2016 and $1.7 million in 2017.

- Replacement of 59th Street Station Surge Tank 4.
- The 59th Street Station has four surge tanks. The function of these surge tanks is to collect the trap discharge returns, water used to cool various equipment and the cooling water from heat exchangers. Surge Tank 4 is degraded to a point where the side roof of the tank is leaking, allowing water vapor to escape and damage the beams and the floor above. Replacement of Surge Tank 4 is required because the tank is leaking and its general condition is very poor. Repairing the leaks on Surge Tank 4 is not practical. Replacement with stainless steel similar to Surge Tank 3 will eliminate future corrosion. The Company projects a capital expenditure of $5.0 million in 2015.

- Upgrade of 59th Street Station Surge Tank 4 Vent Piping. This project is to upgrade the vent piping shared by Surge Tanks 3 and 4 at the 59th
Street Station. The work will entail the installation of approximately 70 feet of new 12-inch pipe to replace an existing 6-inch section of the vent line. Surge Tanks 3 and 4 provide a means to recover multiple sources of condensate discharged from the Annex main steam system, auxiliary steam system, and several Deaerator No. 5 drain lines. The surge tanks are vented through a common 12-inch header. The line includes a long section of 6-inch pipe that is not adequately sized to protect the tanks against the pressure buildup caused by the high temperature return lines. As a result, through-wall vapor leaks have developed at two points along the vent piping run. The vessels were initially designed and fabricated as atmospheric storage tanks and therefore not designed for this pressure buildup. The Company projects a capital expenditure of $1.0 million in 2013.

- Replacement of 59th Street Station Annex Boiler Feedwater Piping. Deaerator #4 supplies deaerated feedwater to the suction of Annex Boiler Feed Pumps #114 and #115. The boiler feed pumps then pressurize the water up to
approximately 850-psig, supplying the two boiler
drums through a 6-inch main piping. This project
will replace the boiler feed discharge piping.
The original piping has been in service for over
50 years. The layers of oxide and other deposits
on the inside of the deteriorated piping break
off and cause equipment degradation and
malfunction within the feedwater circuit. In
particular, the debris is detrimental to the
impulse lines and might have contributed to
frequent boiler trips. The boiler feed water
piping is vital as it supplies feedwater to the
two Annex Boilers for steam production for
internal use and New York City ("NYC") steam
sendout. The Company projects a capital
expenditure of $600,000 in 2017.

● Replacement of the 59th Street Annex Safety Valve
Discharge Piping. The relief pipes show signs of
significant deterioration. Steam leaks through
holes on the side walls of the 50-year old ten-
inch relief pipes due to corrosion. The existing
condition of ten-inch relief pipes of the Annex
steam sendout system in 59th Street Station is no
longer acceptable based on the provision of
Paragraph 122.6.2 ASME B 31.1 Power Piping Code.

To satisfy the applicable code requirements and for the safety of 59th Street Station personnel, the 50-year old ten-inch relief pipes have to be replaced. The like-in-kind replacement includes the steam relief pipes, as well as the appurtenant structures, hangers, supports, roof metal hoods and roof seals. The Company projects a capital expenditure of $590,000 in 2015.

There are other Mechanical Equipment Program projects that are projected to be smaller capital expenditures. Project descriptions and justifications for these projects are included in Exhibit ___(SOP-1), Schedule 2. These projects are as follows:

- 74th Street Station Package Boilers Steam Send Out (“SSO”) Regulators with a projected capital expenditure of $450,000 in 2015.
- 74th Street Station Fuel Oil Protection Sprinklers Upgrade with a projected capital expenditure of $150,000 in 2015.
- East 74th Street Station Package Boiler Raw Water Tank Relining with a projected capital expenditure of $350,000 in 2015.
East River South Steam Station Replace DA2 Level and Pressure Control Valves with a projected capital expenditure of $350,000 in 2015.

59th Street Station Pier 98 Foam Monitors with a projected capital expenditure of $250,000 in 2015.

74th Street Station Replace Trolley Beam Access to Basement with a projected capital expenditure of $200,000 in 2015.

74th Street Station Emergency Diesel Fuel Oil Line Upgrade with a projected capital expenditure of $200,000 in 2015.

74th Street Station Boiler Feed Pump Warm-up Recirculation Recovery with a projected capital expenditure of $150,000 in 2015.

74th Street Station High Pressure Boiler Raw Water Tank Relining with a projected capital expenditure of $340,000 in 2016.

74th Street Station PRS9 Desuperheater Thermal Sleeve with a projected capital expenditure of $300,000 in 2016.

74th Street Station Kerosene Tank Piping Relocation for Individual Tank Isolation with a projected capital expenditure of $200,000 in
o74th Street Station High Pressure Cooling Water Pump and Tank with a projected capital expenditure of $300,000 in 2017.

**ELECTRICAL EQUIPMENT**

Q. What are the planned expenditures for the Electrical Equipment Program?

A. The capital expenditures for the Electrical Equipment Program are approximately $0.5 million in 2013, $1.3 million in 2014, $4.1 million in 2015, $2.9 million in 2016 and $2.1 million in 2017. This program typically includes the replacement of electrical equipment such as switchgear, transformers, batteries, uninterruptible power supplies, inverters, breakers, motors, cables and backup generators. The major electrical projects include:

- Install Alternate Power Feed to ERSSS. The project provides an alternate feed to ERSSS from East River Unit 6. This requires a change in configuration of the L&P breakers in the plant to feed ERSSS through L&P 2. ERSSS has a single feed for start-up power. Loss of this feed would result in the inability to start up any unit at the station, which could jeopardize the
reliability of the entire steam system. For example, in the event several large units are scheduled for outages during a shoulder month, if ERSSS were not available and the Company experienced an N-1 event, steam pressure could go very low. Installation of an alternate feed would allow ERSSS to be started with the loss of one source. The Company projects a capital expenditure of $2.0 million in 2015.

• Upgrade 59th Street Station Turbine Hall Lighting. This project will replace the existing inefficient lighting system on the turbine floor with a new high efficiency lighting system. The project also provides for safe replacement and troubleshooting access by maintenance personnel to the lighting fixtures. The Company projects a capital expenditure of $1.4 million in 2016.

• There are other Electrical Equipment Program projects that are projected to be smaller capital expenditures. Project descriptions and justifications for these projects are included in Exhibit ___(SOP-1), Schedule 2. These projects are as follows:

East River Station Units 1 & 2 Lighting Upgrades
with a projected capital expenditure of $340,000 in 2015.

59th Street Station Emergency Evacuation System Upgrade with a projected capital expenditure of $250,000 in 2015.

74th Street Station 480V Dock Power Supply with a projected capital expenditure of $350,000 in 2017.

74th Street Station 2.4kV High Pressure ID and FD Fan Feed Upgrade with a projected capital expenditure of $300,000 in 2017.

**CONTROL SYSTEMS**

Q. What are the expenditure requirements for the Controls Systems Program?

A. The Control Systems functional program expenditures are projected to be approximately $5.3 million in 2013, $3.8 million in 2014, $5.8 million in 2015, $3.0 million in 2016, and $2.6 million in 2017. The Program includes the replacement and upgrade of control systems throughout the steam generating stations, including transmitters, digital control systems, control panels and terminals, monitoring instrumentation, and wiring. In addition to replacing obsolete equipment, these control system projects
provide new capabilities, such as automatic operation of critical components, monitoring of additional important parameters to aid plant operators, and faster response times. Major control system projects include:

- Upgrade the 74th Street Station Chemical Monitoring system. This project is required because the Commission has designated steam purity limits for several chemical parameters in the steam sendout. These chemical parameters are currently monitored using a combination of electronic analyzers and hand samples. The use of hand samples can cause delayed analysis results on certain chemical parameters that need a more efficient means of indicating results. Also, accelerated degradation of the steam equipment can occur if certain chemical and pH levels are not properly maintained in the system. Installation of the necessary chemical analyzers and probes will allow improved real time indication to the operators, permitting the system to be more effectively maintained and operated, so that the steam purity and quality stay within the requirements of the Commission and accelerated
equipment degradation does not occur. The readings from the instrumentation will be provided locally at the instrument as well as remotely on displays in the control room and in the plant information system (“PI”). The instruments will be unitized using separate input/output (“I/O”) cabinets for the package boilers and the high pressure boilers. The instruments associated with the package boilers will be connected to the existing DCS. The Company projects a capital expenditure of $870,000 in 2015.

**Combustion Turbine Generator (“CTG”) Control System Upgrade Project at the East River Station Units 1 and 2.** This project will upgrade the current Mark V control system to the Mark VIe. The upgrade provided by General Electric (“GE”) will replace the existing “196” processors with new 667 MHz PowerPC processors. The internal ARCNET communication system will be replaced with 100 MB Ethernet. These changes will not affect the current I/O and will not require any changes to the existing packaged electrical and electronic control compartment. The network infrastructure
will be upgraded to remove a single point failure and allow for network redundancy. Network infrastructure will require running new conduit and fiber optic cable between each turbine control room and the terminal board room. As of November 2008, Emerson Evergreen Ovation ("Emerson" or "Ovation") no longer supplies Solaris based components. The components will no longer be available for purchase, and support will be limited, potentially slower and more costly. Also, reliable communications between the DCS and combustion gas turbine cannot be guaranteed while the two systems are on different software platforms. Without the planned upgrade, the only option would be to self maintain the DCS with existing spare parts and suppliers, and develop and secure a long-term network of engineers to support the station for various troubleshooting issues. The Company projects a capital expenditure of $1.4 million in 2013.

-Upgrade East River Units 1 and 2 DCS Windows. This project will upgrade the retired Solaris operating system components on East River’s DCS associated with Units 10 and 20 with new Emerson
DCS components. This project will replace the Solaris components with Windows based operating system components, replacing the no longer manufactured components, including networks, workstations, controllers and system software, with the latest releases and security features without replacing the entire control system. The DCS I/O modules will not be replaced during this upgrade. The currently installed R-Line cards will continue to be supported by Emerson into the future. This upgrade will also put the turbine control and Emerson DCS on the same communications protocol (“Ethernet”), alleviating any communication issues and ensuring reliability. As of November 2008, the Solaris based DCS components installed at East River Units 10 and 20 were classified as “retired” by Emerson. Emerson cannot continue supporting the Solaris based components because the components are no longer manufactured by Sun Micro Systems. Therefore, the components will need to be replaced with Windows based components. In conjunction with this project, another capital project will replace future unsupported GE Gas
Turbine control system components with Windows/Ethernet based operating systems. This will also necessitate the Emerson DCS upgrade in order to keep seamless communications between the new GE gas turbine control system and the Ovation control system, ensuring a common operating system for enhanced reliability and controllability. The Company projects a capital expenditure of $1.0 million in 2013.

- Upgrade East River Units 1 and 2 Exciter. The Combustion Turbine Generator Excitation System ("EX2000") is a microprocessor-based power converter that produces controlled DC output for generator excitation. The EX2000 fully integrates with the Mark V turbine control, where all control signals are written to and from the exciter on the ARCNET data link for data logging and reporting. This project will upgrade the current EX2000 to EX2100e Digital Front End ("DFE"). The upgrade package will replace all the unsupported circuit cards in the primary and backup power bridges, as well as the protection and auxiliary module. The EX2100e DFE also upgrades the auxiliary module to the latest
exciter technology and Ethernet standard. This will allow for full integration with Mark VIe migration controls and the complete elimination of ARCNET. Network infrastructure will require running new conduit and Ethernet cable between each generator control room and turbine control room. An End-Of-Life notice was distributed by GE in 2004, which gives the system supportability until 2014. After 2014, no further technical assistants will be trained on the EX2000 and parts will no longer be supported. With the current configuration, the only option would be to self maintain the EX2000 with existing spare parts and suppliers, and develop and secure a long-term network of technical assistants to support the station for various troubleshooting issues. Also, ARCNET communications protocol no longer meets IEEE standards and would require conversion to 100MB Ethernet LAN. By upgrading the excitation control system, Con Edison will be improving the reliability of these units by increasing the troubleshooting capability, enhancing cyber security, and replacing obsolete circuit cards and communications protocols. The
upgrade also improves graphics, alarm/event management, and trending. The Company projects a capital expenditure of $600,000 in 2013.

- Replace ERSSS DCS I/O Cards. The ERSSS DCS I/O Cards Replacement project involves the replacement of DCS cards. The implementation of this project requires replacement of all the old Westinghouse Distributive Process Family (“WDPF”) Q-CARDS with new R-CARDS and all the other components associated with I/O cards for Unit 7/70, reprogramming the software to reflect the new changes, testing the Data Base, Graphics and Control Logics to confirm the new replacement, upgrading Ovation software to Windows, system level 3.2, and completely replacing Data Processing Unit (“DPU”) 5/55 (including the enclosure). Replacing WDPF I/O with R-line I/O will complete the controls modernization for East River Station and allow the Ovation system to run at its full abilities, without a technological bottleneck at the I/O of the control system. The technological modernization can generate many synergies with future capital projects by using remote cabinets and reducing conduit and wiring
runs. Highway Addressable Remote Transducer ("HART") feedback will give operations and Instrumentation and Controls ("I&C") additional process information while a future installation of an Asset Management System ("AMS") PC on the network(s) will allow for better valve maintenance and troubleshooting. Removal of WDPF I/O will also allow East River to purchase stock replacement power supplies from Emerson. The Company projects capital expenditures of $200,000 in 2013 and $800,000 in 2014.

- Upgrade East River South Steam Station Central Control Room ("CCR"). The ERSSS CCR Upgrade project will allow for the migration of the boiler control (Package Boilers #110 through #119) to the East River Units 1 and 2 Control Room located on the 8th floor of the East River Plant next to the Units 6 and 7 Control Room. The South Steam Station boiler controls for Units #110 through #119 have been upgraded to WDPF in recent years. The remaining balance-of-plant controls are locally controlled and will be incorporated in the new Ovation DCS before migration to the Unit 10 and 20 Control Room.
The Company projects a capital expenditure of $1.9 million in 2015.

- Upgrade 59th Street Boiler Management System ("BMS") for the Package Boilers. The 59th Street package boiler BMS input daisy chain has to be eliminated by adding a Watchdog Timer Relay. Each BMS tripping switch (or device) will have its own separate Programmable Logic Controller ("PLC") input. The package boiler BMS Induced Draft ("ID") Fan Running and Forced Draft ("FD") signals should be reconnected to the separate PLC Inputs. Also, package boiler BMS PLC should be modified with high time resolution sequence of event module to identify real source of the trip. The package boiler BMS PLC Program should be modified to get correct first out alarm to identify the real source of the trip and to have reasonable time delay for the trip signals including "ID/FD Fan Tripped." The Company projects a capital expenditure of $500,000 in 2015.

- Upgrade 59th Street Station Package Boiler Gas Flow Meter. This project will remove the existing vortex make flow transmitters with pneumatic
signal lines after isolation of fuel gas supply to three package boilers. The project will include the installation of new Rosemount make pressure and temperature corrected flow transmitters with manifold, pneumatic signal lines, isolation and drain valves with laboratory testing as per United States Environmental Protection Agency ("EPA") or approved equal standards of accuracy. Without pressure and temperature compensation, the flow metered by the existing vortex flow transmitters in the fuel gas supply line to each package boiler is not correcting the flow rate as per the prevailing parameters of the fuel gas upstream of these flow transmitters, resulting in an error in calculating the fuel gas flow required to be metered in standard cubic feet per minute. The same error signal in measuring the fuel gas flow rate is transferred to the Title V limit calculation and the Appendix D calculation to the Continuous Emission Monitoring System ("CEMS"). By replacing the existing transmitters with new Rosemount flow transmitters make and model number 3095MFA-Mass flow bar flow meters or an approved
equal, the flow rate will be corrected to prevailing parameters of fuel gas upstream of flow transmitters. This corrected flow rate signal will also derive the correct calculation of Title V limit and Appendix D calculations.
The Company projects a capital expenditure of $500,000 in 2015.

● There are other Control System Program projects that are projected to be smaller capital expenditures. Project descriptions and justifications for these projects are included in Exhibit ___(SOP-1), Schedule 2. These projects are as follows:

○ 59th Street Station Package Boilers Airflow Modifications with a projected capital expenditure of $400,000 in 2013.

○ East River Unit 1 & 2 Simulator Upgrades with a projected capital expenditure of $200,000 in 2013.

○ East River South Steam Station Simulator Operator Training with a projected capital expenditure of $200,000 in 2014.

○ 74th Street Station Smoke Detection System for the 9th and 10th Floors with a projected capital
expenditure of $400,000 in 2016.

- Ravenswood Steam Station Ovation Q-Line Upgrade
  - with a projected capital expenditure of $350,000 in 2016.
- 74th Street Station High Pressure Boilers Control Air Filter Station to Pressure Reducing Station and Drum Level Control Valve Upgrade with a projected capital expenditure of $300,000 in 2016.
- 74th Street Station Deaerators Flow and Temperature Indication with a projected capital expenditure of $400,000 in 2017.
- East River Unit 1 & 2 Install Gas detector Monitoring System with a projected capital expenditure of $250,000 in 2017.
- East River Unit 1 & 2 All Load Cycle Control Autotune with a projected capital expenditure of $100,000 in 2017.

**STRUCTURES, WATERFRONT, AND ROOFS**

Q. Please describe what is included in the Structural, Waterfront, and Roofs functional programs.

A. Projects for general improvements to the stations’ structures, such as steel and concrete, facades, foundations, walls, floors, stacks, driveways,
bridges, and tunnels, are included in the Structural Program. The Waterfront Program specifically addresses improvements to piers, docks, and related facilities and systems. Similarly, the Roofs Program includes projects to replace and refurbish roofs and roof drains.

Q. How are these projects selected?

A. The stations' structures experience degradation due to normal wear and tear, age and weather that, if left unaddressed, could create unsafe conditions to plant staff, result in restricted access to plant areas, cause potential damage to plant equipment, and risk the structural integrity of the facilities. Also, some of these conditions, if not addressed, may lead to non-compliance with applicable regulatory requirements, such as local building codes and OSHA requirements. The Company periodically inspects structures, such as building roofs, facades, stacks, and docks, to assess the condition of these facilities and determine the areas in need of refurbishment. Based on the degree of degradation, facility refurbishment projects are planned to provide for the safety of employees and the public, protect our assets, comply with applicable regulations, and
sustain safe and reliable operation of our steam
generation system.

**STRUCTURES**

Q. How much does the Company plan to spend on the
Structural Program?

A. The Company plans to spend approximately $4.9 million
in 2015, $2.8 million in 2016, and $1.0 million in
2017 on required structure upgrade projects (no
Structural Program work is scheduled at this time for
2013 or 2014). Some of the major structural projects
are:

- Refurbish 74th Street Station Structural Steel and
  Concrete. This project entails extensive repairs
to the structural steel, concrete and masonry
elements within the Station. One large area of
the floor slab at elevation 16’- 0” in the old
boiler house requires new metal decking to be
installed below the existing slab and the space
between the decking and the slab to be filled
with new grout. The Company projects a capital
expenditure of $1.0 million in 2016.

- Replace 74th Street Station Elevators 2 and 3
  Control System. The project will install a new
Street Station, including a microprocessor-based controller, external car and shaft mounted devices, a DC power source to the drive motor, and minor cosmetic work on cars, as required. The controls for Elevators 2 and 3 occasionally malfunction as a result of component failure as they near the end of their life expectancy. The elevators work in a duplex configuration and serve virtually all floors of the station. Reliability of the elevators is essential to operations. Preventative maintenance efforts have been conducted regularly, but are no longer proving to be effective. Most of the problems experienced recently have been related to either control system components or to motor/generator set issues. The Company projects a capital expenditure of $1.5 million in 2016.

• Install East River Units 1 and 2 Access Platforms. The project will remove temporary access platforms or other access structures where either wood or scaffolding is being used for access, no access exists, or access is blocked. The lack of proper permanent (steel) access structures impedes the operators’ ability to complete their
rounds as efficiently and safely as possible and also precludes effective maintenance in some areas. This project will provide steel platforms, ladders, and extensions to improve operator access to equipment in the Units 1 and 2 area of the station. The wooden structures also pose a very significant fire hazard, not only because they are flammable, but because once ignited they would quickly be destroyed, completely cutting of fire access to some areas of the plant. The Company projects a capital expenditure of $1.0 million in 2015.

- Install Miscellaneous Indoor Hoisting Equipment at East River Units 1 and 2. The project involves installing monorails and hoists for Units 1 and 2 HRSG auxiliary equipment, such as pumps and motors. The monorails and hoists are required to facilitate routine maintenance work with associated auxiliary equipment. The Company projects a capital expenditure of $595,000 in 2015.

- 59th Street Installation of Roll-up door along 58th Street. The project will replace existing rollup doors at two locations along the south side of
the 59th Street Station. The new installation will consist of two rollup doors at each location – one mesh and one insulated. Each location will also have an emergency exit door installed. These installations will not modify the existing doorway dimensions, or appearance, as the building appearance must be maintained as per the Landmarks Preservation Committee. This project will remove an intermediate stair landing between elevations 17’-9” and 40’-1 1/2” with a currently inadequate head clearance, which will provide for a safe walkway on top of the raised floor above elevation 17’-9”. This will eliminate a potentially unsafe condition. The addition of the emergency exit doors at each of these locations will provide a new means of emergency exit. The Company projects a capital expenditure of $700,000 in 2015.

- Upgrade 59th Street Station Stack Lighting. The project will remove the existing aviation lighting system and install new LED aviation lights. The new lights can connect to the existing power supply. The arrangement/design of the new lights will match the arrangement of the
existing lights. The existing aviation lights are approaching the end of their design life span. Ongoing maintenance of the existing lights is difficult and expensive. The station will replace the aviation lights to reduce ongoing maintenance costs and the risk of lighting failure and non-compliance. The new LED lights will significantly reduce the electrical load compared to the existing system. The Company projects a capital expenditure of $750,000 in 2015.

- Repairs to Concrete and Steel at 59th Street Station. This project will repair deficiencies in the building’s structure. The useful life of the building will be extended and safety hazards will be corrected. The Company projects a capital expenditure of $700,000 in 2015.

- Repair 59th Street Station Turbine Deck Slab. This project will replace the deteriorated sections of floor slab and repair/replace some of the supporting steel framing as needed. In the early 1960s, the floor was built over and around existing "boiler pedestals." Based on a recent inspection of the turbine floor by engineering
personnel, the concrete slab of the operating floor at El. 25’-9” has multiple deteriorated areas. There is also a complete slab failure north of column line 38 and between column lines 40 and 41. The failed area, though roped-off to prevent station personnel and visitors from wandering into potentially hazardous situations, poses a safety risk to both pedestrian and fork-lift traffic. In addition, some of the steel members supporting the slab are corroded and replacement is required in order to maintain the structural integrity of the floor and open the restricted area to use once again. The Company projects a capital expenditure of $500,000 in 2015.

• Repairs to 59th Street Station Sidewalk. The project will replace approximately 10,000 square feet of deteriorated concrete sidewalks. The Company projects a capital expenditure of $1.0 million in 2017.

• There are other Structure Program projects that are projected to be smaller capital expenditures. Project descriptions and justifications for these projects are included in Exhibit ___(SOP-1),
Schedule 2. These projects are as follows:

- 59th Street Station Basement Pump Platform
  Concrete Repairs with a projected capital expenditure of $350,000 in 2015.

- 59th Street Station Installation of Epoxy Floor
  with a projected capital expenditure of $280,000 in 2015.

- 59th Street Station Stack Inspection and Upgrade
  with a projected capital expenditure of $300,000 in 2016.

**WATERFRONT**

Q. Please describe the Waterfront projects.

A. There is only one Waterfront project planned, namely the East 74th Street Tunnel Repairs Project. This project will make the necessary immediate repairs to the discharge tunnel in 2013 to address structural integrity concerns for an estimated cost of $400,000.

**ROOFS**

Q. Are there any Roof replacement projects?

A. Yes. Roof replacement projects are scheduled for 2016 ($4.5 million) and 2017 ($6.2 million) at the 74th Street, 60th Street, and 59th Street Stations. The Roof Inspection Program is based on industry practice of five-year cycles. The projects identified are a
result of inspections that typically cover roof replacement, roof drainage upgrades and concrete slab repair/replacement. This program allows the systematic replacement of roofs as conditions warrant.

The major roof replacement projects are:

- **74th Street Station Roof Replacement Project.**
  Deficiencies identified during the roof inspection program with the old boiler house roof, the new boiler house roof, and the new turbine house roof will be repaired under this project. These roof repairs will help mitigate water leaking on equipment within the plant, which will in turn help maintain plant reliability. The Company projects a capital expenditure of $825,000 in 2016.

- **59th Street Station Roof Replacement Project.** The project will repair deficiencies identified during the roof inspection program in the boiler house roof over bunker R5. These roof repairs will help mitigate water leaking on equipment within the plant, which will in turn help maintain plant reliability. The Company projects a capital expenditure of $3.7 million in 2016.

- **60th Street Station Roof Replacement Project.** The
project will repair deficiencies identified during the roof inspection program in the upper and lower boiler house roofs. These roof repairs will help mitigate water leaking on equipment within the plant, which will in turn help maintain plant reliability. The Company projects a capital expenditure of $3.0 million in 2017.

59th Street Station Balance of Roofs Replacement Project. Visual roof inspections were performed in 2001 and 2006 at the 59th Street Station. These inspections revealed deteriorated roofing at various locations at the station. The project consists of repairing/replacing the roofs that are noted with no remaining service life. This project will replace the following roof areas: north and south valleys along the parapet, central valley between the engine and boiler rooms, turbine room extension, and electrical galleries extension. The damaged roofs exceeded their service life and deterioration is causing water leaks inside the station. The Company projects a capital expenditure of $3.2 million in 2017.
SECURITY

Q. Please describe the Security Program.
A. There is one Security Program project planned for the 2013 to 2017 time frame. The project is the 59th Street Dock Security - Transit Worker Identification Card ("TWIC") project that will replace fencing on Pier 98 and install a new guard booth. The Company projects a capital expenditure of $250,000 in 2017 for this project. There are control system projects that also address cyber security issues, such as the Upgrade to the CTG Control System at East River Units 1 and 2 and Upgrade to the East River Units 1 and 2 DCS Windows.

ENVIRONMENTAL, HEALTH, AND SAFETY

Q. Please describe what is covered in the EH&S Program.
A. There are two general types of projects covered under this category. First, implementation of the Company’s continuous commitment to personnel safety and environmental protection requires capital expenditures to address and correct plant conditions that may pose EH&S risks. To address these conditions, usually identified during routine plant operations, capital improvement projects are identified and scheduled. Second, this functional program includes capital
improvement projects needed for compliance with applicable regulatory requirements. These projects are separate from the Company-wide site environmental investigation and remediation projects that are discussed by Company witness Price.

Q. What are the projected expenditures for the EH&S functional program?

A. During the 2013 to 2017 time frame, the Company’s Program includes approximately $16.0 million for EH&S related projects as follows:

- Installation of NOx Reduction Technology for the Package Boilers at the 60th Street Station.

Installation of Induced Flue Gas Recirculation ("IFGR") on the package boilers will reduce NOx emissions and is part of compliance plan filed with the NYSDEC for the new NOx RACT regulation that takes effect on July 1, 2014. The system takes flue gas, via installed ductwork, from the ID Fan outlet flue and injects (re-circulates) it into the FD fan intake duct. A damper controls the amount of re-circulated flue gas flow. The addition of flue gas to the inlet air lowers the oxygen content (percentage). This slows the combustion rate of the fuel, reducing the peak
flame temperature, which in turn reduces the formation of thermal NOx. The Company projects capital expenditures of $600,000 in 2013 and $6.9 million in 2014.

- Installation of NOx Reduction Technology for the Package Boilers at the 59th Street Station. This project includes modifying the existing system to reduce the NOx emissions on the package boilers. An IFGR system was previously installed on Package Boiler 118 several years ago as a test project and was found to be the ideal solution. As part of the new NOx RACT regulation, each individual emission unit must now meet its own NOx emission rate, as opposed to being part of a system-wide bubble average. The NOx RACT plan submitted by the Company has 59th Street complying with the regulation as an individual emission unit. The Company projects a capital expenditure of $1.9 million in 2013.

- There is one other Environmental, Health, and Safety Program project that is projected to have smaller capital expenditures. Project description and justification for this project is included in Exhibit ___(SOP-1), Schedule 2. That
project is the East 74th Street Station North Trench Drains Installation with a projected capital cost of $300,000 in 2013.

**STORM HARDENING**

Q. Please explain what is covered in the Storm Hardening Program.

A. The Storm Hardening Program, which has been developed as a result of Superstorm Sandy, includes station enhancements, modifications and additions to address damage, failures and other station conditions that could pose a risk to the safe and reliable operations of these plants due to flooding.

Q. Has the Company made any preliminary decisions regarding projects and/or programs to enhance and/or reinforce its steam production facilities as a result of its experience with Superstorm Sandy?

A. Yes. As we will explain, the Company has plans to invest approximately $100 million in storm hardening of its steam production facilities during the period 2013 through 2016.

Q. Please generally describe the storm hardening projects that the Company plans to implement and/or are under consideration by the Company.

A. The focus of storm hardening is the following steam
production facilities: 74th Street Station, Ravenswood Station, 60th Street Station, 59th Street Station, East River 10 and 20, and East River South Steam Station ("ERSSS").

These projects include, but are not limited to, installing sluice gates or barriers on tunnels; sealing perimeter walls and doors; raising and installing moats; and relocating equipment and installing flood pumps in order to limit the potential for flood waters to enter the station and minimize damage if flooding occurs.

Q. Please discuss the projects and/or programs under consideration for each of the steam production facilities.

A. The projects under consideration at each station are as follows:

• For the 74th Street Station:
  
  o Focus in 2013 will be on installing and/or raising critical flood walls at an estimated cost of approximately $1.5 million; and installing approximately ten flood doors around the perimeter of the building and sealing of openings and doors at an estimated cost of approximately $1.0
In 2014, installation of intake and discharge tunnel modifications will be completed at an estimated cost of approximately $5.0 million; and installation of additional critical equipment moats and raising critical equipment such as feedwater pumps, boiler controls and fan controls will be completed at an estimated cost of approximately $3.0 million. The Company also plans to order flood pumps and generators at an estimated cost of approximately $2.0 million for installation in 2015.

In 2015 and 2016, installation of flood pumps and generators will be completed at an estimated cost of approximately $4.0 in 2015. In addition, the raising of additional equipment and installation of individual moats will be completed at an estimated cost of approximately $8.0 million in 2015 and approximately $14.0 million in 2016.

For the Ravenswood Station:
Focus in 2014 will be on installing and/or raising critical flood walls around the entire facility at an estimated cost of approximately $1.0 million; and installing approximately six flood doors around the perimeter of the building and sealing of openings and doors no longer required at an estimated cost of approximately $0.5 million. The Company also plans to order flood pumps and generators for installation in 2015 at an estimated cost of approximately $0.5 million.

In 2015, installation of the flood pumps and generators will be completed at an estimated cost of approximately $0.5 million; and raising critical equipment such as feedwater pumps, boiler controls and fan controls will be completed at an estimated cost of approximately $0.5 million.

For the 60th Street Station:

Focus in 2014 will be on installing and/or raising critical flood walls around the entire facility and around the water
treatment and control air equipment at an estimated cost of approximately $1.0 million; and installing approximately four flood doors around the perimeter of the building and sealing of openings and doors no longer required at an estimated cost of approximately $0.5 million. The Company also plans to order flood pumps for installation in 2015 at an estimated cost of approximately $0.5 million.

In 2015, installation of the flood pumps will be completed at an estimated cost of approximately $0.5 million and completing penetration sealing will be completed at an estimated cost of approximately $0.5 million.

For the 59th Street Station:

Focus in 2013 will be on installing and/or raising critical flood walls at an estimated cost of approximately $1.5 million; and approximately two flood gates around the perimeter of the building and sealing of openings and doors at an estimated cost of approximately $0.5
million. The Company also plans to order sluice gates for installation in 2014 to seal off the intake tunnels during flood conditions at an estimated cost of approximately $0.5 million.

In 2014, installation of the sluice gates and tunnel sealing will be completed at an estimated cost of approximately $5.0 million; and installation of additional critical equipment moats and raising critical equipment such as feedwater pumps, boiler controls and fan controls will be completed at an estimated cost of approximately $3.0 million. The Company also plans to order flood pumps for installation in 2015 at an estimated cost of approximately $2.0 million.

In 2015 and 2016, installation of flood pumps will be completed at an estimated cost of approximately $4.0 in 2015. In addition, the raising of additional equipment and installation of individual moats will be completed at an estimated cost of approximately $8.0 million in 2015.
and approximately $14.0 million in 2016.

- For East River HRSGs 10 and 20 and ERSSS:

Focus in 2013 will be on installing and/or raising critical flood walls, specifically along the south and north perimeter at an estimated cost of approximately $1.5 million and installing approximately nine flood doors around the perimeter of the building and sealing of openings and doors no longer required at an estimated cost of approximately $1.0 million. In 2014, these efforts will continue with equal expenditures of approximately $1.5 million for flood walls and approximately $1.0 million for flood doors.

In 2015 and 2016, the Company also plans to order flood pumps, transformers and generators that will be ordered at an estimated cost of approximately $1.5 in 2015 with installation of that equipment completed in 2016 at an estimated cost of approximately $6.0 million. In addition, the raising of critical equipment and

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installation of individual moats such as feedwater pumps, boiler controls and fan controls and purchase and installation of switchgear and transformers will be completed at an estimated cost of approximately $3.0 million in 2015 and approximately $1.0 million in 2016.

Q. How does the Company propose to fund these projects and programs?

A. For 2013, the Company plans to perform the estimated $7.5 million of projects and programs within the capital budget established for Steam for 2013 by deferring certain planned projects. That is, the Company would look to re-prioritize capital projects currently planned for 2013 estimated at $7.5 million and implement storm hardening projects in lieu of these other capital projects.

Q. Have you identified the programs and/or projects you plan to defer?

A. Not at this time. The projects and/or programs to be deferred were still under consideration at the time of this rate filing. We plan to provide additional details regarding the projects and/or programs to be deferred at the update stage of this proceeding.
Q. Are the projected expenditures in 2014 in addition to the 2014 capital budget for Steam that was used to develop the revenue requirement for the Rate Year?

A. Yes. As discussed above, the Company anticipates an increase in capital spending in 2014 for storm hardening projects of $26.5 million.

Q. Does the steam rate request reflect additional funding for these incremental Steam Production storm hardening projects in the Rate Year?

A. No, it does not. As discussed by the Company’s Accounting Panel, the costs for this initiative were not developed in time to be reflected in the revenue requirement and will be reflected in the Company’s update in this proceeding.

Q. Is the Panel providing an exhibit further describing the foregoing initiatives?

A. Yes, please see Exhibit ___ (SOP-1), Schedule 2, for additional information about these projects and programs.

Q. Do the foregoing efforts represent final plans for storm hardening as a result of Sandy?

A. No, they do not. As indicated above, evaluation of storm hardening alternatives is an ongoing effort.

The projects and programs identified in this testimony
reflect the Company’s best thinking as a result of
diligent efforts to focus on storm hardening
requirements immediately following the storm.
Accordingly, these projects and programs will continue
to evolve and may be modified, accelerated or deferred
and/or replaced by other programs deemed more
beneficial to customers and the service territory in
general.
Q. Does the Company have a proposal for addressing costs
and cost recovery of additional storm hardening
projects and programs that may be developed in a forum
or forums separate from this rate proceeding?
A. Company witness Muccilo proposes a framework for
addressing the recovery of such costs.

EMERGENT PROJECTS

Q. Are there instances when the Company implements
unplanned projects?
A. Yes. As more fully discussed below, unplanned or
emergent projects are often necessary to address
changing and unforeseen plant conditions that may
affect safety, the environment, operations or are
required to comply with unforeseen regulatory
requirements. These projects cannot be identified at
this time, but can be reasonably anticipated to occur
during the rate year based upon historical experience. Examples of recent unplanned projects are discussed below.

Q. How does the Company address emergent projects due to changing plant conditions?
A. The Emergent Project Program addresses issues that require prompt attention, such as equipment malfunction or failures.

Q. Please describe an example of a recent emergent project that required adjustments to planned expenditures.
A. One of the three 60th Street Steam Station L&P transformers experienced a fault on April 28, 2011, requiring that station power loads be switched to the remaining two L&P transformers. After inspection of the transformer, it was discovered that the high voltage 13.8kV windings were damaged. The Company determined that the transformer must be replaced. The approximate cost of this emergent project is $1.9 million.

STEAM DISTRIBUTION CONSTRUCTION PLAN

Q. Turning now to the Steam Distribution Construction Plan (“Distribution Plan”), have you supervised the preparation of a schedule entitled “CONSOLIDATED
EDISON COMPANY OF NEW YORK, INC., STEAM DISTRIBUTION
CONSTRUCTION PROGRAM, ESTIMATED 2013-2017,” set forth
as Exhibit __ (SOP-3)?
A. Yes.

Q. What does Exhibit __ (SOP-3) show?
A. This exhibit shows Con Edison’s Steam Distribution
Construction Plan expenditures for 2013 through 2017,
by major program category: New Business; Interference;
System Reinforcement; Meter Installations; and Meter
Purchases. In total, the Company proposes to spend
approximately $25.0 million in 2013, $28.3 million in
2014, $25.8 million in 2015, $24.5 million in 2016,
and $22.2 million in 2017.

Q. Please describe the New Business Program.
A. The New Business Program involves the installation of
steam service connections to accommodate new steam
customers. Currently, there are approximately five
new services slated for 2013 and approximately five
for 2014 that require a capital investment for
service. Company witness Viemeister (Steam Business
Development) discusses the Company’s new business
opportunities in greater detail. The Company expects
to spend $3.6 million for connecting new steam
services in 2013, $2.5 million in 2014, $2.5 million in 2015, $3.0 million in 2016, and $3.5 million in 2017.

Q. Please describe the Interference Program.
A. For details on the Steam Interference Program please refer to the testimony of the Municipal Infrastructure Panel. The Company currently expects to spend $3.2 million in 2013, $5.0 million in 2014, $4.7 million in 2015, $2.9 million in 2016, and $2.0 million in 2017 under this program, based on current knowledge.

Q. Please describe the System Reinforcement Program.
A. The System Reinforcement Program is designed to maintain the steam distribution and transmission system in order to provide safe and reliable service to steam customers. In 2013, the Company plans to spend approximately $15.3 million. For 2014, 2015, 2016, and 2017, the Company plans to spend approximately $18.1 million, $16.1 million, $16.1 million and $14.1 million, respectively. The System Reinforcement Program includes the: (1) Steam Leak Repair Program; (2) Expansion Joint Replacement Program; (3) Manhole Rebuild Program; (4) Main Valve Replacement Program; (5) Anchor Replacement/Reinforcement; (6) Pump Manhole Electrical
Upgrade; (7) IT Projects Program; (8) Pipe Integrity Program; (9) Various Enhancement Reinforcements; and (10) Steam Incident Recommendation and Action Plan Programs, which are discussed in the Incident Action Plan section of our testimony.

Q. Please describe the Steam Leak Repair Program.

A. Steam leak repair activity includes repairs to services, valves, slip joints, and mains. This program also includes replacing leaking flanges and leaking cooling chambers. From 2013 to 2017, the Company plans to spend $7.5 million each year.

Q. Please describe the replacement of flanges under the Steam Leak Repair Program.

A. Flanges were installed in the steam system prior to the commercial use of electric arc welding and, over time, the flange gaskets deteriorate resulting in leaks. There are over 3,000 pairs of flanges in the steam distribution system. When a buried leak occurs in the system, knowing that the flanges are suspects the adjacent flanges in the vicinity of the leak and also the adjacent welds are first targeted and sounded to determine the location of the leak. Where a profound indication of a leak is present, the nearby pair of flanges or weld is excavated to uncover the
leak. The process may result in excavating more than one pair of flanges or more than one weld. Once a pair of flanges is exposed, it will be replaced with welded straight pipe under the Steam Leak Repair Program.

Q. Please describe the replacement of leaking cooling chambers under the Steam Leak Repair Program.

A. Cooling chambers are fabricated from steel pipes and are installed in the steam transmission and distribution system after each trap assembly. Cooling chambers collect and cool the condensate before it is gravity drained to the sewers. They are buried and are exposed to condensate and flashed steam at or near atmospheric pressure. Unlike the mains and service pipes, which are always exposed to very high superheated or saturated temperatures, cooling chambers maintain a lower wall temperature and as such, because of the flashing condensate, thermal stresses and corrosive nature of the surrounding environment, they experience corrosion and over time start to leak. Leaks also develop due to a cathodic reaction from adjoining pipe with dissimilar material, which is used because of its resistance to corrosion. Once a cooling chamber leaks, it must be replaced.
The design has been improved to mitigate the thermal stress failures and dissimilar metal corrosion. Additionally, in some cases, the piping from the traps to the cooling chamber is being upgraded to 2-inch diameter to allow for installation of higher capacity traps. Currently there are 824 cooling chambers throughout the Steam Distribution system.

Q. Please describe the Expansion Joint Replacement Program.

A. The Expansion Joint Replacement Program was initiated in 2003 and is designed to systematically remove internally-pressurized expansion joints from the steam system in order to reduce the likelihood and consequences of an expansion joint failing catastrophically. This program also includes the replacement of leaking internally-pressurized expansion joints. There are approximately 180 internally-pressurized expansion joints remaining in the system. For 2013, approximately $800,000 has been allocated to this program and approximately $1.2 million for each subsequent year through 2017.

Q. Please describe the Manhole Rebuild Program.

A. The Manhole Rebuild Program is designed to evaluate and rebuild deteriorated steam manholes.
Deterioration of manhole structures occurs over time and can place distribution equipment at risk of damage if not maintained. Deterioration of the manhole structure may be hazardous to roadway and pedestrian traffic and to employees working in the structure. The Company modified its existing manhole inspection procedure in response to the Commission’s Order in Case 07-S-0984. The Company has an engineer inspect any steam manhole identified to be in poor condition and determine the necessary corrective actions to be taken. It is projected that approximately $800,000 will be spent in 2013 to rebuild manholes. The Company intends to spend approximately $1.4 million in each subsequent year through 2017.

Q. Please describe the Main Valve Replacement Program.
A. The Main Valve Replacement Program is designed to replace main valves that are leaking or inoperable. Main valves are located in steam manholes and are used for isolation. Main valves in manholes are routinely exposed to the heat and high moisture content of the manhole atmosphere, which promotes external corrosion of the valve bonnet, body and stem. This can sometimes lead to seizure of the valve stem, rendering the valve inoperable. In addition, the flow of a
mixture of steam and condensate in the steam system through the valve wears the sealing surfaces of the valve gate, eventually to the point where the valve leaks through even in the closed position. Inoperable valves which are either broken or leaking through do not provide proper isolation when required. This lack of isolation impacts the quality of welds performed during maintenance activity on the system. From 2013 to 2017, the Company intends to spend $400,000 on this program each year.

Q. Please describe the Anchor Replacement and Reinforcement Program.

A. The Anchor Replacement and Reinforcement Program is designed to install new anchors in place of deteriorated anchors. Anchors are installed in the steam system to withstand thrust forces and to control the thermal expansion of pipes within the design limits of adjoining pipe loops or expansion joints. As a result, anchors are installed adjacent to main valves or in between expansion compensating elements. They are either directly buried or are installed in manholes. In the manholes the anchors are exposed to the harsh environment and have demonstrated advanced corrosion to the point where anchors have become
structure incapable of carrying the thrust force. Once this occurs, the adjacent main valve remains in
the open position and is no longer used for isolation. The Company has a rigorous inspection program where an
gineer monitors anchors in poor condition and prescribes necessary replacement. It is projected that approximately $500,000 will be spent in 2013 to replace anchors that are deteriorated. The Company intends to spend approximately $1.0 million in each subsequent year through 2017.

Q. Please describe the Pump Manhole Electrical Upgrade Program.
A. The Pump Manhole Electrical Upgrade Program is designed to install new high temperature pumps and various electrical components. Pumps are installed to prevent underground water from impinging on the steam mains. They are installed adjacent to steam mains and, as a result, they are exposed to the harsh environment of the steam system. The harsh environment causes the electrical wiring to degrade. In addition, degraded electrical wiring could endanger the safety of Company personnel entering the manholes and also the public since there is a potential for
stray voltage. The Company intends to spend $500,000 each year from 2013 to 2017.

Q. Please describe the Steam Pipeline Integrity Program.

A. The Steam Pipeline Integrity Program will systematically manage the safety and integrity of the piping on the Steam Distribution System by identifying and prioritizing for replacement areas with advanced internal corrosion that could pose a possible risk for further leakage. Since 2003, the Company has been tracking leaks due to internal corrosion at the bottom of the pipe. The Company is currently developing an inspection robot that will help identify pipes with advanced internal corrosion for replacement under this program. The inspection robot is expected to be fully operational by 2014. From 2015 to 2017, the Company plans to spend $250,000 each year on this program.

Q. Please describe the Various Enhancement Reinforcements Program.

A. The Steam System has existing generation capacity that is constrained by not having the ability to send steam to areas where it is needed, particularly during peak load days. With new business projected in 2016 and 2017, this program will manage the enhancement and upgrade of the existing steam distribution and
transmission network. For 2016 and 2017, the Company expects to spend $1.0 million each year on this program.

Q. Please describe the Company’s IT projects.

A. The IT Projects Program will enhance overall system operations. The Company IT Projects include: (1) Customer Profiling Software; and (2) Construction Management Layout Tracking.

- The Company expects to spend approximately $200,000 annually from 2013 to 2017 on Customer Profiling Software. This application is designed to implement the expansion of the Contacts application to interface with data from Steam Applications, Steam Operations Mapping Information System (“SOMIS”), Right Now Technologies, and Customer Care and Billing. The Customer Profiling Software will provide a centralized repository for storing vital customer information that can then be accessed from a common point. The system will also allow for capturing information and generating reports that are critical to day-to-day dealings with customers and will greatly affect the timely
review and analysis of usage and billing inquiries.

- The Company plans to spend $250,000 in 2014 to develop the Construction Management Layout Tracking application for Steam that will be utilized to track all construction work and link payment and job status information to SOMIS. As a result, the link to the Construction Management Payment and Support System ("COMPASS"), opening ticket, cut sheet, and time and equipment sheet will simplify the payment process. Also, the application will allow remote update of job status and entry of Contractor Field Observation Report and Contract Administration & Inspection Daily Log Report directly into the database.

Q. Does the Company have an update for those System Reinforcement capital initiatives resulting from the July 2007 Steam Incident?

A. Yes. This will be discussed in detail later in this testimony.

Q. Please describe the Meter Installation Program.

A. The Meter Installation Program involves the installation of steam meters and associated metering equipment, projected to cost approximately $1.8
STEAM INFRASTRUCTURE AND OPERATIONS PANEL – STEAM

million in 2013, $1.9 million in 2014, and $1.6 million each subsequent year from 2015 through 2017.
The major elements of the Meter Installation Program include: (1) the continuation of the Meter Conversion Program; (2) the Meter Regulating Valve ("M Valve") Conversion Program; (3) the Limitorque Angle Valve Replacement Program; (4) Meter Room Asset Tagging Program; and (4) the New Meter Installation Due to Customer Renovation Program.

Q. Please describe the Meter Conversion Program.
A. Pursuant to the Commission’s Order Establishing Rate Plan in Case 07-S-1315, issued on September 22, 2008 ("September 22 Order"), the Company installed demand meters for approximately 450 of its largest steam customers (i.e., customers with annual consumption exceeding 14,000 Mlb). In this rate filing, the Company proposes to continue installing state-of-the-art steam meters, utilizing vortex technology. The new meters are more accurate and are able to provide real-time digital display of steam usage, steam flow rate and steam pressure. Approximately 750 customers in the system still require this conversion. For 2013 to 2017, the Company plans to spend $1.0 million each year to convert approximately 30 locations.
Q. Please describe the M Valve Conversion Program.
A. This program is designed to replace improperly functioning M valves with the more reliable motor-operated ball valves. For 2013 to 2017, the Company plans to spend $350,000 each year under this program.

Q. Please describe the Limitorque Angle Valve Replacement Program.
A. This program is designed to replace defective or failed Limitorque actuator operated angle globe meter regulating valves with new valve assemblies to provide remote control capability in the future. From 2013 to 2017, the Company plans to spend $100,000 annually under this program.

Q. Please describe the Meter Room Asset Tagging Program
A. This program involves the procurement and installation of tags designed to identify all equipment inside the meter rooms located at customer buildings, such as service stop valves, meter stop valves or trap stop valves, that if operated improperly by the Customer may cause an unsafe condition potentially resulting in harm to personnel and/or equipment. Each tag will have unique identifiers that will be utilized in the steam meter room piping and equipment database and be incorporated in operating instructions for Turn-
Off/Turn-On of customer steam services. The Company plans to spend $150,000 in 2013 and $250,000 in 2014 under this program.

Q. Please describe the New Meter Station Installation Due to Customer Renovations Program.

A. This program is designed to upgrade or change meter stations for customers who are modifying their load, e.g., adding tenants, upgrading equipment, and performing major building renovations. This program addresses the Company furnished steam accessory equipment required for modifying the meter station resulting from customer-initiated changes in their buildings. From 2013 to 2017, the Company plans to spend $175,000 annually under this program.

Q. Please describe the Meter Purchase Program.

A. The Meter Purchase Program involves the purchase of vortex steam meters for new business, meter downsizing, load changes due to customer renovations, or meter conversions. The Company plans to spend approximately $1.2 million for this program in 2013 and approximately $1.0 million annually for the years 2014 through 2017.

NET PLANT RECONCILIATION AND REPORTING

Q. Does the Company’s current Steam Rate Plan provide for
net plant reconciliation for capital expenditures and capital spending targets?

A. Yes.

Q. Is the Company proposing any changes to these mechanisms?

A. Yes. The Company proposes to continue downward reconciliation of net plant, with certain changes to the mechanism currently in effect, and to allow the capital spending target mechanism to expire. The Company’s proposal is presented by Company witness Muccilo.

Q. Does the Company’s current Steam Rate Plan provide for periodic reporting of capital and O&M expenditures?

A. Yes.

Q. Is the Company proposing any changes to these reporting requirements?

A. Yes. The Company is proposing to continue the annual reporting requirements set forth in section IV.J.5 of the current Steam Rate Plan except that annual reporting for steam production will be by functional category instead of by project.

OPERATION AND MAINTENANCE EXPENSES

Q. Did the Panel supervise the preparation of a schedule entitled "CONSOLIDATED EDISON COMPANY OF NEW YORK,
IN C. - STEAM OPERATIONS - SUMMARY OF STEAM OPERATIONS

EXPENSES FOR THE RATE YEAR ENDING DECEMBER 31, 2014?

A. Yes.

MARK FOR IDENTIFICATION AS EXHIBIT__ (SOP-4)

Q. Please describe this Exhibit.

A. Exhibit__(SOP-4) details the rate year steam plant
and distribution O&M expense forecast for various
elements of expense. Each element is shown at the
historic year level with the exception of one program
change. In total, the Company projects to spend
approximately $80.9 million in the Rate Year, an
increase of approximately $1.8 million from the
historic year. In the two subsequent 12-month periods
ending December 31, 2015 and 2016, the Company expects
to maintain this level of O&M expenditures while
continuing to provide the same level of safety,
service and reliability. We would note that this
Exhibit does not reflect any escalation to calculate
the total rate year forecasts for each item. The
escalation is calculated by the Steam Accounting Panel
in Exhibit ___ (AP-5).

Q. Please describe the Company’s efforts to mitigate the
level of steam production and distribution O&M
expenses?
A. In this filing, the only O&M program change the Company is requesting is based on operating requirements - the cost of electricity needed to operate auxiliary equipment at the steam generating stations. We have made significant efforts to hold the line on expenditures. Moreover, the Company continually examines potential modifications to operations to reduce O&M expenses. For example, the Company has improved the planning process for work activities that can be coordinated on main shut offs and the dispatching protocols for steam distribution crews. It has also trained a number of generating station employees as welders to reduce the number of welding contractors to be hired by the Company. To reduce overtime expenses and improve efficiency, the Company continues to experiment and implement changes in work schedules for some employees in steam distribution. Furthermore, when available, the Company looks for improved technology to reduce costs, such as installing components on the distribution system that will extend the life expectancy and reduce the necessity for leak investigations and repairs and improved control systems for various operating systems at the generating stations. As a result of these
efforts, the Company has been able to mitigate any increases in O&M expenses that would have otherwise resulted in a request for O&M expenses above the Historic Test Year other than the Electricity Used increase discussed below.

Q. Please explain the derivation of the $1,814,000 increase for Electricity Used.

A. The Commission’s Uniform System of Accounts provides that, in a combination utility, each service department is charged for the energy that it receives from another Company department. This element of expense accounts for the electricity used by the steam-only generating stations in order to operate auxiliary equipment. The Company’s Accounting Department develops the rate annually on a per kWh basis. This increase is based on 1) the most recent calculation of the Company’s electricity used rate that will become effective January 2013 and 2) an estimated increase in electric usage at the steam-only stations compared with the historic year.

INCIDENT ACTION PLAN

Q. Please discuss the status of the Company’s capital expenditures from the July 2007 steam incident.
A. As a result of the July 18, 2007, East 41st Street and
Lexington Avenue steam incident, four Action Plan
programs were initiated in 2008 based on the
Commission’s recommendations to improve and promote
the safe operation of the steam system. One program
involved the design and installation of new trap
assemblies. These assemblies included a strainer
component inside the assembly that has the ability to
trap any debris and contain it prior to reaching the
trap and preventing the trap from becoming clogged.
The installation of these new assemblies was completed
at all 834 trap locations in May of 2012.
The second program focused on the installation of high
capacity traps. Two versions of high capacity traps
have been designed and are being installed at
locations where necessary in the system based on newly
specified engineering criteria. This program was
completed in December 2012. The two other programs
are Remote Monitoring and the Infrastructure
Improvement Programs. In addition to these remaining
projects, the Company is developing a Water Hammer
Prevention Software Model. A total of approximately
$4.8 million in spending is projected for 2013, $5.8
million for 2014, $3.8 million for 2015, $2.8 million
for 2016 and $800,000 for 2017 for Steam Action Plan Programs, which include: (1) Remote Monitoring Program; (2) Infrastructure Improvement Program; (3) Remote Monitoring Phase II Program; and (4) Water Hammer Prevention Model – IT Program. These programs fall under System Reinforcement, and the costs are included in the overall System Reinforcement costs discussed previously in this testimony.

Q. Please describe the Remote Monitoring Program.

A. The Remote Monitoring Program is designed to install instrumentation in steam manholes to remotely monitor real-time trap operation and water infiltration for flooding conditions. The instrumentation includes floats to detect water levels in structures and thermocouples upstream and downstream of traps to detect fluid temperatures for determining the status of the traps. The floats are strategically installed to detect rising water at specified levels in the structures. They are designed to signal for compensatory actions to be taken when necessary in order to prevent a potential impingement that can subject the steam to sub-cooling conditions which is a precondition to water hammer. The thermocouples will detect temperature changes of sub-cooled condensate
upstream of a compromised trap and initiate a cold trap alarm for actions to be taken to prevent condensate from potentially backing up in the main. The signals from these devices are transmitted wirelessly from a Remote Terminal Unit in the field to a computer system in the dispatch room. Please refer to the Operation and Maintenance Expenses section of this testimony for additional benefits. In 2013, a total of $4.0 million is projected to be spent on this program, with $4.0 million for 2014 and $1.0 million for 2015.

Q. Please describe the Infrastructure Improvement Program.

A. The Infrastructure Improvement Program is designed to improve the steam system infrastructure in order to prevent water infiltration for purposes of system safety. In high ground water or tidal areas and those affected by heavy rains, the program addresses water infiltration conditions to prevent water accumulation in structures and potential contact with the steam main by incorporating proper drainage in the designs of the structures. For 2013 through 2017, $500,000 is projected to be spent each year on this project.
Q. Please describe the Remote Monitoring Phase II Project.
A. This program is designed to implement software and hardware upgrades to the existing remote monitoring platform to improve its operational effectiveness. It will also allow leveraging of the system to monitor the effectiveness of the pump upgrade program. In 2013, $275,000 will be spent for this project and $300,000 each subsequent year from 2014 through 2017.

Q. Please describe the Water Hammer Prevention Model Project.
A. This project is to create a software model of the steam grid and an applicable hardware system that can analyze two phase flows and detect high risk conditions occurring in the system which may cause a water hammer. Detection of these high risk conditions ahead of time will allow actions to be taken to prevent the water hammer from occurring. The model will receive send-out information from the generating stations and consumption data from the customers and will calculate system parameters, including the amount of condensate formed in the pipes and where it is flowing based on steam velocities. A pilot model was developed for approximately 3.7 miles of piping on the
steam grid around the East River Station, specifically modeling the send out on the 14th Street and 15th Street mains and flows along the adjoining distribution mains. The model calculates steam quality, velocity, condensate flow, condensate discharge at the traps, condensate build up, pressure, and temperature. The model is currently being tested and outputs are comparable with field measured values. In 2014, approximately $1.0 million is projected to be spent on this project, and approximately $2.0 million is projected for 2015 and 2016.

Q. Please discuss the Company’s Steam Incident Action Plan O&M program expenses resulting from the July 2007 steam incident.

A. As a result of the July 2007 steam incident, the Company implemented various O&M programs. The previous Order established rates that reflect $3.0 million of steam incident-related O&M expenses for Rate Years 1, 2, and 3 of the current rate plan (i.e., the 12-month periods ending September 30, 2011, September 30, 2012, and September 30, 2013).

Q. What has the Company spent on Incident Action Plan O&M programs in Rate Years 1 and 2 of the current rate plan?
A. The Company expended approximately $3.3 million and $2.9 million, respectively, of O&M expense for steam incident-related programs.

Q. Are there any potential opportunities to achieve O&M reductions based on the Incident Action Plan capital programs that have been implemented?

A. Yes. The recently completed trap assembly program and the ongoing Remote Monitoring program that were previously mentioned provide an opportunity for O&M costs associated with trap inspections and replacements to be reduced.

Q. What is the current maintenance program for the traps in these assemblies?

A. The Company replaces the traps annually in accordance with the Commission’s Order in Case 07-S-0984 and after they have been in use the Company performs an internal visual inspection of the traps by removing the caps once each year. Inspections of the traps that are removed indicate that the assemblies are effectively eliminating the ability for debris to get to the traps. The new trap assembly design is an improvement that eliminates the need to replace or inspect these traps for debris on an annual basis.
Q. What would be the savings if the trap replacement and
cap inspection program was eliminated?
A. The Company estimates that there would be a savings of
$0.5 million annually if these mandatory inspections
and trap replacements were eliminated.
Q. Is Remote Monitoring program expected to achieve
additional efficiencies?
A. Yes. The Company currently performs inspections of
its traps a minimum of six times per year in
accordance with Commission Code part 420. These
inspections are performed to determine whether the
trap is functioning properly. Approximately 50
percent of the trap locations on the steam
distribution system have been set up with remote
monitoring and provide the ability to inspect the trap
on a continual basis. Eliminating the necessity to
perform these manual inspections would provide
additional savings opportunities as the program
continues to be expanded. However, this would require
an amendment to Commission mandated inspection
requirements and associated Company procedures.
Q. What is the magnitude of these savings opportunities?
A. If the current requirement of inspecting traps a
minimum of six times a year was changed to an annual
inspection, there would be estimated savings of $0.5 million in Rate Year 1 and $0.6 million in the subsequent 12-month period, which would be after the Remote Monitoring program is completed.

Q. What are the overall estimated savings that can be achieved by these proposed changes?

A. The Company is estimating that there would be savings of $1.0 million in Rate Year 1 and $1.1 million in the subsequent 12-month period, assuming the Commission modifies the trap inspection and replacement requirements currently applicable to the Company.

Q. Please restate the requirements for which the Company is requesting relief.

A. There are two requirements that need to be modified in order to enable the Company to achieve the estimated savings: first, the requirement for annual trap replacements and cap inspections established by the Commission’s February 13, 2008 order and the Company’s March 14, 2008 response in Case 07-S-0984; and second, Commission Code part 420 needs to be modified to reduce the frequency of trap inspections required from six times per year to annually for those locations with Remote Monitoring.
PERFORMANCE MEASURES

Q. Is the Company proposing any changes to the currently-effective Safety Performance Measures, which are set forth in section VI. B. of the Joint Proposal adopted by the Commission in its September 22, 2010, Order Establishing Three-Year Steam and Gas Rate Plans and Determining East River Repowering Project Cost Allocation Methodology?

A. No. For the reasons explained in prior rate proceedings, the Company does not believe that its safety or reliability performance would differ in the absence of these specific performance measures. Nonetheless, the Company recognizes that the Commission has determined that safety performance measures continue as an element of steam utility rate plans. The current mechanisms were considered and established two years ago. There are no new circumstances that warrant an adjustment to these mechanisms. The Company has met each of these targets during the current rate plan and expects to meet these targets in the future, should they be continued. Any adjustments to these targets that would make them more stringent would likely cause the Company to incur incremental costs that would unnecessarily increase
rates, without a necessary or measurable increase in
the safety or reliability of the Company’s steam
service.

DISPOSITION OF HUDSON AVENUE PROPERTY

Q. What is the current status of the Hudson Avenue
property?
A. The Hudson Avenue Station ceased operation as a steam
generating plant in April 2011. The steam production
equipment at that time was rendered unusable, the
steam production equipment was retired in place, and
the land was transferred from Steam Plant in Service
to the Electric Department, as Held for Future Use.

Q. What is the remaining investment in Hudson Avenue?
A. At the time of retirement on April 30, 2011, the book
cost of the land that was transferred to Electric as
future use property was $1.7 million and the book cost
of structures and equipment that were retired was
$127.5 million. The accumulated reserve for
depreciation was $35.2 million. This leaves a net
book value of $92.3 million for the structures and
equipment. Further details of these amounts are shown
in the exhibit “HUDSON AVENUE, SUMMARY OF NET PLANT IN
SERVICE AT April 30, 2011,” Exhibit _____ (SOP-5).
Q. Was this Exhibit prepared by you or under your supervision?
A. Yes.

MARK FOR IDENTIFICATION AS EXHIBIT___(SOP-5)

Q. With respect to the Hudson Avenue land, do you contemplate that the land will have a future use in the Company’s Steam operations?
A. No. However, the Company’s Electric Infrastructure and Operations Panel explains the importance of the site to Electric operations.

Q. Is the Company making any proposals in this proceeding regarding the undepreciated cost of the retired structures and facilities at the Hudson Avenue Station?
A. Yes. As explained in the testimony of Company witness Muccilo (Steam and Electric Accounting Policy), the Company’s Steam and Electric Accounting Panels and the Company’s Steam and Electric Property Tax and Depreciation Panels, the Company proposes to transfer those undepreciated costs from the Steam Department to the Electric Department and amortize them in electric rates.

Q. Does this complete the Panel’s testimony?
A. Yes, it does.