Before the Public Service Commission

THE BROOKLYN UNION GAS COMPANY d/b/a NATIONAL GRID NY

Direct Testimony

of

Gas Infrastructure and Operations Panel

Date: April 28, 2023

Testimony of the Gas Infrastructure and Operations Panel

TABLE OF CONTENTS

I. Introduction and Qualifications

Q. Please introduce the members of the Gas Infrastructure and Operations Panel.

A. The Panel consists of Ross W. Turrini, Aaron J. Choo, Patty McVeigh, Pradheep Kileti, and Srividya Madhusudhan.

Q. Mr. Turrini, please state your name and business address.

A. My name is Ross W. Turrini. My business address is 25 Hub Drive, Melville, New York 11747.

Q. By whom are you employed and in what capacity?

A. I am employed by National Grid USA Service Company, Inc. ("Service Company"), a subsidiary of National Grid USA ("National Grid"), as New York Gas Chief Operating Officer. In this role, I oversee approximately 3,800 employees and more than $17.5 billion of gas infrastructure assets serving customers across New York State.

National Grid owns and operates three gas distribution companies in New York that provide retail gas service to more than 2.5 million customers in three service territories: Niagara Mohawk Power Corporation d/b/a National Grid ("Niagara Mohawk") serves areas of eastern and central New York; The Brooklyn Union Gas Company d/b/a National Grid NY ("KEDNY" or the "Company") serves Brooklyn, Staten Island, and parts of Queens in New York City; and KeySpan Gas East Corporation d/b/a National Grid ("KEDLI") (KEDNY and KEDLI are collectively referred to as the "Companies") serves customers on Long Island and the Rockaway Peninsula in Queens. I am responsible for

all aspects of gas operations and construction, including emergency/storm response, gas engineering, construction activities, the operation and maintenance of gas transmission and distribution facilities, gas network strategy issues, the gas capital investment strategy, gas pipeline safety management, liquified natural gas ("LNG") and compressed natural gas ("CNG") operations, and energy procurement.

Q. Please describe your educational background and business experience.

A. I received a Bachelor of Science in Civil Engineering from the United States Military Academy at West Point in 1985. I have worked for National Grid and its predecessor companies (the Long Island Lighting Company and KeySpan Corporation) for 30 years in various roles in engineering, operations, and procurement. Prior to joining National Grid, I spent five years as an Officer in the United States Army Corps of Engineers and three years in engineering and construction roles at Brown & Root Services Corporation, an international engineering, procurement, and construction company.

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

A. Yes. I submitted pre-filed testimony in the 2016 KEDLI and KEDNY rate cases (Cases 16-G-0058 and 16-G-0059, respectively) (the "2016 Rate Case"), 2017 Niagara Mohawk rate case (Case 17-G-0239) (the "2017 Niagara Mohawk Rate Case"), the 2019 KEDNY and KEDLI rate cases (Cases 19-G-0309 and 19-G-0310, respectively) (the "2019 Rate Case"), and the 2020 Niagara Mohawk rate case (Case 20-G-0381) (the "2020 Niagara Mohawk Rate Case").

Q. Mr. Choo, please state your full name and business address.

A. My name is Aaron J. Choo. My business address is 25 Hub Drive, Melville, New York 11747.

Q. By whom are you employed and in what capacity?

A. I am employed by the Service Company as the Vice President for National Grid's Downstate New York Gas Field Operations and Programs. I oversee approximately 1,600 employees and am responsible for the operations and maintenance of KEDNY and KEDLI's gas distribution systems. This includes gas metering, construction, and field activities to carry out gas mandated programs, leak response, leak repair, instrumentation and regulation, damage prevention, and inspection programs.

Q. Please describe your educational background and experience.

A. I received a Bachelor of Science in Mechanical Engineering from Hofstra University. I also have a Master's degree in Business Administration from Baruch College in New York, New York. I have worked for National Grid and its predecessor companies (the Long Island Lighting Company and KeySpan Corporation) for 20 years in various roles in gas operations, customer and community management, and electric generation.

Q. Ms. McVeigh, please state your full name and business address.

A. My name is Patty McVeigh. My business address is 25 Hub Drive, Melville, New York 11747.

Q. By whom are you employed and in what capacity?

A. I am employed by the Service Company as the Director for National Grid's Gas Investment Planning and Rate Case Support group. I oversee approximately 27 employees and am responsible for long-term capital investment planning, rate case development and support, work order management, financial governance, and decision analytics.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Science in Accounting from Saint Francis College. I also have a Master's degree in Business Administration from Central Michigan University. I have worked for National Grid and its predecessor companies (The Brooklyn Union Gas Company and KeySpan Corporation) for over 31 years in various roles in resource management, gas finance, human resources, customer, and finance.

Q. Mr. Kileti, please state your full name and business address.

A. My name is Pradheep K. Kileti. My business address is 25 Hub Drive, Melville, New York 11747.

Q. By whom are you employed and in what capacity?

A. I am employed by the Service Company as the Director for New York Gas Operations. In this role, I oversee innovation and engineering solutions to reduce emissions and achieve climate goals through a safe and reliable energy transition that includes renewable natural gas, hydrogen blending, and thermal energy networks and geothermal installations.

Q. Please describe your educational background and experience.

A. I received a Bachelor of Technology in Civil Engineering from National Institute of Technology-Hamirpur (H.P), India. I also have a Master's degree in Business Administration from Hofstra University. I have worked for National Grid for 13 years in various roles in engineering and asset management.

Q. Ms. Madhusudhan, please state your name and business address.

A. My name is Srividya Madhusudhan. My business address is 1125 Broadway, Albany, New York 12204.

Q. By whom are you employed and in what capacity?

A. I am employed by the Service Company as the Vice President, Head of Operations Support, New York. I oversee the Facilities, Fleet, Inventory Management/Warehouse Management, Right of Way, Aviation, and Environmental functions in support of National Grid's operating companies, including KEDNY, KEDLI, and Niagara Mohawk. This includes, among other responsibilities, facility buying, selling, and leasing activities, management of the fleet, and overseeing inventory and warehouse management activities. I also oversee development of the facilities and fleet plans to support KEDNY and KEDLI's gas businesses and related capital forecasts.

Q. Please describe your educational background and professional experience.

A. I received a Bachelor of Law from Chennai, India in 1991. I also have a Master's in Environmental Management from Rensselaer Polytechnic Institute and an MBA from the

University of Connecticut. I have worked at National Grid since May of 2017, prior to which I worked at Eversource Energy for 18 years in various roles in the environmental, operations, and real estate and facilities departments.

Q. Have you previously testified before the Commission?

A. Yes. I submitted pre-filed testimony in the 2019 Rate Case.

II. Purpose of Testimony

Q. What is the purpose of the Gas Infrastructure and Operations Panel's testimony?

A. The purpose of the Panel's testimony is to provide a forecast of the Company's capital investments for the twelve-month period ending March 31, 2025 ("Rate Year"), and the three subsequent twelve-month periods ending March 31, 2026 ("Data Year 1"), March 31, 2027 ("Data Year 2"), and March 31, 2028 ("Data Year 3") (Data Year 1, Data Year 2, and Data Year 3 are collectively referred to as the "Data Years"). The Panel also presents a forecast for the 15-month period ("Link Period") between December 31, 2022, which is the end of the Company's Historic Test Year and the beginning of the proposed Rate Year on April 1, 2024.

The Panel discusses direct capital expenditures in projects and programs that will: (i) increase the safety and reliability of the Company's gas network; (ii) modernize the Company's gas transmission and distribution infrastructure; (iii) facilitate emissions reductions; and (iv) further Commission and state policy goals, including the goals of the Climate Leadership and Community Protection Act ("CLCPA"). The Panel will also

discuss the Company's practices and policies for maximizing the efficiency of its capital delivery program from planning and budgeting through the completion of construction, as well as efforts to identify alternatives to new investments in gas infrastructure, such as non-pipes alternatives ("NPAs").

The Panel's testimony provides an overview of the notable projects in the Company's capital plan, including retirement of leak-prone pipe ("LPP"), projects to reduce leaks, and new safety programs to identify and address system risks. The Panel's testimony also presents an overview of the Company's pipeline integrity and reliability programs that will improve the safety and reliability of the Company's gas system, and addresses recently enacted pipeline safety regulations administered by the U.S. Department of Transportation ("DOT"), Pipeline and Hazardous Materials Safety Administration ("PHMSA").

The Panel also sets forth the Company's proposals directed at enabling renewable natural gas ("RNG") interconnections to reduce emissions while continuing to meet customer needs. The Panel also discusses the Company's Utility Thermal Energy Network and Jobs Act pilot proposal, which is being considered separately by the Commission in Case 22-M-0429, and requests approval of the FTEs needed to implement those pilots.

The Panel also presents the Company's indirect capital investments, including inventory management/warehouse management, Information Technology, fleet, and facilities investments. The Company is proposing investments in facilities and fleet during the Rate Year and Data Years that are necessary to upgrade aging facilities, including safety and

energy efficiency enhancements, and appropriately size the number of vehicles, including a program to electrify a portion of the Company's fleet.

Q. Does the Panel's testimony also address the Company's operations and maintenance ("O&M") programs?

A. Yes. In addition to capital investments, the Panel describes incremental labor (full-time equivalent positions or "FTEs") and non-labor O&M expenses that the Company proposes in the Rate Year and Data Years, the costs of which are not fully reflected in the twelve-month period beginning January 1, 2022 and ending December 31, 2022 ("Historic Test Year"). These expenses represent known and measurable changes from Historic Test Year expenses that are necessary to: (i) address new and emerging safety regulations; (ii) enhance the service provided to our customers; and (iii) support the Company's capital investments. The Panel will also discuss the Company's staffing plan for the proposed new FTEs.

Q. Does the Panel sponsor any exhibits as part of its testimony?

A. Yes. The Panel sponsors the following exhibits that were prepared under its direction and supervision:

Exhibit __ (GIOP-1): Actual and Projected Direct and Indirect Capital Expenditures: Historic Test Year, Link Period, Rate Year, and Data Years.

Exhibit ___ (GIOP-2): Charts Demonstrating Components of Unit Cost Increases.

Exhibit ___ (GIOP-3): Gas Safety and Reliability Surcharge Including Unit Cost Incentive Proposals.

Exhibit ___ (GIOP-4): Chart Summarizing Projected Leak Rates for LPP for Various Main Replacement Strategies.

Exhibit ___ (GIOP-5): Data Sheets for Gas and Future of Heat Capital Programs. This exhibit includes summaries of the Company's larger capital projects/programs.

Exhibit ___ (GIOP-6): Charts Demonstrating Variability in City/State Construction ("CSC") Non-Reimbursable O&M and demonstrating the CSC Net Plant and Depreciation Tracker Mechanism.

Exhibit ___ (GIOP-7): Incremental O&M Non-Labor Expenditures for the Rate Year and Data Years.

Exhibit ___ (GIOP-8): Incremental FTE Positions by Function in the Rate Year and Data Years. This exhibit includes an incremental needs/justification statement for each incremental FTE position.

Exhibit ___ (GIOP-9): Data Sheets for Fleet and Facilities Capital Programs. This exhibit includes summaries of the Company's significant capital projects/programs.

Exhibit___ (GIOP-10): Facilities Service Company Capital Forecast.

Exhibit ___ (GIOP-11): Fleet Electrification Costs.

The capital expenditures presented throughout the testimony and in the exhibits include cost of removal ("COR"), as applicable.

Q. How is the Panel's testimony organized?

A. The testimony is organized into the following sections:

Sections I and II are introductory sections outlining the Panel's testimony.

Section III provides an overview of the Company's capital investment and O&M program priorities and objectives, strategy to address increasing costs, and significant capital programs, such as the retirement of leak-prone mains and services, and other key capital investments in gas pipeline safety and reliability. This section also describes the Company's efforts to support the goals and priorities of the CLCPA in its investment planning and operations.

Section IV provides details on the Company's proposed direct capital investment program for the Rate Year and Data Years, including the Company's spending rationales, categories of capital investment, and specific work activities within each category.

Section V describes the Company's indirect capital investment plan, which includes facilities, fleet, and supply chain investments.

Section VI describes the Company's O&M programs, including those necessary to carry out the Company's proposed capital programs and those targeted at current and emerging safety regulations and implementation of gas pipeline-safety related best practices. With respect to gas pipeline safety, some of the O&M expenditures presented in this Panel's testimony and set forth in Exhibit __ (GIOP-7) and Exhibit __ (GIOP-8) are presented in more detail in the Companies' Gas Safety Panel testimony.

III. Capital and O&M Plan Objectives and Priorities

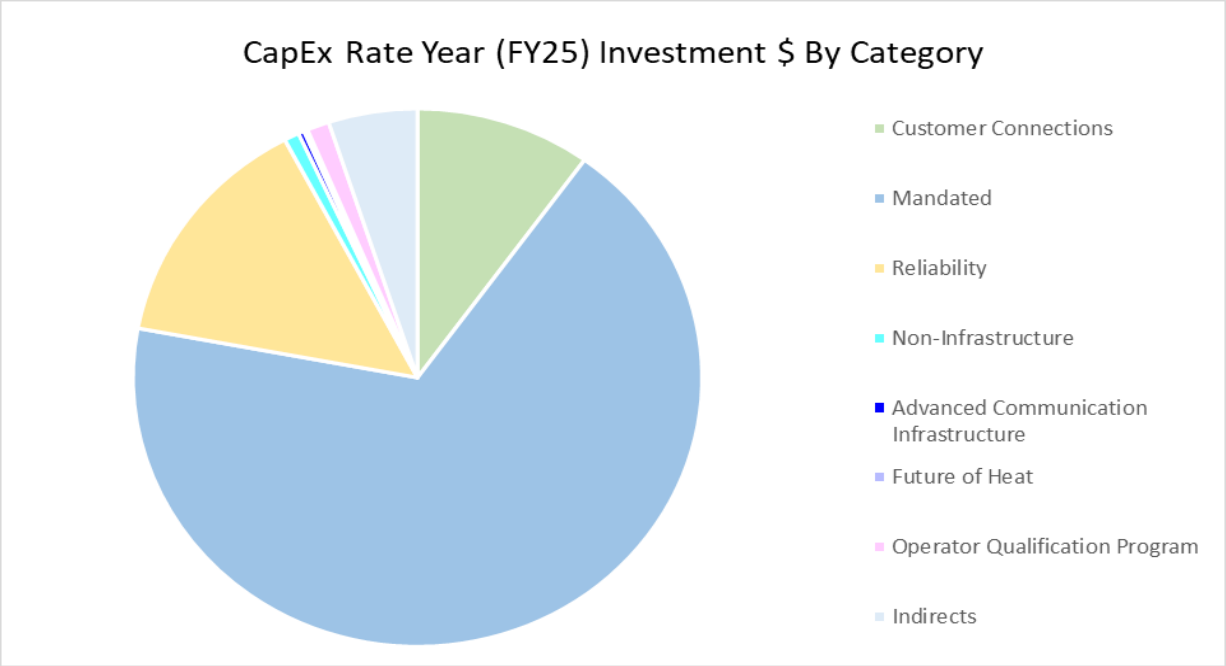
A. Plan Objectives

Q. Please describe the overall objective of the Company's infrastructure and operations programs.

A. The Company's gas infrastructure and operations programs are designed to provide safe and reliable gas delivery service to customers at reasonable costs. Over the last several years, the Company increased investments to modernize and enhance the resiliency of its gas assets, some of which are over 50 years old.

Capital investment over the next several years is required to ensure that the gas system continues to operate safely and further modernize the Company's facilities in a manner that achieves meaningful methane emissions reductions. The majority of the proposed capital investments and O&M costs are required to satisfy state and federal regulatory requirements and goals, including retirement of LPP, gas pipeline safety enhancements, and deployment of NPAs. Figure 1 below presents the percentage of capital investments for the eight major capital investment categories during the Rate Year.

Figure 1: Rate Year Capital Investment by Major Category



Although these investments are needed to meet various requirements and objectives, in developing its capital and O&M plans, the Company undertook all reasonable efforts to manage costs and minimize impacts on customer rates, where possible.

Q. What are the Company's projected direct and indirect capital forecasts?

A. A summary of the Company's total capital plan forecast for the Rate Year and Data Years is provided in Table 1.

Table 1: Indirect and Direct Capital Plan
(Includes Cost of Removal ("COR"))

$(000)	Rate Year FY 2025	Data Year 1 FY 2026	Data Year 2 FY 2027	Data Year 3 FY 2028
Direct CapEx	$961,556	$981,027	$953,282	$976,496
Indirect CapEx	$51,224	$35,018	$42,352	$33,227
Total Capital Plan	**$1,012,780**	**$1,016,045**	**$995,634**	**$1,009,723**

Q. Please discuss the need for the levels of capital investments set forth in the rate filing.

A. Over the last decade, several developments have required KEDNY and other natural gas distribution utilities to increase their annual capital expenditures. Notably, pipeline safety incidents, such as the tragic events in San Bruno, California, Allentown, Pennsylvania, and more recent incidents, including East Harlem, New York and Merrimack Valley, Massachusetts, have appropriately increased focus on pipeline safety and the need to carefully monitor and replace aging or at-risk pipeline infrastructure. Weather events such as Superstorm Sandy, Hurricanes Irene and Lee, and the Polar Vortex, and the expectation that similar events will continue to occur, require the Company to find ways to protect its facilities from severe weather. Indeed, recent weather events involving extreme cold temperatures, including Winter Storm Elliott in December 2022, highlight the need for more reinforcement and resiliency projects to ensure the continued provision of safe and reliable service to customers.

In response to these events, pipeline safety regulators have adopted new and expanded safety requirements. For example, since the 2019 Rate Case, PHMSA issued new safety requirements related to transmission system integrity management and verification. The Commission also issued a Memorandum and Resolution that significantly increased the requirements for utility operator qualification or "OQ" programs. These required improvements necessitate additional investments and compliance resources to ensure the Company can continue to provide safe and reliable service to customers consistent with regulatory obligations.

In addition to new requirements, the costs of delivering mandated programs have increased for a variety of reasons, including inflation, supply chain constraints, contractor prices due to OQ requirements, and increased paving requirements. These new mandates, coupled with increasing maintenance and construction costs, are the main drivers of the proposed increases to capital investments and O&M programs over the next several years. The factors contributing to the increases and the Company's plan to mitigate rising costs are presented in more detail below.

Q. How does the Company support the level of capital investment?

A. As the Company developed plans to modernize its gas assets, it also began to build and enhance its operations, engineering, resource management, work management, and quality control organizations and capabilities to deliver increasing levels of capital investment. The Company will continue to develop these capabilities in the Rate Year and Data Years by adding incremental labor resources to execute the capital plan and support the increased operations workload (discussed in Section VI). The capital investment plan includes additional field training resources, facilities, and tools to enhance the development of the internal work force.

Regarding contractor resources, over the past several years, the Company developed a procurement strategy that supports sustainable growth in qualified contractors to meet the work plan increases. To ensure adequate levels of qualified, skilled labor and the challenges around developing qualified contractors, the Company has worked to:

- Establish longer term contracts (which will be effective during the Rate Year and Data Years) to enable contractors to plan and invest in hiring, training, facilities, and equipment to meet the Company's construction needs;
- Provide greater work plan visibility to contractors on forecast crew requirements, that will enable them to develop the required capacity;
- Manage the work plan to limit seasonal variability to support a stable contractor workforce and promote worker retention; and
- Continue partnerships with community colleges, trade schools, and veterans' groups to attract and develop new sources of skilled labor to build the workforce.

Q. Does the Company require additional personnel in the Rate Year and Data Years to execute its capital and O&M programs?

A. Yes. The Company forecasts the need for an additional 110 gas FTE positions in the Rate Year, increasing to 156 in Data Year 3, to support the proposed capital investments, increasing O&M workload due to new and pending regulatory requirements, new programs discussed below, and the gas safety programs presented in the Gas Safety Panel testimony. These FTEs include positions in advanced leak detection, operator qualifications, collections, learning and development, city state construction, and pipeline safety and compliance. The FTEs will be charged to both capital and O&M programs based on the job function and nature of the work. Exhibit __ (GIOP-8) identifies the incremental FTE positions by function and the need for each position. Labor O&M associated with the FTEs is presented in the Revenue Requirements Panel's testimony and exhibits.

B. Supporting the CLCPA

Q. Please briefly describe the CLCPA and its impact on utility operations and regulatory proceedings in New York.

A. Signed into law in 2019, the CLCPA is New York's landmark climate change legislation that mandates a statewide greenhouse gas ("GHG") emissions reduction of 40 percent by 2030 and at least 85 percent by 2050 from 1990 emissions levels. To accomplish these emissions reduction targets, the CLCPA promotes the use of renewable energy sources, energy efficiency measures, and zero emissions transportation options. The CLCPA is also focused on creating clean energy sector jobs in New York State, improving air quality, and mitigating any potential disproportionate impacts of the clean energy transition on Disadvantaged Communities. The CLCPA requires that administrative agencies, such as the Commission, consider whether their administrative approvals and decisions comply with the CLCPA's requirements and long-term goals.

Although the CLCPA has been widely discussed over the past few years, legislators, regulators, and stakeholders are still developing the regulations and implementation plans that will achieve the CLCPA's aggressive, long-term emissions reductions and electrification goals. In its recently issued Final Scoping Plan, the Climate Action Council, the body charged with developing the CLCPA implementation framework, highlighted the complexities and challenges associated with the State's clean energy transition, including customer affordability and reliability concerns. Both the Climate Action Council and the Commission have reinforced that the safety and reliability of the gas system is imperative

during this transition, and continued investment in the gas system is required to ensure the safe and reliable operation of the system and to reduce GHG emissions.

Q. Please highlight some of the investments and programs that advance CLCPA requirements.

A. The Company is committed to initiatives that support a just and affordable clean energy transition. Accordingly, the Company's entire investment plan was considered in light of CLCPA goals and priorities, focusing on projects, programs, and initiatives that will reduce system emissions and decarbonize the gas supply, while ensuring the continued provision of safe and reliable service. Some key features of the investment plan that will support CLCPA priorities include:

- Emissions Reductions – In addition to providing safety and reliability benefits, the LPP retirement and leak management programs will directly reduce emissions from the Company's gas network. These programs have reduced direct system emissions by more than 28 percent since 2013. The Company is also proposing new investments and programs, like the Advanced Leak Detection and Advanced Communications Infrastructure programs (discussed by the Gas Safety Panel), specifically targeting high-emitting gas leaks and reducing system emissions.
- Emissions Reporting – Consistent with the commitments made in the 2019 Rate Case, the Company's capital proposal is supported by a GHG assessment for the proposed projects and programs, which will allow the Commission and other stakeholders to consider the emission impacts of proposed investments.

- Disadvantaged Communities – Large portions of the Company's service territory consist of areas designated as Disadvantaged Communities, and the proposed infrastructure investments will upgrade facilities in these neighborhoods. The investments will reduce leaks and local GHG emissions, improve air quality, and enhance the safety and reliability of service to customers in those communities who rely on gas service to affordably heat their homes. Where a particular project is located in a Disadvantaged Community, that information is noted in the project data sheet in Exhibit __ (GIOP-5). The direct testimonies of the Customer and CLCPA Panels also describe the Company's proposals for affordability, energy efficiency, and customer service programs specifically supporting Disadvantaged Communities.
- Net Zero and Alternative Investments – The Company has incorporated NPAs into its capital planning processes and looks for opportunities to avoid installation or replacement of traditional gas infrastructure by using alternatives, such as geothermal heat pumps or electrified solutions. In August 2022, the Company submitted filings, individually and with the Joint Utilities, in the Commission's Gas Planning Proceeding (Case 20-G-0131) regarding NPA evaluation criteria, incentive mechanisms, and cost recovery. The Company will incorporate any requirements and guidance regarding NPAs from that proceeding into its capital planning processes. The Company will continue to look for opportunities to advance NPAs in the Rate Year and Data Years and proposes to continue current NPA obligations, such as the annual obligations to submit a request for proposal for NPA solutions and to identify five LPP projects that could be replaced with NPAs. The Company also proposes to continue the existing electrification referral program for new customers in conjunction with Consolidated

Edison Company of New York, Inc. ("Con Edison") and PSE&G-Long Island, Long Island Power Authority ("PSEG-LI/LIPA").

- Future of Heat – Finally, the Company proposes investments in RNG interconnections to support the energy transition, decarbonize the gas supply, and reduce emissions.

Q. Does the Panel address the GHG emissions impacts of the investments and initiatives presented in your testimony?

A. Yes. Many of the investments and initiatives described by the Panel will reduce GHG emissions. Some of the projects will have direct emissions impacts that can be quantified using relatively straightforward methodologies, such as the LPP program. Conversely, some initiatives that directly reduce GHG emissions are less amenable to quantification (*e.g.*, the Advanced Leak Detection program).

Other investments and initiatives will have indirect impacts on GHG reductions. For example, investments in telecommunications upgrades or advanced communication infrastructure are expected to facilitate more efficient operations and improve the ability to detect and respond to leaks; however, these investments will not directly reduce GHG emissions in the near term.

Other investments may be needed to ensure KEDNY can continue to provide safe and reliable service, and are expected to have little or no impact on GHG emissions (*e.g.,* operator qualification training). Some of the projects or programs supported by the Panel's testimony may nominally increase emissions on a temporary or sustained basis, but the

investments are needed to enable KENDY to continue to provide safe and reliable gas service to customers (*e.g.,* LNG heating equipment).

An assessment of the GHG emissions associated with the specific investment areas supported by the Panel is presented in the project data sheets in Exhibit __ (GIOP-5). The testimony of the CLCPA Panel also summarizes the GHG emissions impacts of the investments.

C. Cost Pressures and Cost Mitigation

Q. What explains the cost increases reflected in the investment plan?

A. There are several factors that are collectively increasing the cost of the Company's investment plan over the next several years. These factors include: (i) incremental work driven by federal and state regulatory mandates; (ii) the need to upgrade aged infrastructure and replace dated critical facilities; (iii) contractor increases related to new work requirements and enhanced safety practices; and (iv) inflation and the rising costs of materials, in part due to supply chain issues and increasing demands for these resources across the industry.

A key driver of the capital plan increases is significantly higher unit costs for main installation work across multiple mandated programs, including proactive and reactive main replacement, customer connections, corrosion, and CSC programs. The unit cost increases are explained in more detail, below, and are shown on Exhibit __ (GIOP-2).

Another driver of the capital investment plan is an increase in the cost of the Company's CSC program, which is partially driven by the expiration of the Cost Sharing Agreement with New York City. Under the terms of the statute that authorized the agreement, it will expire in June 2025. At that time, the Company will no longer be able to recover partial reimbursement directly from New York City, and the full costs of these projects must be included in the investment plan going forward.

Q. What factors are contributing to the Company's unit cost increases?

A. Exhibit __ (GIOP-2) shows the components that have contributed to the main installation unit cost increase. The primary source of increased costs is New York City's restoration and paving requirements. Specifically, changes to Highway Rules §§ 2-01 through 2-09, 2-11 through 2-14, and 2-20 ("Paving Rules"), which require significantly more restoration work, including:

- Increasing the size of the area that must be re-paved following an excavation. Under the Paving Rules, the final restoration area is based on the largest dimension of the excavation. Under the prior regulations, KEDNY was authorized to pave the area of individual bell holes. The Paving Rules require KEDNY to pave the bell holes in addition to the area in between those holes. In some cases, this requirement doubles and triples the area needing to be replaced;
- Requiring that base material be replaced in kind or better, which means that concrete roadways must be replaced with concrete instead of the less expensive binder material that was previously used. In that regard, approximately 65 percent of New York City streets are concrete; and

- Requiring additional saw cutting of roadway excavations instead of more efficient and cost-effective jackhammering.

The operational and financial impacts of the Paving Rules have been fully realized over the term of the current rate plan and, therefore, are reflected in the historic average unit costs used to develop the forecasts presented in this filing.

Other factors contributing to the unit cost increase as shown in Exhibit __ (GIOP-2) include:

- Higher labor costs in recently renegotiated construction contracts; and
- Additional municipal rules for working around green infrastructure (bioswales/drainage), including restoration, materials, and pedestrian accessibility requirements.

Q. What is the Company doing to moderate the size of its investment plan?

A. As set forth in more detail in Section IV, the Company's proposed capital and O&M investment plans are developed through close coordination between the Asset Management, Field Operations, and Investment and Resource Management teams. Major programs and investments undergo a robust options analysis, including an analysis of potential NPAs, to identify the most cost-effective solution. Alternatives considered, as well as project benefit information for major capital investments, are set forth in the data sheets included in Exhibit __ (GIOP-5). The Companies' Capital Delivery organization is tasked with systematically improving the Company's ability to develop and execute its

capital plan more efficiently for complex projects. The Capital Delivery team continues to work on identifying efficiencies and opportunities for better ways of working and achieving synergies targeted to reduce costs.

Q. Is the Company proposing any unit cost productivity incentives to encourage attainment of efficiencies?

A. Yes. The Company is proposing a unit cost productivity incentive for the Proactive Main Replacement Program, similar to the incentive approved in the 2016 Rate Case. Proactive LPP replacement is critical to improving the safety and reliability of the Company's system and achieving meaningful emissions reductions. As discussed below and in the testimony of the Gas Safety Panel, the Company is proposing to target a minimum of 166 miles between calendar year ("CY") 2024 and CY 2027 through the program to reduce its LPP inventory. Although LPP replacement work is necessary over the coming years, the costs associated with this work continue to increase due to external factors, such as additional safety requirements and paving requirements, contractor and material costs, and inflation. A unit cost incentive will challenge the Company to complete this important work in a more efficient manner, while allowing customers and the Company to share the environmental and safety benefits achieved through completion of this work. The incentive would only apply to work completed through the Proactive Main Replacement Program and would not apply to other capital programs or any LPP replacements projects replaced by NPAs. KEDNY's eligibility for the LPP Productivity Incentive each year would be conditioned upon the Company removing the minimum LPP removal target established in the rate plan for that year. Unit costs for purposes of the incentive would be calculated by

dividing KEDNY's actual costs for proactive LPP removals by the total number of LPP feet removed from service through KEDNY's proactive main replacement program in the relevant year.

KEDNY's rates reflect the following unit costs (exclusive of associated O&M expense) for LPP replacements: FY 2025 – $1,999/foot, FY 2026 – $2,047/foot, FY 2027 – $2,104/foot, and FY 2028 – $2,163/foot. Under the mechanism, the Company proposes to earn a positive revenue adjustment of up to ten basis points if it achieves unit cost savings for LPP replacements in a given year as compared to the unit costs reflected in rates. The mechanism calculates the incentive across six tiers of increasingly challenging levels of unit cost savings. The proposed incentive mechanism for the Rate Year and Data Years is presented in Table 2 below and Exhibit __ (GIOP-3), page 6 of 10. The incentive would be recovered through the Company's Gas Safety and Reliability Surcharge ("GSRS"), which is discussed in the testimony of the Rate Design Panel.

Table 2: LPP Unit Cost Productivity Incentive

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6
Unit Cost Savings (%)	0 to < 1.50	≥= 1.50 to < 3.00	≥= 3.00 to < 4.50	≥= 4.50 to < 6.00	≥ =6.00 to < 7.50	≥ =7.50
Unit Cost FY 2025	$1,999 to $1,970	$1,969 to $1,941	$1,940 to $1,912	$1,911 to $1,883	$1,882 to $1,855	<=$1,854
Unit Cost FY 2026	$2,047 to $2,018	$2,017 to $1,987	$1,986 to $1,958	$1,957 to $1,928	$1,927 to $1,899	<=1,898
Unit Cost FY 2027	$2,104 to $2,073	$2,072 to $2,042	$2,041 to $2,009	$2,010 to $,1981	$1,980 to $1,951	<=$1,950
Unit Cost FY 2028	$2,163 to $2,131	$2,130 to $2,099	$2,098 to $2,068	$2,067 to $2,037	$2,036 to $2,006	<=$2,005
Basis Points	0	2	4	6	8	10

Q. How are the unit costs used for the productivity incentives derived?

A. The unit cost calculations are provided in Exhibit __ (GIOP-3). The incentive mechanism uses the total unit costs for main installations, including the costs of additional safety programs that, for accounting purposes, will ultimately be charged to the work orders for main replacements. For purposes of presentation of the capital investment plan in this proceeding, Exhibit __ (GIOP-1) presents the costs of these additional programs, such as the OQ program, as separate line items for clarity of costs attributed to each program. For the purpose of setting productivity incentives, however, unit costs must include an allocation of costs for the additional safety programs to accurately reflect all costs that will be charged to the work orders for main and service replacements.

As shown in Exhibit __ (GIOP-3), unit costs for the LPP productivity incentive include the costs for the Proactive Main Replacement Program, plus allocated costs for the OQ program.

Q. Are there potential safety and regulatory changes on the horizon that may further increase capital and O&M requirements during the Rate Year and Data Years?

A. Yes. The Company has not fully included the costs to comply with PHMSA Mega Rule 2 (RIN 2137-AF39) in its proposed investment plan, which will impact the Company's transmission and distribution operations and was recently "stayed" by PHMSA to allow more time for agency guidance and implementation. The Company has followed the PHMSA proceeding and, where possible, worked to identify and incorporate the associated changes into its plan. The Company has included costs associated with transmission

system and Integrity Management Program ("IMP") requirements in its capital and operating plan (*e.g.*, enhanced risk modeling, repair criteria) as many of these practices were already included in the Company's procedures. Nevertheless, not all of the incremental costs resulting from the new pipeline integrity regulations are reflected due to the stay of enforcement and the potential for revised interpretations once the rule becomes effective.

Additionally, on March 16, 2023, the Commission commenced a proceeding applicable to all gas utilities in Case 23-G-0083 that will review installation of certain tapping tees. The proceeding was opened too recently for the Company to complete an analysis of the estimated impact the proceeding will have on its proposed investment plan as of the date of this filing.

Should either of these items result in incremental costs beyond what has been incorporated in this case, the Company proposes to defer all incremental costs associated with those changes for future recovery.

D. <u>Notable Capital Programs</u>

Q. Please describe some of the notable programs included in the capital plan.

A. The capital plan represents the investments required to provide safe and reliable service to the Company's customers. Some of KEDNY's larger capital programs and projects include the following:

- Proactive Main Replacement (LPP) Program;

- IMP and Integrity Verification Programs ("IVP");
- Transmission Station Integrity Program; and
- CSC.

Notably, the capital plan includes a suite of gas safety-related capital investments in response to new gas safety requirements and implementation of lessons learned following recent industry gas pipeline incidents, as well as capital investments that focus on advancing clean energy goals. The Company is also proposing an innovative capital program to enable RNG projects to interconnect to the Company's system. These investments are shown on Exhibit __ (GIOP-1), and certain programs and projects are described in detail below and included in Exhibit __ (GIOP-5).

i. Proactive Main Replacement (LPP) Program

Q. Please describe the inventory of LPP existing on the Company's system.

A. LPP in KEDNY's service territory is comprised of twelve-inch and smaller main that is: (i) unprotected (*i.e.*, non-cathodically protected) steel pipe (whether bare or coated); (ii) cast and wrought iron pipe; (iii) unprotected steel/wrought iron pipe; and (iv) associated copper services, non-cathodically protected steel/wrought iron services, and pre-1974 high-density polyethylene ("HDPE") services. According to PHMSA data, New York has among the highest concentrations of LPP in the country, a significant portion of which is located in the Company's service territory. As of the end of CY 2022, the Company has approximately 1,416 miles of LPP remaining in its inventory.

Q. What is the Company's proposal regarding retirement of LPP?

A. To reduce the risk of leaks and breaks, improve system safety, performance, and reliability, as well as meet the Company's commitment to enhance customer satisfaction and reduce methane emissions, the Company has prioritized the retirement of older and higher-risk gas infrastructure – specifically, LPP and associated services – that disproportionally contribute to leaks on KEDNY's system.

The current plan, approved by the Commission in the 2019 Rate Case, requires retirement of at least 194 total miles of LPP during CY 2020 through CY 2023, collectively.

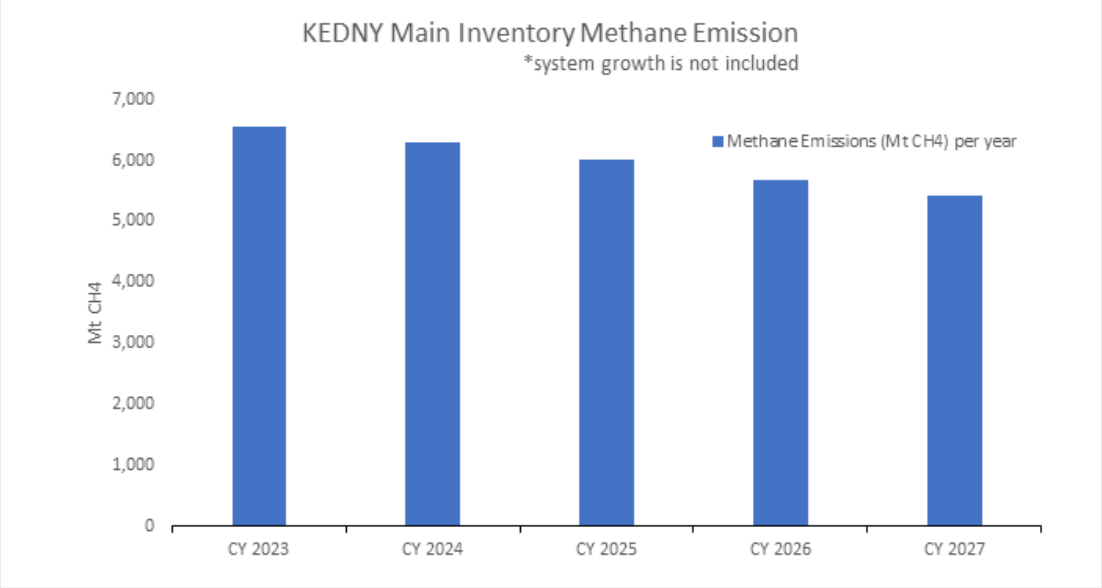
The Company proposes to continue a steady pace of LPP retirement in the Rate Year and Data Years. Specifically, the Company proposes annual minimum mileage targets and a cumulative minimum mileage target of 166 miles over the four-year period from CY 2024 to CY 2027. The Company believes these targets are reasonable as the program will continue the robust retirement of LPP, and the benefits associated with LPP retirement, while also being mindful of the associated costs. The metrics and targets for LPP retirement, including minimum mileage targets, are set forth in more detail in the Gas Safety Panel testimony. The proposed LPP retirement rate will position the Company to complete full retirement of the remaining LPP inventory by approximately 2045.

Q. Does LPP retirement align with CLCPA goals and the Final Scoping Plan?

A. Yes. Retirement of LPP reduces gas losses and fugitive emissions of methane, which further the objectives of the CLCPA. The Climate Action Council's Final Scoping Plan

highlighted the importance of LPP efforts, noting that such retirements are necessary for safety reasons and will produce real emissions reductions. Indeed, since 2013, KEDNY's system methane emissions have decreased by 28 percent, due in large part to this program. Table 3 provides a high-level estimate of potential methane emissions reductions over the next several years assuming the retirement of LPP pursuant to KEDNY's proposed program.

Table 3: Estimated Methane Emissions Reduction Through LPP Retirement



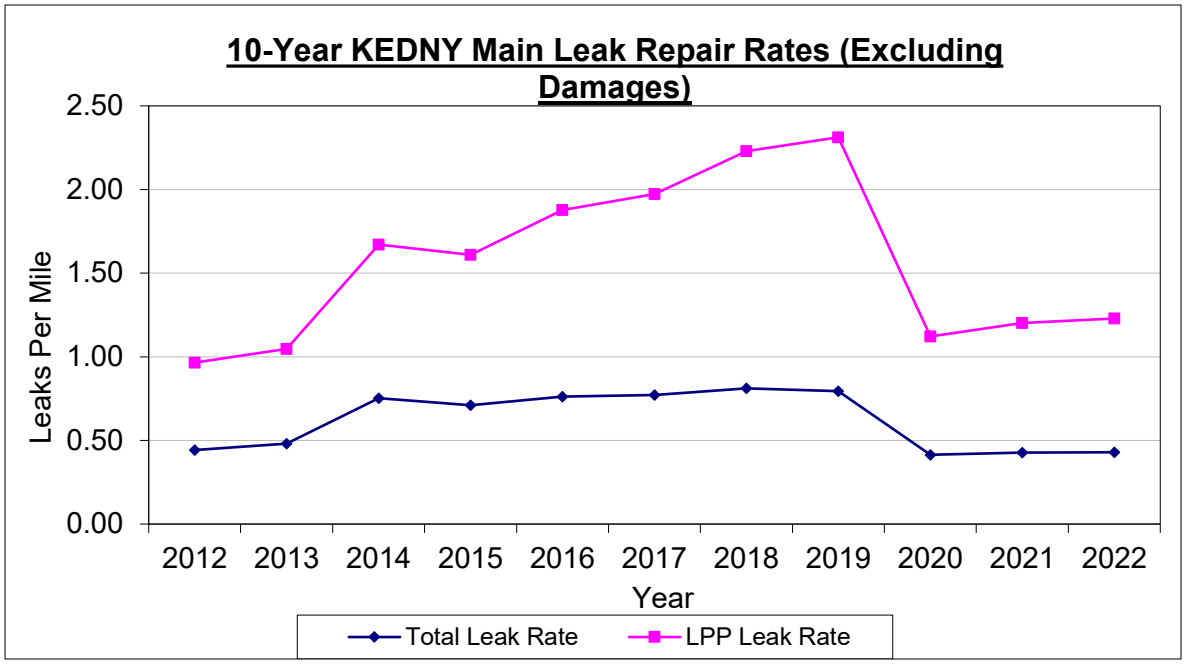
Additionally, the Company's LPP retirement algorithm prioritizes retirement of pipe segments that include open Type 3 main and service leaks on the pipe segment, thereby enhancing the emissions reduction benefits of its Proactive Main and Service Replacement Program.

Q. Why is it important from a safety and environmental perspective to continue LPP retirement in the Rate Year and Data Years?

A. As would be expected, the Company has observed a significantly higher leak rate on its LPP inventory as compared to all other distribution facilities. While the current LPP inventory represents only 33 percent of KEDNY's distribution system, LPP is responsible for 95 percent of leak repairs, excluding excavation damages. The current leak rate for all distribution piping is 0.43 leaks per mile, excluding damages from excavation. The 2022 leak rate for LPP was 1.23 leaks per mile, representing an increase from the 2021 leak rate for LPP of 1.025.

The leak rate for LPP has slightly increased in KEDNY's service territory over the past two years, after a significant drop in 2020, despite accelerated replacement of LPP, as shown in Table 4. Thus, KEDNY's proposal to continue the current pace LPP retirement is warranted. Exhibit __ (GIOP-4) provides projected leak rates for LPP for various main replacement strategies.

Table 4: KEDNY Historic Leak Rate



Q. Which programs contribute to retirement of LPP to meet the planned targets?

A. KEDNY's Proactive Main Replacement Program is projected to replace approximately 50 percent of LPP mileage in the Rate Year and Data Years, with the remaining LPP retirement mileage resulting from the CSC, Gas Reinforcement, and Gas Reliability Programs.

Q. How does the Company prioritize the retirement of main segments for the Proactive Main Replacement Program?

A. Each year, the Company prioritizes retirement of LPP segments by using a risk ranking algorithm that is part of the Company's Distribution Integrity Management Plan ("DIMP") and the Company's Gas Operating Procedure for the Identification, Evaluation and Prioritization of Distribution Main Segments for Replacement (ENG04030). The

Company's risk model calculates a relative risk score for LPP segments based on specific performance data and localized incident probabilities and consequences, combined with calculated risk factors for the asset classes being evaluated. This risk-based algorithm, along with the Company's sound engineering judgment, which takes all factors and risks into consideration in each case, forms the foundation of the LPP retirement strategy. The Company is proposing to target more cast iron main for retirement where possible in consideration of other risk factors, due to increased age and the type of material. Flood zone factors are also included in the risk ranking algorithm such that where other risk factors are equal, the Company will target LPP retirements in Federal Emergency Management Agency ("FEMA") 100- and 500-year flood zones.

During the LPP prioritization process, KEDNY evaluates the possibility of NPAs in lieu of LPP replacement projects. The Company proposes to continue its current commitment, as set forth in the 2019 Rate Case, to identify at least five LPP projects annually that could be replaced with NPAs, subject to customer consent. The Company is also in the process of implementing the DNV Synergi Pipeline model, which will allow the Company to conduct its review at the network level to further enhance LPP prioritization abilities.

Q. What level of investment in the Proactive Main Replacement Program is required in the Rate Year and Data Years to achieve the Company's LPP retirement goals?

A. Annual program spending for the Proactive Main Replacement Program is $186.685 million in the Rate Year, $223.396 million in Data Year 1, $251.500 million in Data Year 2, and $269.894 million in Data Year 3. The capital cost of the Proactive Main

Replacement Program is based on a forecast LPP replacement unit cost of approximately $1,964 per foot. As shown in Exhibit __ (GIOP-1) and Exhibit __ (GIOP-3), costs for OQ requirements are presented separately in the capital investment plan, but ultimately will be allocated to main replacements.

Q. How does the Company manage the costs of its Proactive Main and Service Replacement Program?

A. To mitigate costs, retirement of LPP is coordinated with other programs (such as CSC, reinforcement, and reliability programs) to capture efficiency savings and cost avoidance. KEDNY will continue to look for opportunities to deploy construction resources more efficiently and will identify areas of the gas network where entire LPP systems can be retired efficiently and cost effectively.

Q. What is the Company's proposal to recover the cost of incremental proactive replacement of LPP?

A. The Company currently uses the GSRS adopted by the Commission in the 2019 Rate Case to recover a return on investment and depreciation expense associated with prudent investment in proactive LPP replacements incremental to the level funded in base rates up to 102 percent of the rate allowance unit cost. The Company proposes to continue use of the GSRS to recover costs of incremental proactive LPP replacements, as shown in Exhibit __ (GIOP- 3). The recovery of costs for incremental proactive LPP replacements will work in conjunction with the Company's net plant tracker. The surcharge mechanism ensures that KEDNY will recover LPP replacement costs only to the extent it is successful in

delivering its program and encourages the Company to replace more than the mileage targets.

Q. Is the Company planning to change the depreciation of existing LPP assets?

A. Yes. As described in the testimony of Company Witness Ned W. Allis, the Company is proposing to depreciate KEDNY's existing LPP assets over the remaining 20-year term of the Proactive Main and Services Replacement Programs. The proposal would align KEDNY's treatment of LPP for depreciation purposes with KEDLI.

Q. Does the Company propose to continue reporting on LPP retirement?

A. Yes. The Company will continue to provide Department of Public Service Staff ("Staff") with visibility to the status of LPP retirement. The Company proposes to report to Staff on an annual basis, including main retired (feet, location), cost data, opportunistic retirements, and the status of the Company's LPP retirement work plan.

Q. Does the Company address relocation of inside meters to outside in conjunction with the Proactive Main and Service Replacement Programs?

A. Yes. Consistent with its obligations in the 2016 Rate Case and 2019 Rate Case, where possible, the Company relocates inside gas meters to outside locations in conjunction with the Proactive Main and Services Replacement Programs. Over the past five years, space constraints and New York City Department of Buildings ("DOB") code interpretations have prevented KEDNY, and customers, from completing meter relocations. The Company has been meeting with the DOB, as required by the Joint Proposal adopted in the

2019 Rate Case, to discuss the importance of the program and reach a consensus on the work methodology for utilities when relocating meters. However, at this point, the DOB will not allow for this work without significant pressure testing and other work behind the meter that requires coordination with master plumbers and potential outages to customer services, all of which add to project complexity for the Company and customers. The DOB interpretation issue impacts other utilities operating in New York City (Con Edison) and was raised by the Companies in the 2019 Rate Case.

Q. Please explain the Company's proposal for continuing the existing Proactive Main and Services Replacement Programs meter relocation program.

A. KEDNY launched a pilot program in late 2022 to relocate meters within New York City ("NYC Meter Relocation Pilot Program") to address some of the Company and customer-sided issues experienced with meter relocation in New York City. The pilot program uses employees and contractors to distribute meter relocation messaging to customers in connection with main and/or service replacement projects. Customers who agree to have their meter relocated are placed into a queue for follow-up work. KEDNY hired a contractor to evaluate and complete the necessary meter relocation work, as well as any additional work required by the DOB to support the relocation. KEDNY intends to continue the NYC Meter Relocation Pilot Program in the Rate Year and Data Years as the Proactive Main and Services Replacement Programs comprise a large portion of the Company's capital work and present the greatest opportunity to relocate customer meters, where possible. The costs of the NYC Meter Relocation Pilot Program have been included in KEDNY's LPP unit cost calculation.

The Company is also proposing a separate, stand-alone meter relocation program that would be conducted in addition to the NYC Meter Relocation Pilot Program, as discussed in the Direct Testimony of the Gas Safety Panel.

ii. Gas Safety Integrity Management and Integrity Verification Programs

Q. What is the Company's IMP?

A. The Company's transmission pipeline IMP is a safety program comprised of projects mandated by the Pipeline Safety Improvement Act of 2002 and corresponding DOT regulations. The IMP identifies and addresses potential issues affecting the physical soundness of Company facilities before they become safety or performance issues. The Company conducts baseline and periodic reassessments of transmission facilities to identify and evaluate potential threats to "Covered Segments" of pipelines, *i.e.*, transmission pipelines that could affect "High Consequence Areas" (areas where a pipeline failure could have significant adverse consequences), as well as remediation of significant defects discovered during such assessments. In regions of the United States where older gas distribution systems are common, IMPs have become a key component of gas pipeline safety through improving pipeline integrity.

KEDNY's IMP is designed to proactively address system risks identified through integrity assessments in a manner that will also enable the Company to cost effectively comply with existing and new IMP regulations.

Q. Please describe the IMP capital investments.

A. Currently, IMP assessments may be accomplished through either external corrosion direct assessment ("ECDA") or in-line inspection ("ILI") technology, which uses a device known as a "pig" to evaluate the condition of the inside of the pipeline. ILI is considered to be superior to ECDA because of the ability to identify condition anomalies originating in the pipe wall. IMP investments are necessary to: (i) support ILI (*e.g.*, installation of pig launchers and receivers, and pipe reconfiguration/replacement); and (ii) to resolve issues discovered during pipeline inspections conducted through either method.

Q. Please describe the IMP capital investment needs for the Rate Year and Data Years.

A. As of FY 2021, 22 percent of the Company's DOT pipeline is ILI enabled. If all projects are completed within the Company's current work plan, the plan will ultimately result in 31.5 percent of the Company's DOT pipeline being ILI enabled by FY 2028. This will significantly improve the Company's ability to identify integrity issues.

Q. What is the status of federal regulations in this area?

A. In May 2016, PHMSA issued a Notice of Proposed Rulemaking ("May 2016 NPRM") that proposed new pipeline safety regulations including a requirement for increased inspection of IMP-covered pipelines utilizing ILI technology and an expanded definition of Medium Consequence Areas, as well as a host of other requirements. To meet these requirements, transmission pipelines must be ILI enabled, where possible. The May 2016 NPRM was adopted in a final rulemaking on October 1, 2019 ("2019 Final Rulemaking"), with an effective date of July 1, 2020. Because the Company's IMP workplan is risk-based, and

in light of PHMSA's recent regulations expanding IMP, the Company believes that its proposed IMP is a reasonable and compliant approach to managing pipeline integrity during the Rate Year and Data Years.

Q. How are the IMP workplan and associated IMP capital investment forecast determined?

A. The workplan began in 2002 based on initial assessments using the Company's risk model. Segments were prioritized for ILI enablement over a multi-year workplan based on a combination of their risk score and other relevant factors, such as facility characteristics or geography, to determine what work to do and the associated timing. Segments must be re-assessed at a maximum of seven years according to the date of last assessment. The workplan is updated annually and as required assessments are completed. Additionally, ILI projects typically consist of three years of design and procurement work followed by construction in the fourth year.

IMP spending can fluctuate significantly year to year depending on the projects identified for inclusion in the workplan. Because the work must be done by segment, the length, geographic location, and characteristics of the segments that need to be addressed each year contribute to different costs such that historic program costs are not indicative of future program needs. Once segments that will be addressed by the workplan are identified, cost forecasts, known as level one project estimates, are developed based on prior projects of similar size and scope and adjusted for known variables. Additionally, some larger projects in the IMP are separately budgeted on the capital investment plan.

The IMP workplan is described in more detail in the IMP data sheets in Exhibit __ (GIOP-5).

Q. What is covered in the Company's IVP Program?

A. The Pipeline Safety Act of 2011 also mandated that PHMSA establish rules requiring operators to demonstrate their pipelines are "fit for service" by reviewing construction records for each pipeline segment to confirm it is operating within design parameters. On January 4, 2011, PHMSA issued an advisory bulletin (ADB-11-01) directing operators to perform a detailed threat and risk analysis that includes a records review of their systems. The 2019 Final Rulemaking implemented additional rules regarding the maximum allowable operating pressure ("MAOP") and pressure testing requirements for existing pipelines, including: (i) eliminating the exemption for establishing the MAOP of pre-1970 "grandfathered" pipe segments; (ii) mandating additional pressure testing or replacement for pipelines without adequate pressure test records; and (iii) requiring operators who lack certain records to establish material properties using approved methods (*e.g.*, cutting and testing pipe samples).

The Company's IVP program began in 2011 and includes thorough record reviews, pipeline replacement, and retirement of non-essential pipeline segments. As with the IMP, the IVP is primarily based on the Company's assessment of system risks, while also incorporating PHMSA rulemakings.

Q. What is the status of the Company's IVP records review and its IVP proposal for the Rate Year and Data Years?

A. Through its IVP to date, KEDNY has completed the MAOP records review on 100 percent of its DOT-jurisdictional pipelines. Going forward, the IVP addresses transmission main replacements and testing necessitated by incomplete records identified by the review. Where the Company has identified incomplete records, pipelines will be replaced, or records will be recreated through testing.

The Company's proposed IVP work plan is comprised of several projects that will incorporate elements of the 2019 Final Rulemaking and PHMSA guidance document ADB-11-01 and will conduct records reviews, replace pipeline segments, retire non-essential pipeline segments, and perform critical engineering assessments.

iii. Transmission Station Integrity Program

Q. Please describe the Transmission Station Integrity Program.

A. This program is similar to the Company's IVP and consists of projects that address transmission-connected pressure regulating stations and gate stations ("transmission stations"). The 2019 Final Rulemaking requires that operators:

- Confirm the records used to justify MAOP are traceable, verifiable, and complete;
- Reconfirm station MAOPs using assessment methods;
- Perform routine assessments on station piping in both High and Medium Consequence Areas;
- Consider seismicity as a risk factor in its IMP;

- Perform material sampling to establish properties; and
- Advance fitness for service analysis.

Related advisory bulletins and discussions between PHMSA and industry stakeholders during the May 2016 NPRM and 2019 Final Rulemaking process have indicated that the proposed rules apply to transmission stations. Therefore, the Company is proposing an integrity verification program for records review and, where records are inadequate to demonstrate that transmission station facilities are fit for service, capital investments for station rehabilitation, or partial or full station replacements to bring the stations into compliance. Similar to the IMP and IVP for transmission pipelines, the Transmission Station Integrity Program is prudent and in compliance with the 2019 Final Rulemaking to address risk presented by older pressure regulating facilities for which there are inadequate records.

The Company began ramping up this program in FY 2021, with a projected completion date in FY 2035. The program forecast is based on investment-grade estimates to address the population of existing transmission stations that will be covered by the program.

iv. City/State Construction ("CSC")

Q. Please describe what is included in the CSC Program.

A. The CSC Program consists of construction work performed to accommodate New York City municipal construction activity that could impact the integrity of the Company's natural gas facilities. Typical construction activities that impact gas facilities include work

on water, sewer and drainage infrastructure, street reconstruction, road realignment and bridge replacement. State regulations and Company procedures require the replacement of eight inch and smaller cast iron gas mains if roadway or underground construction is being performed in such a way that would impact the integrity of the Company's mains. Non-cast iron gas mains (*i.e.*, steel and plastic) are not subject to the same replacement regulations and are typically supported and protected if not in direct conflict with third-party construction. Direct conflicts are addressed through relocation regardless of material type.

Over the last several years, there has been an increase in the level of municipal construction activity to address aging municipal infrastructure and respond to emergent weather events. Indeed, New York City has invested billions of dollars to upgrade its infrastructure, and it is anticipated that current spending levels will remain constant, or increase, in the future. KEDNY anticipates continued growth of municipal works projects in New York City, which will be spurred, in part, as funds from recently enacted federal legislation, such as the American Rescue Plan Act of 2021, the Infrastructure Investment and Jobs Act, and the Inflation Reduction Act of 2022. Many of the New York City projects will directly impact KEDNY's gas system, and, as this work is reactive, the level of KEDNY's CSC work directly correlates with the level of municipal work. As a result, the CSC Program is one of the largest programs in the mandated category in terms of costs. The forecast cost for this program is approximately $329.511 million in the Rate Year.

Q. Are there opportunities to retire LPP during CSC projects?

A. Yes. As part of the CSC construction program, the Company looks to identify cost-effective opportunities to retire LPP when main replacements are required to accommodate municipal construction. CSC projects present opportunities to perform safety and reliability upgrades on the Company's infrastructure, the costs of which can be offset by coordinating construction activities (shared trenching and paving) and securing third-party reimbursements.

Q. How does the Company currently recover from municipalities and other third parties?

A. The Gas Facility Cost Allocation Act of 1988 ("GFCA Act") granted the New York City Mayor the authority to enter into agreements, for a term not to exceed 37 years, to provide for direct payment to gas corporations for projects related to the support, protections, relocations, and replacement of gas facility projects to support municipal construction projects within New York City. Following passage of the GFCA Act, the Company and New York City entered into a Cost Sharing Agreement ("CSA") that requires New York City to provide direct reimbursement to the Company for the Company's CSC costs driven by New York City municipal projects and sets forth other standard commercial terms and conditions related to payment of those costs. Following completion of a municipal project, the Company invoices New York City for its mandated, reactive CSC work and New York City is required to remit payment to the Company. Reimbursements received from New York City are used to offset CSC costs in the Company's capital plan as well as O&M expenses.

The capital tracker for KEDNY's CSC program approved in the 2019 Rate Case allows the Company to defer for future recovery from or return to customers 90 percent of the difference between the Companies' actual capital spending for CSC, net of municipal reimbursements, and the forecasted CSC budgets for each Rate Year. CSC deferral filings are required under the Joint Proposal and filed for each of the rate years under the existing Joint Proposal.

Q. Does the Company anticipate any changes that will impact CSC cost recovery in the Rate Year and Data Years?

A. Yes. The CSA will expire in June 2025, consistent with the provisions of the GFCA Act. Based on discussions with New York City, the City does not intend to extend the CSA beyond that date, and there is no requirement in the GFCA Act for an extension. Therefore, the Company will not be able to recover these costs from New York City.

Q. How does KEDNY propose to change the CSC Program cost recovery mechanisms in the Rate Year and Data Years?

A. KEDNY is proposing two changes to the current mechanism. KEDNY forecasts its CSC expenditures by reviewing the known and planned work identified by New York City, historical work volumes, and unit information. In large part, the forecast is based on New York State and New York City's current five-year construction plans. Large projects may be project managed separately from the general CSC Program; however, at this point, no large projects are projected in the Rate Year and Data Years.

Consistent with past practice, the Company proposes to recover the forecast level of CSC costs through its base rates. The one change is that KEDNY will no longer include in the capital plan its forecast of reimbursements from New York City because of the expiration of the CSA. This change would make KEDNY consistent with how other utilities, such as Consolidated Edison, KEDLI, and Niagara Mohawk, recover these costs. The forecast cost for the CSC Program total approximately $329.511 million in the Rate Year, $335.904 million in Data Year 1, $342.118 million in Data Year 2, and $348.550 million in Data Year 3.

Second, the Company is proposing to continue the CSC capital tracker, with a modification to allow for 100 percent recovery of CSC costs. As noted above, the Company's work is reactive and, despite coordination with New York City, the Company can only project the level of expense it will incur in response to CSC projects. As such, a fully reconcilable tracker is needed to ensure the Company can recover all costs for this required work. To address similar variability in "Support & Protect" O&M spending, which is highlighted in Exhibit __ (GIOP-6), the Company is proposing to add a new O&M tracker with the same structure as the capital tracker, limited to the "Support & Protect" O&M expense category. The proposed CSC O&M tracker is illustrated in Exhibit __ (RRP-9), Schedule 2.

Q. Is there variability between the Company's forecast CSC expenditures and reimbursements and the actual costs and reimbursements received for this work?

A. Yes. While the Company's CSC forecasts are reasonably based on available information, capital and O&M expenditures in this area are subject to a high degree of variability

because the scope and scheduling of municipal construction projects are constantly revised. The New York City Department of Design and Construction's ("DDC") work plan is dynamic and is subject to change even within one fiscal year. KEDNY works closely with DDC's engineers, consultants, and contractors to minimize direct conflicts to the Company's existing facilities to reduce support and protect and replacement work as much as practicable and to address changes to DDC's workplan.

IV. Gas Infrastructure Capital Investment

Q. How much is the Company planning to invest in its gas system assets in the Rate Year?

A. The Company plans to invest approximately $1,012 million in its gas infrastructure and other direct and indirect capital investments in the Rate Year, including cost of removal. Exhibit __ (GIOP-1), which provides the actual or budgeted direct and indirect capital investments for the Historic Test Year, Link Period, Rate Year and Data Years, is segmented into eight spending rationales (programs): "Mandated," "Reliability," "Customer Connections," "Non-Infrastructure," "Advanced Communication Infrastructure," "Future of Heat," "Operator Qualifications Program," and "Indirects." Table 5 summarizes the planned direct and indirect capital investments for the Rate Year and Data Years in each of these programs. Each spending rationale is broken down further into sub-categories that identify specific programs.

Table 5: Capital Investments by Spending Rationale
***Inclusive of cost of removal**

Spending Rationale	Rate Year FY 2025 ($000)	Data Year 1 FY 2026 ($000)	Data Year 2 FY 2027 ($000)	Data Year 3 FY 2028 ($000)
Mandated	$ 688,227	$ 713,346	$ 747,914	$ 752,999
Reliability	$ 145,171	$ 154,706	$ 87,405	$ 78,284
Customer Connections	$ 101,154	$ 77,944	$ 78,469	$ 96,475
Non-Infrastructure	$ 8,648	$ 6,016	$ 6,012	$ 6,110
Advanced Communication Infrastructure	$ 3,305	$ 6,742	$ 18,436	$ 27,340
Future of Heat	$ 2,231	$ 9,294	$ 1,828	$ 1,821
Operator Qualifications Program	$ 12,821	$ 12,979	$ 13,219	$ 13,467
Indirects	$ 51,224	$ 35,018	$ 42,352	$ 33,227
Total	**$ 1,012,780**	**$ 1,016,045**	**$ 995,634**	**$ 1,009,723**

Q. How were the projected capital estimates derived?

A. In accordance with the Company's budgeting policies and procedures, capital budgets are prepared annually with a five-year forward look. Budget projections are based on historical averages, unit costs, and project estimates.

Q. Does the Company's revenue requirement in this case also include cost of removal associated with the capital investment plan?

A. Yes. Included in the capital costs discussed below, there is a level of cost of removal required to implement the Company's infrastructure investment plan. As reflected in Exhibit __ (GIOP-1), the Company is forecasting costs of removal as follows: approximately $28.121 million in the Rate Year, $28.361 million in Data Year 1, $27.666 million in Data Year 2, and $28.152 million in Data Year 3. The capital forecasts for each program presented below are inclusive of cost of removal.

Q. What types of activities are associated with cost of removal?

A. The Company defines removal as any work on an asset that results in it being removed from the asset inventory, irrespective of whether a different asset is added in its place. This type of work would include activities associated with disconnection, removal, and disposal (or retirement in place) of gas mains, gas services and related facilities.

Q. What information is presented in Exhibit __ (GIOP-5)?

A. Exhibit __ (GIOP-5) provides data sheets for each of the significant gas capital projects and programs expected to be performed during the Rate Year and Data Years. This additional information includes:

- Project or Program name;
- Spending rationale;
- Project or Program description;
- Project or Program justification;
- Estimated costs;
- Benefits discussion;
- Alternatives/Options Analysis (including NPAs);
- CLCPA/GHG Emissions Analysis; and
- Studies/references that support the program.

Q. Please describe some of the technologies and practices the Company uses to reduce the total cost of its capital expenditures.

A. The Company continues to employ a number of technologies and best practices designed to increase the efficiency and reduce the cost of its capital expenditures. These practices include:

- Increasing the amount of planned capital work (versus reactive work).
- Increasing coordination among capital programs to increase efficiencies (*e.g.*, leveraging LPP opportunities).
- Installing more small-diameter, high-pressure facilities that can be installed at lower cost.
- Using smaller excavating equipment, increasing operating efficiency and reducing instances of damage (because of decreased size and weight of equipment).
- Using "coring and keyhole" technology to repair existing mains.
- Enhancing contractor management.
- On-site reporting for work crews in many large construction projects.
- Continuing to deploy CISBOT and cured-in-place ("CIP") lining (as described in more detail below).

A. <u>Capital Planning, Budgeting, and Sanctioning Process</u>

Q. Please describe the annual development of the Company's capital plan.

A. Each year, the Company develops a ten-year gas capital plan to achieve its performance objectives of delivering safe and reliable service. Investment Planning compiles proposed spending for programs and individual capital projects. Programs and projects are

categorized into one of the previously mentioned eight spending rationales (*i.e.*, Mandated, Reliability, Customer Connections, Non-Infrastructure, Advanced Communications Infrastructure, Future of Heat, Operator Qualifications, and Indirects).

In late fall, the capital plan is reviewed by the New York Jurisdictional President and the New York Chief Financial Officer. The New York Jurisdictional President reviews the overall customer, service quality, and financial impacts of the investment plan as part of the business planning process and may request changes to the level or mix of investments.

In early winter, the capital plan is presented to the National Grid Board of Directors and the National Grid plc Executive Committee and, in early spring, the capital portfolio is presented to the National Grid plc Board of Directors for review and approval.

Q. Are there additional approvals needed before a project in the annual capital plan may proceed?

A. Yes. Aside from the capital planning and budgeting process, specific delegation of authority ("DOA") approval must be obtained for any project in the ten-year capital plan to proceed. This process includes the sanctioning documentation and review for projects over $2.5 million and other levels of review for smaller projects. Presently, all projects greater than $2.5 million require sanctioning documentation and review. The New York Executive Sanctioning Committee ("NYESC") was established by the National Grid USA Board of Directors specifically for this purpose. Projects greater than $50 million are reviewed and approved by the NYESC. For projects between $2.5 million and $50 million,

the NYESC has delegated review to an informal committee led by the investment planning group that reviews and finalizes sanctioning papers for these projects at a weekly meeting, and the committee then forwards the final sanction documents to the executive sponsor of the project for approval and signature. Projects less than $2.5 million do not require sanctioning and are approved through a supervisory DOA hierarchy based on certain established thresholds.

Q. Please explain the difference between the DOA review and approval (sanctioning) process and the approved five-year capital plan used to forecast the Rate Year and Data Years.

A. The timing of the sanctioning process is not aligned with the capital planning process used to forecast the Rate Year and Data Years for purposes of the rate filing. As described above, the Company develops a long-term investment plan that is used as the basis for the forecast for the Rate Year and Data Year proposals. Project sanctioning, however, normally occurs immediately prior to the fiscal year for which the investment is planned. For example, the FY 2025 capital plan will be formally sanctioned in early 2024. Thus, the Company's currently sanctioned or partially sanctioned projects do not yet represent the full capital forecast proposed in the Rate Year and Data Years.

Q. Please describe how the Company's DIMP impacts its capital investment planning.

A. The DIMP involves a risk-based assessment of the Company's distribution system to identify threats in seven categories: corrosion, natural forces, excavation damage, other outside force damage, material and weld failure, equipment failure/malfunction, and

inappropriate operation. The DIMP requires evaluation and prioritization of the risks that these threats pose, and the implementation of measures to address the highest risks with an emphasis on leak management, enhanced damage prevention, operator qualification to reduce human error, and system replacement. Consistent with the DIMP, the Company prioritizes asset replacements in its investment plan based on a risk ranking that considers, among other things, leak repair history, types of leak, pipe material, surrounding geography, segment length, nearby construction activity, field conditions, customer issues, open leaks, and engineering judgment. The risk ranking factors are carefully designed to consider known differences in the performance of asset subclasses, extensive experience with asset failures, current performance data for the asset subclasses for various threat categories, and subject matter experts' analysis and opinions on the future performance of the assets.

B. <u>Mandated Category of Capital Spending</u>

Q. What portion of the Company's capital investment plan is Mandated?

A. The Mandated category of work accounts for approximately 72 percent ($688.227 million) of the total planned direct capital investment in the Rate Year.

Q. Please describe what is included in the Mandated spending category.

A. Projects covered by the Mandated spending rationale are those needed to comply with regulatory obligations and rate plan commitments, including: the CSC Program (described above), code-required corrosion testing and mitigation, pipeline and station integrity related activity (including IMP and IVP as described above), proactive and reactive capital

main and service replacement, and required meter replacements. Exhibit __ (GIOP-5) includes summary descriptions of the larger projects included in the Company's Mandated spending rationale/category, along with the estimated annual funding during the Rate Year and Data Years.

Q. Please describe what is included in the Corrosion Program.

A. The Corrosion Program consists of field testing, monitoring, upgrades, and repairs to existing corrosion control systems as mandated by federal and state code requirements. Part of this program addresses above ground gas mains at bridge locations, which includes complete recoating of existing aged, dis-bonded, deteriorated or uncoated gas mains, as well as retirement of LPP where it extends underground near these crossings. In addition, this program addresses the installation and testing of cathodic protection systems on buried piping. The Company's forecast for the Corrosion Program is based on a three-year historic average (FY 2020 – FY 2022), adjusted for inflation in each year. The capital investment plan includes approximately $0.511 million in the Rate Year and each of the Data Years, adjusted for inflation.

Q. Is the Company proposing to continue its Large Diameter Pipe Rehabilitation and CISBOT Programs for joint sealing and cast iron lining?

A. Yes. The Company's capital plan includes continuation of two programs included in the 2019 Rate Case that utilize a joint sealing robot or "CISBOT" and CIP pipe lining to cost effectively improve the safety and reliability of its large diameter mains. These technologies are proven to extend the life of the main for more than 50 years, improve

system performance, and reduce future leaks on treated pipeline segments. If it is impractical to utilize this technology, KEDNY will replace that section of large diameter pipe to maintain the integrity of the system. The Company will continue to include main segments reconditioned through CISBOT and CIP lining in the inventory of LPP for eventual retirement.

The Company intends to address approximately two miles of large diameter cast iron main using CISBOT in the Rate Year and each of the Data Years at a cost of approximately $6.849 million each year, adjusted for inflation. The Large Diameter Main Rehabilitation Program will address one and a half miles annually in the Rate Year and Data Years using CIP lining at a cost of approximately $9.438 million per year, adjusted for inflation.

Q. Please describe what is included in the Replace Pipe on Bridges Program.

A. The Replace Pipe on Bridges Program will replace gas pipe on elevated structures due to specific integrity concerns that were identified through corrosion inspections. Funding for these replacements is not addressed in any other capital program budget. The Proactive Main and Service Replacement (LPP) Program does not include replacement of pipe on bridges and structures due to cost and complexity. The Corrosion Control Program typically identifies issues on structures that can be addressed with O&M through re-coating; however, the Company has identified structures that require more than re-coating and specific capital projects requiring replacement or rework. The complexity and level of corrosion at the identified locations warrants an incremental, stand-alone program. Specific project details are provided in the project data sheets in Exhibit __ (GIOP-5).

Q. Please describe what is included in the Reactive Main and Reactive Service Replacement Programs.

A. The Reactive Main and Reactive Service Replacement Programs provide for the replacement of gas mains and services and leak repair during urgent or emergency situations that fall outside the normal scope of integrity, reinforcement, reliability, and public works programs. These replacements are performed in lieu of repair in instances when repairing damaged or leaking facilities is not possible, or where the pipeline segment is too short be covered by the Proactive Program.

The Main Replacement (Reactive) – Maintenance Program provides Field Operations the ability to quickly replace segments of main when warranted by emergent conditions. The forecast for this program is based on a two-year historical average.

The Service Replacement (Reactive) – Leaks Program is a reactive program that addresses service replacements due to leaks reported by the public and customers or detected during programmed leak surveys. The forecast for this program is based on a three-year historical average. The capital investment plan includes approximately $6.696 million in the Rate Year and each of the Data Years, adjusted for inflation.

The Service Replacement (Reactive) – Non-Leaks/Other Program addresses primarily customer-driven service replacements necessitated by damages, service abandonments, demolition requests, and customer requests to relocate existing services. The capital

investment plan includes approximately $6.275 million in the Rate Year and each of the Data Years, adjusted for inflation.

The Service Replacement (Reactive) – Inactive Accounts Program addresses retirement of the abandoned or inactive services near the mains to avoid future damages, leaks, or inadvertent use of the gas. The program also secures gas services in occupied or unoccupied premises when a customer account has been terminated. In all cases, the meter is locked as soon as possible following termination of the account (*e.g.,* during the customer appointment for a final meter read), unless the account has been transferred to a new customer of record. The capital investment plan includes approximately $0.427 million in the Rate Year and each of the Data Years, adjusted for inflation.

Q. Please explain the Service Replacement – Atmospheric Corrosion Inside Inspections Program.

A. The Atmospheric Corrosion Inside Inspections Program addresses remediation required when inside service inspections result in findings of substandard conditions. As a result of the Commission's 2017 Inside Service Line Inspections Order (Case 15-G-0244), service line inspections result in additional remediation work that must be completed within a year of discovery. Although most remediation work is O&M expense, some remediations require capital service replacements. The Company estimates a capital funding level of approximately $1.941 million in the Rate Year and each of the Data Years, adjusted for inflation.

Q. Please describe what is included in the Valve Installation and Replacement Program.

A. Federal and state regulations require installation, inspection, operation, and maintenance of critical pipeline valves on all gas distribution systems. The purpose of these valves is to facilitate the rapid shutdown of distribution piping during gas emergencies such as third-party damage or water intrusion. A secondary purpose of these valves is to facilitate maintenance and pipe replacement on associated distribution piping.

This program will enhance the Company's emergency response capabilities by improving the level at which Field Operations personnel can safely and efficiently isolate sections of the distribution system while mitigating customer impacts (*e.g.*, reducing the duration of future outages). Ensuring all valves are properly maintained and operable is a critical public safety function and is essential to the effective operation of the Company's gas distribution system. The Rate Year forecast of costs for the program is approximately $0.026 million each year, adjusted for inflation in each of the Data Years.

Q. Please describe what is included in the Gas Remote Controlled Valve ("RCV") projects.

A. These capital projects involve the installation of additional RCVs on transmission pipelines to improve emergency response capability and reduce the risk of gas releases. In the event of a pipeline failure, RCVs allow control room operators to stop the flow of gas and to remotely isolate and shut down a portion of the system. Currently, most transmission pipelines can only be shut down using manually operated isolation valves, which can take longer to close and result in a larger customer impact. Improving response time through

the expanded deployment of RCVs reduces the quantity of gas released and can limit the harm to the public and property.

Q. Why does the Company propose to include installation of RCVs in the capital investment plan?

A. Recent PHMSA regulations promulgated in response to the Pipeline Safety Act of 2011 mandate the installation of system valves. As highlighted by recent industry events, there are significant operational benefits associated with the increased deployment of rupture mitigation valves and RCVs, such as enhanced pipeline shutdown capabilities. Mandated investment in these valves also provides system safety and reliability benefits and is an industry best practice.

Q. Please describe what is included in the Meter Changes Program.

A. The Meter Changes program involves the labor to replace gas meters that are retired from service due to required periodic testing, damage, failure, or any other reason.

Q. Please describe what is included in the Purchase Meters Program.

A. The Purchase Meters Program includes the purchase, testing, processing, and delivery of gas meters and associated instrumentation needed to support the Meter Change Program, gas growth, and Customer Meter Service ("CMS") operations.

Q. Please describe the Company's Automated Meter Reading ("AMR") Installation - Encoder Receiver Transmitters ("ERT") Purchases Program.

A. KEDNY completed its multi-year AMR Installation Program in FY 2021, which spanned over twenty years. This program will fund the purchase of ERT units to support the Company's mandated meter changes program to replace units that have failed, and for ERTs to support meter installations for new customers. The ERT units are not included in the Purchase Meters Program. KEDNY currently has an installed AMR population of approximately 1.3 million units and estimates that approximately 30,000 ERTs will require replacement and new installations during the Rate Year and each of the Data Years.

Q. Please describe the Proactive ERT Replacement Program.

A. Of the 1.3 million AMR units in the field, the Company estimates that 20,000 to 35,000 ERT units will require replacement annually during the Rate Year and Data Years. This program will fund the proactive replacement of aging ERTs that, based on manufacturer's recommendations and the Company's internal monitoring, are at or near the end of their useful life prior to ERT failure. This program will require an additional 14 FTEs in the Rate Year, ramping up to a total of 23 FTEs by Data Year 3 to support proactive ERT replacements.

Q. Is the Company proposing any other programs in the Mandated spending category?

A. Yes. As discussed in the testimony of the Gas Safety Panel, the Company is proposing a program that would fund costs associated with its meter relocation program.

C. Reliability Category of Capital Spending

Q. What portion of the Company's capital investment plan is Reliability?

A. The Reliability category accounts for approximately 15 percent ($145.171 million) of the total planned direct capital investment in the Rate Year.

Q. Please describe what is included in the Reliability capital category.

A. Investments in this category are intended to maintain safe, reliable service to customers by ensuring that all facilities on the gas system are operating safely, efficiently, and reliably. The Reliability category includes programs related to gas control, heaters, reactive Instrument and Regulation ("I&R"), pressure regulating facilities, valve installation/replacement, gas planning, system reliability, water intrusion, system automation and control line integrity, special station projects (including over-pressure protection), storm hardening, and LNG facilities. Exhibit __ (GIOP-5) includes a summary description of the larger projects included in the Reliability spending rationale/category, along with the estimated cost during the Rate Year and Data Years.

Q. Please describe what is included in the I&R Reactive Program.

A. The reactive I&R budget includes funding for capital investment in pressure regulating and control stations. Typical projects in this category include unplanned capital work resulting from asset replacement conditions, including the replacement of station valves, regulators, piping, and relief valves, as well as related capital work on station equipment.

Q. Please describe what is included in the Heater Installation Program.

A. There are 40 natural gas heaters currently operating on the Company's system. Because high-pressure gas cools when reduced to a lower pressure, heaters are required at some pressure regulating stations to prevent freeze-ups that can impact flow control devices. In addition, cold gas temperatures can lead to reduced pipe toughness and increased potential for frost heave and cold temperature-induced stresses. The heater program adds new heaters (where required) and replaces existing heaters that have reached the end of their useful lives.

The investments in the Heater Installation Program do not cover the special project capital improvements to specific heaters that are separately set forth in the investment plan and described in Exhibit __ (GIOP-5).

Q. Please describe what is included in the Proactive Regulator Stations Program.

A. The Proactive Regulator Stations Program provides annual funding for replacement and/or rebuilding and reconditioning of existing regulating and control stations. Pressure regulating facilities (or stations) are designed to control system pressures and maintain continuous and reliable supply under all operating conditions.

KEDNY conducts asset condition assessments at all pressure regulating stations on its system every three years, evaluating factors such as pressure, location, including whether the station is located in a FEMA 100-year or 500-year flood zone, and the number of dependent customers for each station. In addition, the assessment considers station

condition, including pipe corrosion, location and type of overpressure protection, automation, condition of vaults, vault covers, wall sleeves, piping vents and ladders. The results of the assessment are used to create an overall risk rating for each station that serves as the basis for prioritizing projects in this program. The program includes full or partial replacement of existing stations, and storm hardening upgrades where necessary.

The investments in the Proactive Regulator Stations Program do not cover the special project capital improvements to specific stations that are separately set forth in the investment plan.

Q. Please describe the Proactive Regulator Stations special projects in the Rate Year and Data Years.

A. Proactive Regulator Stations special projects are capital investments to address reliability issues at specific stations that are separately budgeted and are not included in any other blanket reliability programs. These projects are described in detail in the data sheets included in Exhibit __ (GIOP-5). The projects target facilities that have the highest potential customer impact. Depending on the asset, these projects include station replacement or rebuild, gas quality validation, pressure regulation, overpressure protection, storm hardening improvements, and the addition of process pre-heating equipment.

Q. Please describe the gas control room capital investments included in KEDNY's capital plan.

A. The Company's gas control room is located in Melville, New York. The gas control room has direct control over operations of the natural gas delivery system and is used to monitor and adjust the flow and pressure on the Company's system as well as respond to and correct abnormal operating conditions. The proposed investments include upgrades necessary to maintain safe and reliable operation of the control room, upgrade and/or replace the Supervisory Control and Data Acquisition ("SCADA") system hardware and software and improve the functionality of the space and employee working conditions to support 24-hour operations.

Q. Please explain the Gas Reliability Program.

A. The Gas Reliability Program provides funding for the development and implementation of projects required to maintain minimum system pressures on the Company's network in the event of an abnormal operating condition. Examples of Gas Reliability projects included in this blanket capital program are: projects to address failures at regulator stations, gate stations, critical mains, or other pressure regulating facilities; conceptual development of new RCVs for transmission pipelines in High Consequence Areas; and projects targeting areas of the system where large numbers of customers would experience a service interruption if a single gas facility became inoperable when the average daily temperature is fifteen degrees Fahrenheit or less.

Q. Are additional Gas Reliability projects included in the capital plan?

A. Yes. In addition to the Gas Reliability Program, there are several Gas Reliability projects included in the case. These projects are separately budgeted and managed because they are complex construction projects. The Gas Reliability projects will include replacing existing valves and/or main with RCVs and new valves and/or main at designated points within the service territory. Detailed data sheets for each of the Gas Reliability projects are included in Exhibit __ (GIOP-5).

Q. Please describe what is included in the Gas Reliability – System Automation category.

A. The Gas Reliability – System Automation Program involves the installation of Remote Terminal Units ("RTUs") at multiple city gate and regulator stations. RTUs provide temperature, pressure, and flow data back to the gas control room. RTUs can also monitor gas detectors and intrusion alarms and allow gas control operators to adjust flow and pressure set points at regulator stations. The benefits include enhanced calibration of network models from automation and telemetry data, improved accuracy of network analysis, and enhanced ability to forecast the need for capital reinforcements, which will lead to more efficient capital planning. Automation allows gas control operators to selectively close valves, raise or lower pressures, and shut down take stations. System alarms also alert gas control operators to system issues and allow operators to quickly pinpoint the source of the alarm.

PHMSA regulations regarding Control Room Management require operators to ensure that "practices and procedures within their control rooms are adequate to maintain pipeline

safety and integrity." These rules indicate that operators should have telemetry to monitor pipelines, as it would increase system awareness and enable a proactive response to abnormal operating conditions. The Gas Reliability – System Automation category complies with these regulations by increasing deployment of telemetry on the Company's system.

Q. How is system performance monitored currently?

A. Currently, KEDNY's pressure regulation stations are equipped with some form of telemetry, with 67 percent of the stations having system automation. Additionally, some of the telemetry equipment was installed years ago and the technology has become obsolete. KEDNY's Gas Reliability – System Automation Program adds automation capabilities to low-pressure regulator stations and updates RTU equipment and communications capabilities. This program will provide enhanced ability to monitor system performance and remotely adjust pressures on the gas system.

Q. Please describe what is included in the Main Upgrades – Water Intrusion Program.

A. The Main Upgrades – Water Intrusion Program is designed to address water entering the gas distribution system, resulting in main obstructions, poor pressure and/or freezing customer services. This program targets the retirement of LPP that is susceptible to water intrusion but is not prioritized for replacement under the Main Replacement programs because of the absence of leaks and/or historical leak repair activity.

Q. Please describe the Storm Hardening – Remote Service Shutoff Valves Program.

A. The Storm Hardening – Remote Service Shutoff Valves Program installs smart meters with integrated shutoff valves on gas services within FEMA's designated flood zones. Remote shutoff valves add a layer of protection for services that are especially susceptible to storm surges and flooding. The impacts of past severe storms (*i.e.*, Superstorm Sandy and Hurricane Irene) reinforce the need for the Company to harden its infrastructure to provide greater protection from future storms. These valves will operate on a fixed communication network that will allow for remote operation and monitoring. Automated valves stop the flow of gas as soon as flooding is detected. This will prevent regulator over-pressurization and stop gas from flowing to premises with damaged equipment and/or extinguished pilot lights, mitigating the risk of a potential incident. Automated valves also provide a real-time count of services impacted by flooding to inform the Company's storm response about the resources needed to restore the affected customers expeditiously. Lastly, in areas where flooding prevents physical access to valves and regulators, remote shut-off valves will allow the Company to interrupt only those services impacted by flooding, which could prevent entire neighborhoods or larger areas from losing gas service because of access issues.

The Company intends to install approximately 5,000 ultrasonic smart meters with integrated shutoff valves in Data Year 3. Program costs are approximately $3.741 million in in Data Year 3. The Company has scheduled this program in Data Year 3 to allow for deployment of the capital investments in the Advanced Communications Infrastructure capital category and will leverage the communication system established in that category

to interconnect the smart meters to maximize the benefits of this program for the Company and its customers. This program will require eight additional FTEs in Data Year 3 to oversee system monitoring and valve location support, investigate alarms, and replace valve components, as necessary.

Q. Please describe the Transmission Service Integrity Program.

A. Currently, individual transmission customers are fed directly from Company-owned and operated transmission facilities, including piping, regulator stations, and metering, before the service is attached to customer-owned piping. This program will perform a risk assessment of the Company-owned transmission facilities against current National Grid standards, develop a maintenance schedule, and perform any work deemed necessary by the risk assessment. Completion of the risk assessment and associated remedial work will increase the safety and reliability of these transmission assets and prevent against the development of leaks on these facilities. The initial risk assessment and work plan required for these services will be developed in FY 2024, and the associated work plan will be completed in the Rate Year, Data Year 1, and Data Year 2 at a total cost of $7.000 million.

Q. Please describe the Regulator Station Over Pressure Protection Program.

A. As exhibited by the Merrimack Valley incident, preventing over pressurization is vital for the safe operation of the Company's gas system. This program will install additional and replace obsolete protective devices at regulator stations on the Company's system to reduce the risk of over pressurization. Specifically, this program will install a third layer of protection, override pilots, at regulator stations where external control lines are susceptible

to third-party damage or isolation that could result in an over pressure event. In addition, as part of the program, the Company will replace antiquated oil seal relief devices with modern mechanical relief devices to deliver increased reliability and functionality. In the event of an over pressurization, the operation of a mechanical relief device provides reductions in carbon emissions as compared to the oil seal and will eliminate the possibility of oil contamination. The Company began installation of override pilots in FY 2021, and the program will continue until all stations are addressed. The capital investment required for this program is approximately $0.290 million in the Rate Year, $0.296 million in Data Year 1, $0.302 million in Data Year 2, and $0.308 million in Data Year 3.

Q. Please describe the compressed natural gas ("CNG") investments included in the KEDNY's capital plan.

A. The CNG investments included in the capital plan support the Company's fleet of CNG vehicles. These investments include upgrades necessary to maintain safe and reliable operation of the Company's CNG fueling stations, including partial or full replacement of existing stations, replacement and upgrade of station equipment, and/or installation of telemetry, safety design, and reliability improvements. Further detail about dedicated CNG projects and the annual program are provided in the data sheets in Exhibit __ (GIOP-5).

Q. Please describe the Company's proposed LNG capital investments during the Rate Year and Data Years.

A. KEDNY maintains on-system supply through its LNG facility at the Greenpoint LNG Plant, which has been in-service since 1968. The plant is a critical component of KEDNY's gas

supply portfolio and gas operating network and plays a critical role in meeting peak demand. The Greenpoint LNG Plant has two, single containment LNG storage tanks with a total storage capacity of 1.6 billion standard cubic feet. The plant is capable of supplying 290 million cubic feet of gas per day, which is critical for meeting KEDNY's peak day demand. Refilling the tanks is accomplished through liquefaction during the spring and fall seasons when gas supplies are available and less expensive. The liquefaction system can refill at a rate of approximately 7 to 8.5 million cubic feet of gas per day and it can take between 60 and 200 days to refill both tanks depending on inventory.

The Greenpoint LNG Plant is a cost-effective means of meeting peak demand because the supply delivered by this LNG plant is only needed, at most, for a few days of the year and the gas is typically liquified during the spring and fall months when prices are lower and stored for use in the winter during peak demand conditions. The plant has been in service for more than 50 years and requires upgrades to support continued safe and reliable operation.

Q. What is covered in the LNG Blanket Program?

A. The LNG Blanket Program provides annual funding for near-term and emergent capital projects needed to maintain safety and reliability at the Greenpoint LNG facility. Blanket projects typically address equipment and assets that are at or near the end of useful life or emergent, unexpected needs. These projects will ensure continued reliable operations, extend the service life of the facility, and improve operational performance of existing in-service plant equipment.

Q. What is the status of the Company's petition for cost recovery of the Greenpoint Vaporizer 13/14 Project?

A. The Commission issued an order on March 16, 2023 in Case 19-G-0309 that denied the Company's request for cost recovery. The Commission's order indicated that, although the project would provide critical on-system reliability benefits for customers, it was not needed at this time based on recent forecast and an independent consultant's review. The Company has not included the project in this case.

Q. Please describe the Salt Water Pump House Project.

A. The Salt Water Pump House Project provides a critical and dedicated source of fire water (salt water) for two major systems, the deluge system and the fire hydrant system, at the Greenpoint site. The Company began this project in 2016, but experienced delays and scope changes to optimize the firematic engineering of the system pursuant to permitting requirements and conditions of the Fire Department of New York. The bulk of construction work is anticipated to occur during the Rate Year. The capital investment plan includes approximately $25.029 million in the Rate Year and $15.390 million in Data Year 1 to complete this important reliability project.

Q. Please describe the other LNG projects included in the capital plan.

A. In addition to the LNG Blanket Program and projects described above, KEDNY has identified several complex capital projects to be completed in the Rate Year and Data Years that are not included in the Blanket Program. The projects are required for the continued safe and reliable operation of the Greenpoint site and, in certain instances, will extend

existing asset service lives. Further detail on the projects is provided in the data sheets included in Exhibit __ (GIOP-5).

D. Customer Connections Category of Spending

Q. Please describe what is included in the Customer Connections spending category.

A. The Customer Connections category of work accounts for only approximately 11 percent ($101.154 million) of the total planned direct capital investment in the Rate Year.

KEDNY is required by the Public Service Law, the Commission's regulations, and the Company's tariff to extend service to new customers in its service territory in proximity to the Company's facilities, and to install new distribution main, up to a 100-foot tariff allowance per customer, to do so. The Company is aware of legislation and other policy discussions, including discussions in the Commission's Gas Planning Proceeding (Case 20-G-0131), that are considering the 100-foot regulatory allowance and the Company's obligation to serve customers; however, other than restrictions and prohibitions on certain gas connections in New York City (*see* Local Laws 97 and 154), the Company is still obligated to connect customers. The Company will continue to monitor legislation at the state and local level and will incorporate any regulatory and legislative changes into the rate plan to the extent adopted during the pendency of this proceeding.

To enable new customer connections, the Company must invest in mains, services, and system reinforcements. Customer Connection programs are designed to support forecast customer demand and add new load by increasing system utilization in a cost-effective way.

Customer Connections programs involve the installation of new mains, services and meters and include system reinforcement. As part of the program, and consistent with its commitments in the 2019 Rate Case, the Company provides information about alternative energy options to customers seeking new connections, including geothermal and electrification referrals to corresponding electric utilities. If the applicant nevertheless chooses to connect to the natural gas system, the Company provides information on its high-efficiency gas heating equipment rebate programs and energy efficiency programs before proceeding with the connection project.

The Customer Connections – Install Main, Install Services, Install Meter/Regulator Programs and costs are presented in Exhibit __ (GIOP-5). Due to the uncertainty created by proposed legislation that would prohibit new gas connections and/or eliminate the obligation to serve new customers, the Company proposes to continue the existing two-way tracker for these Customer Connections programs.

Q. Please describe customer connection projections in the Company's service territory.

A. As set forth in the testimony of the Company Gas Load Forecasting Panel, the Company projects that customer count will grow at a compound average annual growth rate of 0.23 percent per annum from FY 2023 to FY 2028.

In KEDNY's service territory, most of the customer growth is expected to come from new construction. An average of 66 percent of new customer connections are expected from new construction for FY 2023 to FY 2028. Although some customer growth from new

constructions will be eliminated by Local Law 154 beginning in CY 2024, the remaining customer growth is anticipated to come from oil-to-gas conversions.

Q. Please describe the Gas System Reinforcement Program in the Customer Connections category of spending.

A. The Gas System Reinforcement Program contains projects intended to ensure that minimum system pressures are maintained throughout the gas network during periods of peak demand. The Company models peak demand based on the sendout forecasts developed by the Economics and Load Forecasting group (*see* direct testimony of the Gas Load Forecasting Panel). As a result of demand for gas usage in its service territory, KEDNY has determined that it is necessary to complete a number of projects to ensure its ability to meet peak requirements. These reinforcement projects are essential to ensure the Company can continue to serve growing gas usage load. Without such reinforcements, the Company estimates that more than 42,000 existing customers could experience loss of service.

Over the past five years, KEDNY has experienced five of its top-ten records for sendout during the respective winter heating seasons. During the winter of 2017-2018, KEDNY recorded its highest sendout, a firm load record of 1,417,131 Dth on January 6, 2018, when the average temperature was eight degrees Fahrenheit. During the winter of 2018-2019, KEDNY recorded its second highest sendout record, a firm load of 1,387,550 Dth on January 21, 2019 when the average temperature was thirteen degrees Fahrenheit.

Q. Please provide examples of System Reinforcement projects.

A. Examples of System Reinforcement projects include:

- Replacing undersized mains with larger diameter mains. LPP is targeted whenever practical during this work.
- Looping or connecting system endpoints by installing new main.
- System pressure uprates (*e.g.*, 10 pounds per square inch ("psi") to 60 psi).
- Installing new district regulators and replacing existing undersized district regulators.
- Transferring existing low-pressure customers to an adjacent high-pressure main (*i.e.*, load shedding).

Q. What explains the fluctuation in the Gas System Reinforcement Program forecast from year-to-year?

A. The workplan for the Gas Systems Reinforcement Program is based on where reinforcements are needed and, thus, it is reset each year. Estimates are derived based on the types of projects needed, creating uneven spending year-to-year. Additionally, where possible, the Company looks for opportunities to incorporate NPAs to mitigate or reduce the need for reinforcement projects in its capital plan.

Q. Please describe the gate station projects.

A. KEDNY will install a new regulator station in Kew Gardens, Queens to address system pressure issues and reduce dependency on deliveries from Consolidated Edison's transmission main. The Company will also rebuild an existing station in Belmont that is

undersized and currently experiencing capacity constraints affecting winter performance. Rebuilding the existing station will also address station integrity concerns. Additional project and cost details are provided in the project data sheets in Exhibit ___ (GIOP-5).

E. Non-Infrastructure and Other Capital Spending

Q. What portion of the Company's capital investment plan is Non-Infrastructure?

A. The Non-Infrastructure and Other category of work accounts for approximately $8.648 million of the total planned direct capital investment in the Rate Year. The Non-Infrastructure budget includes the purchase of tools and equipment that meet the criteria for capitalization. Other Capital spending includes special projects not included in the Company's other investment categories.

Q. Please describe the Company's Telecommunications Program.

A. The Company operates a two-way radio system that provides communications support to Gas Field Operations, CMS, Security, and other departments. This system also serves to support communications during emergencies when commercial communications systems are not operational. These systems contain aging components and must be repaired or replaced upon failure. The Telecommunications Program provides reactive funding for smaller replacement projects that collectively cover funding needs for towers at remote sites, radios installed in vehicles, SCADA/telecommunications equipment, and for general damages and failures. In addition to the reactive funding needs, the Company's telecommunication sites and equipment require an upgrade to implement security

improvements at radio towers, complete necessary relocations, and address additional base station needs at power plants.

Q. What is included in the Company's proposed Tools and Equipment program?

A. The Tools and Equipment program captures the items that are not used for specific projects but support the safe, efficient, and ongoing day-to-day operations of the gas business. Examples include tools (hand, power, pneumatic, hydraulic), specialty equipment, personal protective equipment ("PPE"), office machines, electronic data processing equipment and software applications, shop and garage equipment, and communications devices.

Q. What is included in the Company's Learning and Development ("L&D") Materials Tools and Equipment Program?

A. Historically, L&D has a limited stock of tools for use in training and has relied upon tools borrowed from Field Operations to supplement its supply and conduct required training of in-house and contractor employees. With increased workload and training requirements over the years, Field Operations can no longer spare tools and equipment sufficient for training purposes, and the limited stock of available tools is beginning to deteriorate. The proposed L&D Materials Tools and Equipment Program will purchase new, or replace existing or damaged, tools and equipment for training purposes. The program enables better training because training will occur on new, state-of-the-art equipment that will actually be used in the field, enhances the quality of tools used in the field, and ensures that L&D has a sufficient inventory of tools to conduct supplemental training during the year after annual training has concluded.

Q. What is included in the Meter Testing Equipment Program?

A. The Meter Testing Equipment Program replaces meter test lab equipment that is needed to carry out the mandated meter testing program, but has reached the end of its useful life.

F. Advanced Communications Infrastructure

Q. Please explain the Advanced Communications Infrastructure capital category.

A. The Advanced Communications Infrastructure category of work accounts for approximately $3.305 million of the total planned direct capital investment in the Rate Year. Investments in the category will fund development of a detailed scope of work and business plan to deploy an interconnected network to facilitate the installation of smart meters and methane detection devices that will provide real-time safety benefits and enable additional functionality to benefit the Company and its customers. Specific details, including associated costs, for the investments included in this category are provided in the direct testimony of the Gas Safety Panel.

G. Future of Heat Category of Capital Spending

Q. What portion of the Company's capital investment plan is the Future of Heat capital category?

A. The Future of Heat category of work accounts for approximately $2.231 million of the total planned capital investment in the Rate Year. The Company has included all Future of Heat gas capital related expenditures proposed in this case in Exhibit ___ (GIOP-1). Future of Heat project data sheets are also included in Exhibit __ (GIOP-5).

i. Renewable Natural Gas Interconnections

Q. Please provide a summary of the Company's RNG interconnection proposal.

A. The Company can play a key role in enabling locally sourced RNG for owners/developers by supporting the three components of the RNG interconnection process: gas quality, pressure regulation, and odorization. The Company is including $2.161 million in the Rate Year, $9.243 million in Data Year 1, $1.791 million in Data Year 2, and $0.808 million in Data Year 3 for a total of $14.003 million in capital investments for two RNG interconnection projects as well as $1.000 million in Data Year 3 for future RNG interconnections.

Q. Please describe the equipment and systems comprising a RNG interconnection.

A. A RNG interconnection system conditions methane gas generated from biomass to meet pipeline quality for direct injection into the natural gas distribution system using the following components and systems:

- Gas Quality – The Company requires gas chromatographs and sulfur/moisture analyzers to monitor gas delivered from an RNG conditioning system to ensure RNG meets gas quality requirements. In any instance where out-of-specification gas is measured, an actuated flow control valve would be closed to prevent injection into the system.
- Pressure Regulation – The Company requires pressure to be regulated from higher pressure down to the MAOP of the gas network. Equally important, a third layer of protection to avoid over pressurization will be installed at the RNG

interconnection to prevent the assets from exceeding their maximum allowable operating pressure.

- Odorization – For health and safety purposes, odorant must be incorporated into on-system gas supplies to alert the public of gas leaks.
- Sales Meter / Control Room – The Company's Gas Operations team needs real-time data about production from any RNG facility.
- Piping and Valving – RNG interconnections connect a conditioning system to enable injection into the Company's natural gas distribution system.

The Northeast Gas Association developed the *Interconnect Guide for Renewable Natural Gas (RNG) in New York State* to provide technical guidance necessary for introducing RNG into the natural gas distribution system, which can be found at: https://www.northeastgas.org/pdf/nga_gti_interconnect_0919.pdf.

Q. Please describe the proposed RNG Interconnections.

A. The Company is proposing two RNG interconnections to permit injections of RNG into its gas network, one at a New York City wastewater treatment plant and the second at a food waste-to-RNG facility. These projects are significantly advanced in their development.

RNG Interconnection 1

This planned interconnection is located in southern Queens, within a Disadvantaged Community, and will beneficially use gas supply that has historically been flared into the atmosphere. The project will reduce the treatment plant's carbon footprint and associated

emissions and reduce GHG impacts to the local community. The interconnection is expected to inject over 570 Dth/day.

The interconnection is projected to cost $4.268 million, and the associated piping (1,350 feet) is projected to cost $1.379 million, for a total estimated capital cost of $5.647 million.

RNG Interconnection 2

This planned industrial development project involves the use of food waste and other easily digestible organics to produce RNG. The facility is expected to produce over 2,100 Dth/day of RNG to be injected into the Company's gas distribution system.

The interconnection is projected to cost $4.268 million, and the associated piping (4,000 feet) is projected to cost $4.087 million, for a total estimated cost of $8.355 million.

Q. Please describe the GHG emission reduction benefits of these projects and how these projects support the goals of the CLCPA?

A. The proposed RNG interconnections will reduce GHG emissions by eliminating new carbon emissions from the volume of fossil gas the RNG displaces and that would have been consumed by customers downstream of the interconnection. RNG interconnections also eliminate the GHG emissions that would have occurred upstream of the interconnections attributable to the fossil gas displaced by the RNG. In other words, unlike fossil gas, RNG does not introduce new carbon into the atmosphere, but rather recycles existing carbon that otherwise would be emitted into the atmosphere, thereby reducing the overall GHG emissions from natural gas use. Another environmental benefit is that, by

converting the biogas to RNG at these facilities and injecting it into the Company's natural gas network, the area surrounding these facilities will experience an overall reduction in methane emissions.

RNG Interconnections support the CLCPA goals of reducing GHG emissions from the heating sector. The use of a decarbonization pathway with a negative carbon intensity, such as RNG, can result in negative cumulative GHG emissions, when paired with a non-negative decarbonization pathway such as zero-emission electricity. A report on the analysis conducted by SUNY Morrisville, College of Environmental Science & Forestry and National Grid on the financial and climate impacts of carbon abatement pathways for residential heating can be found at: https://www.researchgate.net/publication/366412583_Quantifying_the_Financial_and_Climate_Impacts_of_Carbon_Abatement_Pathways_in_Residential_Space_Heating.

ii. Newtown Creek Project

Q. What is the Newtown Creek Project?

A. The Newtown Creek Project, located at the Newtown Creek Wastewater Treatment Plant in New York City, reduces GHG emissions by promoting RNG as a long-term supply source. The project captures the biogas generated from the wastewater treatment plant (which consists of approximately 60 percent methane and 40 percent carbon dioxide), conditions the gas through a pressure swing adsorption system and injects the gas via an RNG interconnection into the Greenpoint distribution system as pipeline quality natural

gas. The Company has contracted with a firm to market and monetize environmental credits generated from the project.

The project included installation of a conditioning system as well as a typical RNG interconnection. The conditioning system includes gas compression, moisture knockout, gas conditioning and waste stream collection and flaring. The RNG interconnection includes gas quality equipment, odorization, metering, pressure regulation and control room equipment.

Q. What is the status of the Newtown Creek RNG Project?

A. The Newtown Creek project completed commissioning in March 2023.

Q. How much RNG is expected to be injected into the Company's gas distribution system?

A. Total gas production is estimated to be as follows:

FY2024 – 169,765 Dth

FY2025 – 196,165 Dth

FY2026 – 215,782 Dth

FY2027 – 226,571 Dth

FY2028 – 237,900 Dth

Q. How are the revenues generated by the Newtown Creek Project reflected in the revenue requirement?

A. Forecast revenues from the sale of gas/environmental credits are reflected in the revenue requirement as an offset to project costs. Specifically, the Company forecasts revenues of $5.962 million in Rate Year, $6.791 million in Data Year 1, $7.355 million in Data Year 2, and $7.890 million in Data Year 3 for the Newtown Creek Project, as reflected in Exhibit __ (RDP-2) to the Rate Design Panel's testimony. The Rate Year revenue forecast of $5.962 million represents approximately $0.638 million from the sale of the gas and $5.324 million from the sale of environmental attributes.

Q. Is the Company proposing to reconcile revenues from the Newtown Project Creek?

A. Yes. The Company proposes to reconcile the forecast revenues with actual revenues and defer the difference for future recovery/credits. Under the contract between National Grid and the City of New York, revenues realized above the level necessary to fully reimburse customers for the project costs must be shared equally between customers and the City of New York. The Company will track the revenues on an annual basis and compare them with the project's cumulative revenue requirement, with the fifth year after operation being the first year of any revenue sharing with the City. Revenue sharing will then be assessed every year for the remainder of the project.

Q. Please discuss the O&M costs for the Newtown Creek Project.

A. Forecast O&M for the Newtown Creek facility includes consumables, electricity, and natural gas, as well as maintenance of the system. The Company has maintenance contracts

for the conditioning system, thermal oxidizer, and instrument air systems. The remaining effort will be performed by Company internal staff.

The project's O&M is estimated to be as follows:

FY 2024 – $1,042,426

FY 2025 – $1,069,548

FY 2026 – $1,097,512

FY 2027 – $1,126,348

FY 2028 – $1,155,666

iii. Thermal Energy Network Pilots

Q. Please describe the Companies' proposals for Thermal Energy Network Pilots.

A. On July 5, 2022 Governor Hochul signed into law the Utility Thermal Energy Network and Jobs Act ("UTENJA"), enacted to remove legal barriers to utility development of thermal energy networks and enhance gas utility worker job opportunities as part of the energy transition. The UTENJA authorized the Commission to develop a regulatory structure for utility thermal energy networks that scales affordable and accessible building electrification, protects customers, and balances the role of utilities with other market and public entities. On September 15, 2022, the Commission issued the "Order on Developing Thermal Energy Networks Pursuant to Utility Thermal Energy Network and Jobs Act" in Case 22-M-0249 directing the Companies, consistent with the UTENJA, to submit at least one and up to five thermal energy network project pilot proposals, with at least one in a Disadvantaged Community.

On January 9, 2023, the Company submitted a thermal energy network pilot proposal in Case 22-M-0249 ("UTEN Pilot"). The Company is seeking approval for cost recovery of the UTEN Pilot in Case 22-M-0429 and not in this proceeding. In this case, the Company is seeking five FTE positions to support the successful implementation of the UTEN Pilot. Of the five FTEs requested, the Company needs: (1) three FTEs in gas asset engineering to design and develop networked systems, work closely with contractors, and conduct outreach to partners and customers; (2) one FTE for a maintenance mechanic responsible for installation, inspection, and repair of the installed networked system(s); (3) 0.5 FTE for a lead program manager to deliver the program and prepare reports and analytics; and (4) 0.5 FTE for a lead project manager who will have responsibility for the networked thermal energy project from project approval, implementation, development, execution, and closure.

Q. Please describe the UTEN pilot proposal made in Case 22-M-0429.

A. The Company has proposed a UTEN Pilot, which is located in a Disadvantaged Community, to connect and serve with a thermal energy network two high-rise apartment buildings and a community center on the New York City Housing Authority ("NYCHA") Vandalia Avenue property with businesses located in a nearby strip mall. For the reasons discussed below, the KEDNY pilot will convert either the heating and cooling systems or only the heating systems within the Vandalia buildings. Domestic hot water generation will be converted to geothermal systems for the Vandalia buildings. The businesses within the strip mall will have their heating and cooling systems replaced. The total capital and operating expense costs for the pilot are estimated to be $67.7 million to convert both

heating and cooling in both the NYCHA buildings and commercial buildings and $38.6 million to convert the NYCHA buildings to heating only and the commercial buildings to heating and cooling. The large cost difference is due to the configuration of the current mechanical systems within the NYCHA Vandalia Avenue buildings. To provide cooling would require retrofits to the individual units within the buildings, including an upgrade to the electric service to each apartment, which will require disruptions to the residents.

H. Operator Qualifications Program

Q. What portion of the Company's capital investment plan is the Operator Qualifications Program?

A. The Operator Qualifications category of work accounts for approximately $12.821 million of the total planned direct capital investment in the Rate Year. Investments are required to support the additional OQ requirements adopted in the Commission's March 2022 resolution in Case 19-G-0736 that have been incorporated in 16 NYCRR Part 255. Specific details regarding the investments included in this category are provided in the testimony of the Gas Safety Panel.

I. Capitalization Policy Change – Large Diameter Main

Q. Is the Company proposing any changes to its capitalization policies for main installation?

A. Yes. The Company proposes to capitalize all joint repairs on large diameter cast iron ("CI") pipes that are sixteen inches and larger. Currently, these joint repairs are expensed; however, the repairs are performed to address joint failures and typically involve

encapsulation, which extends the useful life and integrity of the asset. This change would align the accounting treatment of these work activities with how the Company currently capitalizes the CISBOT and the repair of joints 48 inches or larger and with how distribution companies in other jurisdictions account for these specific repairs.

As discussed in the testimony of the Revenue Requirements Panel, the Company has reduced its Rate Year expense forecast to reflect the change from expense to capital for distribution and transmission main installation, and the Company's capital investment forecast reflects this capitalization change as the Large Diameter Pipe – CI Joint Encapsulation Program.

V. Facilities and Fleet Investments

A. Facilities

Q. Please explain the maintenance and repair investments that are needed in the Rate Year and Data Years to modernize and upgrade the Company's facilities.

A. Many of the Company's facilities are in need of upgrade, repair, and improvement. The capital spending proposed in this filing is needed to address both normal wear and tear and to replace end-of-life building systems and materials across an aging facility portfolio. The investments seek to address routine maintenance needs essential to the Company's ability to provide safe and reliable service to customers. These include investments to:

- Maintain the structural integrity of the buildings (*e.g.,* roofing and façade repairs);
- Ensure compliance with local building codes and regulations (*e.g.,* fire and life safety systems, arc-flash signage);

- Correct potentially unsafe conditions;
- Refurbish driveways and walkways through paving and other yard improvements; and
- Improve the overall condition and appearance of the buildings.

Q. What are the costs of the facilities maintenance projects?

A. Facilities are either occupied by KEDNY (direct costs) or shared between National Grid affiliates with KEDNY allocated a portion of costs (indirect costs). The costs of the facilities maintenance projects are set forth in Exhibit __ (GIOP-1) for KEDNY occupied facilities and in Exhibit __ (GIOP-10) for shared facilities. Projects have been broken out into individual programs. For example, Exhibit ___ (GIOP-1) includes programs such as "Facilities – Roofing Program, "Facilities – Base," and "Facilities – Safety," etc. with cost forecasts through the Data Years. Each program is supported by detailed data sheets that are included in Exhibit __ (GIOP-9). The Company is also seeking 2 FTEs to support these investments, as provided in Exhibit ___ (RPP-3), Schedule 41.

Q. Are there high priority projects that need to be undertaken in the near-term to address critical facility upgrade needs?

A. Yes. The Company is undertaking several near-term facility projects that have been deemed high priority based on site assessments performed by the Company's Facilities organization. These investments are incremental to the baseline facility maintenance projects discussed above. These critical projects are necessary to replace or repair aging

facilities at the Greenpoint site, to construct new facilities at its Bay Ridge and Jamaica sites, and refurbish assets at the Company's Staten Island, Jamaica, and Canarsie sites.

- **Greenpoint Investments:** A multi-year investment that includes a master planning project, infrastructure improvements, and safety-driven work. The investments address warehousing needs, as well as structural deficiencies on buildings across the site, and mechanical, electrical, plumbing, and other required infrastructure upgrades. Given the critical importance of this site to the Company's operations, and the significant deficiencies that must be addressed, a comprehensive planning and engineering review, the Greenpoint Masterplan, is underway. In addition to the Greenpoint Masterplan, investments uniquely identified as Greenpoint Infrastructure and Greenpoint Safety are proposed. Among its core objectives and because the Greenpoint campus is in a mapped Disadvantaged Community, the Company will seek community stakeholder input to aid in the overall planning effort to ensure that it aligns with broader CLCPA goals.

  The investment required for the Greenpoint Master Plan is $10.268 million in the Link Period, $4.600 million in the Rate Year, $10.300 million in Data Year 1, $17.500 million in Data Year 2, and $10.000 million in Data Year 3. The proposed Greenpoint Infrastructure improvements are $12.125 million per year in the Rate Year and Data Years. Greenpoint Safety investments are forecast at $4.688 million in the Link Period and $1.000 million in the Rate Year. To support facilities operations at the Greenpoint

site, an additional 2 FTEs are requested, as further detailed in Exhibit ___ (RRP-3), Schedule 41.

- **Bay Ridge Operating Site:** The Company is constructing a new 7,500 square foot facility at a Company-owned site that will replace a now closed location at Red Hook, Brooklyn. The new site will house Company personnel currently working at the Greenpoint site to address staffing congestion and response time, improving the Company's ability to deliver safe, reliable service to customers. The Bay Ridge project is currently underway, advancing on schedule, and is in the permitting phase. The Company expects to complete the project in FY 2025, with forecast capital expenditures of approximately $2.220 million in the Link Period and $7.360 million in the Rate Year.

- **Asset Refurbishment:** The Company plans to invest in asset refurbishment projects at its Jamaica, Canarsie, and Staten Island sites to address building facades, window replacements, and other building system repairs identified as part of facility-condition assessments. Collectively, the Company plans an investment of $5.331 million in the Link Period, $2.700 million in the Rate Year, $2.700 million in Data Year 1, $0.843 million in Data Year 2, and $2.972 million in Data Year 3.

Additional detail on the high priority investments is included in the data sheets included in Exhibit ___ (GIOP-9). The costs of these projects can be found in Exhibit ___ (GIOP-1) for KEDNY occupied facilities and in Exhibit ___ (GIOP-10) for shared facilities.

Q. Please explain the need for the "L&D Pipeline Operator Qualification Training Center" project set forth in Exhibit ___ (GIOP-1).

A. The Company is constructing a new 5,000 square foot testing space and training facility to support the expanded regulatory requirements for the Company's gas personnel discussed in the Operator Qualification Training Program section of the Gas Safety Panel testimony. The Operator Qualification Training Center will begin to be used in FY 2024 and is expected to be fully completed in FY 2026. The forecast investment for the new training facility is $5.000 million in the Rate Year and $2.500 million in Data Year 1, as set forth in Exhibit ___ (GIOP-1). A project white paper is included in Exhibit __ (GIOP-9).

Q. Please describe how investments proposed by Facilities support CLCPA emissions reduction targets?

A. The proposed facilities investments will incorporate sustainability and energy efficiency measures, to reduce GHG emissions consistent with the CLCPA. Estimated kWh and Btu impacts resulting from investments in LED conversions and roof replacements for the Company's proposed investments are provided in more detail in the data sheets provided in Exhibit _____ (GIOP-9) and included in the Company's cumulative GHG emission reductions impact, as presented in the CLCPA Panel, Exhibit ___ (CLCPA-3).

B. Fleet

Q. Please describe the Company's proposed fleet investments?

A. The Company is proposing to electrify its light-duty vehicle fleet with a goal of full electrification by 2030. Currently, KEDNY's light-duty fleet is primarily comprised of

internal combustion ("ICE") vehicles. During the Rate Year and Data Years, KEDNY is proposing an incremental investment to replace 413 KEDNY-leased ICE vehicles and 36 leased Service Company vehicles with an equivalent number of electric vehicles ("EVs"). The costs of the investment are provided in Exhibit __ (RRP-11), Workpapers to RRP-3, Schedule 24, Workpaper 3 to the Revenue Requirement Panel's testimony. EVs selected to replace outgoing ICE vehicles will be fit-for-purpose to meet the needs of the Company's field force, and will be phased in as vehicle manufacturers increasingly expand their offerings with adequate range and payload for use in commercial fleets.

Q. Are EV chargers and associated costs for the Company's EV program included in the EV Program proposal?

A. Yes. The Company's EV program requires installation of electric charging infrastructure at the Company's facilities to ensure continued operational needs are met. This work includes EV charging infrastructure that will allow ICE to EV conversions at a pace that matches the Company's anticipated fleet replacement schedule. The Company proposes to install EV chargers at five Company locations, including 430 Level 2 charging stations and 31 Direct Current ("DC") fast charging stations across those sites, as well as Level 2 and DC fast charging stations at other sites with an allocation to KEDNY, as provided in Exhibit ___ (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13 to the Revenue Requirement Panel's testimony.

Q. Why is the Company proposing to electrify its fleet?

A. To meet New York State's zero-emission vehicle requirements and CLCPA emission reductions goals, the Company needs to begin replacing its ICE fleet with EVs and ensure its facilities are equipped with charging capabilities that an electrified fleet requires. The Company initiated the planning process with electric utilities to tackle the "make-ready" work EVs require. In addition, the Company's EV proposal will provide benefits to the Disadvantaged Communities where the Company operates by reducing emissions and improving air quality.

Q. Please describe the Company's proposed overall investment for its EV program.

A. To meet its target ICE to EV replacement schedule, the Company is proposing an incremental capital investment of $0.525 million in the Link Period, $6.220 million in the Rate Year, $1.500 million in Data Year 1, $6.010 million in Data Year 2, and $2.420 million in Data Year 3, as shown on Exhibit __ (GIOP-1).

Additional Service Company capital investments of $1.500 million in the Rate Year and $4.590 million in Data Year 1 are also being proposed for fixed and mobile EV charging solutions, as shown in Exhibit____(GIOP-10). The revenue requirement impact of these investments can be found within Exhibit___(RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10, and 13 to the Revenue Requirement Panel's testimony.

Q. Are there any forecast operating expenses associated with the EV program?

A. Yes. Incremental operating expenses associated with the EV program include EV and mobile EV charger lease expense, increased electricity consumption, electric infrastructure

make-ready work, and allocated Service Company rent expense associated with investment in EV chargers and site backup generation, less savings realized from reduced fuel consumption. The Company's proposed EV-related O&M costs are approximately $1.129 million in the Rate Year, $0.865 million in Data Year 1, $1.367 million in Data Year 2, and $1.528 million in Data Year 3, with additional detail provided in Exhibit ___ (GIOP-11), including references to other supporting exhibits. In addition, the Company is requesting 0.25 FTE to support the EV charger systems, as provided in Exhibit ___ (RRP-3), Schedule 41.

Q. How did the Company determine the overall costs of electrifying the fleet?

A. The Company's forecast is based on historical costs for charger installations, price quotes from vendors for new technology, vendor estimates for the incremental difference in EV lease costs compared to ICE vehicles, and average Historic Test Year fuel consumption and average fuel price to determine fuel reduction savings.

Q. Does the Company anticipate any cost savings from the EV Program investment?

A. Yes. The Company anticipates that replacing ICE vehicles with EVs will result in a total savings of $1.369 million from reduced fuel costs over the Rate Year and Data Years, as reflected in Exhibit ____ (GIOP-11).

Q. Please summarize the GHG emissions reduction benefits of the EV program.

A. Table 6 below provides the anticipated net emissions reduction realized from the EV program for KEDNY, inclusive of the allocation to KEDNY across the Rate Year and Data

Years. Each year represents the sum of all prior years to provide the aggregate benefit at the end of Data Year 3. It includes kWh impacts from expected increased electric load demand associated with EV charging and measures emissions reduction by CO2e in metric tons. These figures are included in the Company's cumulative GHG emissions reductions impact, as presented in the CLCPA Panel, Exhibit ___ (CLCPA-3).

Table 6: Anticipated Net EV Emissions Reductions

	Rate Year	Data Year 1	Data Year 2	Data Year 3
EV Count	148	233	323	431
Fuel Reduction (Gasoline Gallons)	133,010	209,400	290,285	387,346
Increased Load Demand (kWh)	763,574	1,202,114	1,666,450	2,223,653
Net Emissions Reduction (CO2e mt)	886	1,469	2,007	2,654

Q. Is the Company's EV program going to impact the Company's existing vehicle replacement schedule?

A. No. The Company plans to replace vehicles in its fleet in line with planned lifecycle and replacement schedules. The increase in lease expense in the Rate Year, compared to the Historic Test Year, is driven by new leases that did not exist in the Historic Test Year. This was the result of the COVID-19 pandemic and related supply chain market factors that began in 2020, all of which challenged the Company's ability to replace aging vehicles in line with their respective replacement schedules. Vendor order cancellations and replacement delays resulted in an aging fleet without incoming replacements. This

artificially lowered the lease expense in the Historic Test Year in comparison to the Company's forecast because many Company vehicles have leases that were fully amortized. Accordingly, as vehicles with new leases are put in service, they will be replacing vehicles that did not have a full 12 months of lease expense in the Historic Test Year. Suppliers anticipate supply improvement year-on-year beginning in 2023. To ensure the effort to convert to EVs does not impact the Company's replacement schedule, electric infrastructure make-ready work will be performed and charging infrastructure will be in place before EVs are deployed.

Q. Will the Company's EV program benefit Disadvantaged Communities?

A. Yes. Under the EV program, the Company is proposing to deploy the largest number of EVs at its Greenpoint and Brentwood operating facilities and is also proposing investment in its Canarsie and Staten Island sites. The Greenpoint and Brentwood facilities are within Disadvantaged Communities and the Canarsie and Staten Island sites serve customers in adjacent Disadvantaged Communities. Because of the Company's EV program, customers in Disadvantaged Communities will directly benefit from reduced noise pollution, improved air quality, and a reduction in GHG emissions.

VI. Gas O&M Expenses

Q. Please summarize the Panel's testimony regarding the costs of operating the gas system.

A. The Panel addresses major expenses associated with operating the Company's gas delivery

system, and incremental O&M expenses the Company expects to incur in the Rate Year and Data Years.

Q. Please generally describe the nature of the Company's gas system O&M expenses.

A. O&M expenses relate to work performed to provide customer support, respond to emergencies, perform safety inspections and other compliance activities, restore service, and maintain the service life of capital assets. The Company has a significant maintenance program to ensure that system assets are utilized to their fullest potential life expectancy. As gas facilities age, maintenance costs increase. These costs include more frequent inspection and testing required by regulatory changes, increased volume of repairs, more significant repair work, increased emergency work, and gas pipeline safety enhancements. These expenditures are required to prevent failure and maintain the life of the assets until replacement occurs. The Company's O&M programs are also designed to maintain the service commitments in its gas safety performance metrics, which cover various aspects of its performance in the areas of reliability and safety, including metrics measuring pipeline replacement, emergency response, leak management, and damage prevention.

Q. How does the projected Rate Year non-labor expense level compare to the Historic Test Year non-labor expenses for operating the gas system?

A. As shown on Exhibit __ (GIOP-7), the Company projects its incremental Rate Year non-labor O&M expense to be approximately $14.962 million for gas operations and gas safety programs, which is approximately 4.1 percent greater than its adjusted O&M expense for the Historic Test Year.

Q. What are the projected incremental Rate Year O&M non-labor and labor expenses for gas operations and gas safety programs?

A. As shown on Exhibit __ (GIOP-7), the Company projects its incremental Rate Year non-labor O&M expense to be approximately $14.962 million. As shown in Exhibit __ (GIOP-8), the Company also proposes to hire 114 total incremental gas FTEs in the Rate Year. The costs for these FTEs are presented in the Revenue Requirements Panel testimony and exhibits.

Q. Please summarize the projected incremental O&M increases.

A. Increases in O&M expense are primarily driven by: (i) the Company's increasing capital investments and increased costs for executing the Company's capital plan; (ii) changes to Company's O&M workload; and (iii) initiatives the Company is undertaking in the Rate Year to address new or expanding safety requirements, including OQ requirements, and to implement best practices and lessons learned from recent industry gas system incidents for the benefit of customers.

The New York City restoration/paving cost increases impact O&M costs of construction, leak repairs, and disconnects and reconnects. These costs are reflected in the Historic Test Year, but costs generally have increased as compared to prior years.

Q. What is the Company doing to manage its O&M costs?

A. The Company implemented various initiatives to reduce its O&M expenses, including:

- Updating contract strategies to reduce time and material costs through unit pricing.

- Using IT technologies to optimize routes, resulting in efficiencies and fewer truck rolls, which also contributes to reduced emissions and less congestion on the roads.
- Continuing the use of coring and other technologies, reducing debris removal and paving restoration costs associated with smaller roadway excavations.
- Work optimization initiatives to increase productivity, ensure the efficient scheduling and dispatch of resources, and minimize repeat visits to customers.

These initiatives and others are included in National Grid's Evolution Program, which is described in the Revenue Requirement Panel's testimony.

A. <u>Incremental O&M Costs Associated with Capital Investment</u>

Q. Please describe the Company's need for incremental O&M costs associated with its planned capital investments.

A. As discussed above, the Company plans to increase its capital investment program during the Rate Year. As shown on Table 7 and in Exhibit ___ (GIOP-7), the Company estimates incremental O&M non-labor expense of approximately $3.565 million in the Rate Year directly related to the Company's capital investments.

Table 7: Incremental O&M and FTEs Related to Capital Investments

Category – Non Labor	Rate Year ($000)	Data Year 3 ($000)
IMP and IVP	$601	($1,395)
Disconnects & Reconnects	$2,414	$4,227
Tools and Equipment	$550	$780
Storm Hardening	$0	$900
Total Non-Labor – O&M	**$3,565**	**$4,512**

Category (FTEs)	Rate Year	Data Year 3
CSC	10.0	13.0
Future of Heat	10.0	11.0
Gas Control	2.5	2.5
Pressure Reg/LNG/CNG	1.5	1.5
Resource Coordination	3.0	3.0
Stakeholder Engagement	1.0	2.0
Storm Hardening	0.0	8.0
Transmission Engineering	1.0	1.0
Investment Planning	0.5	0.5
ERT Replacement Program	14	23
Total FTEs	**43.5**	**65.5**

i. Capital Support - General

Q. What O&M services will the various construction support functions provide to support the Company's increased capital investments?

A. Construction support functions include internal groups providing contract administration, project management, engineering, and resource management. While the majority of costs from these functions are directly charged to capital projects, the Company incurs O&M expenses for items such as training, travel, licensing, new employee on-boarding, and costs for administering O&M contracts. The Company estimates that approximately five to ten percent of construction support employees' time is O&M expense.

As KEDNY increases its capital expenditures, the Company will require additional capital resources, including in operations to support the Company's programs and projects as well as expanding municipal programs, engineering to support project design and closeout, and project and resource management to support the oversight and delivery of the capital portfolio.

Q. What are the incremental support requirements in the Rate Year?

A. The Company forecasts approximately 28 FTEs for these support functions in the Rate Year. A breakdown of the positions is provided in Exhibit __ (GIOP-8).

ii. Future of Heat

Q. Please describe the O&M requirements required to support the Company's Future of Heat Programs.

A. The costs for five FTEs are shown in Exhibit___(RRP-3), Schedule 41 and supported by the Revenue Requirements Panel. Incremental O&M costs of $1.063 million in the Rate Year, $1.091 million in Data Year 1, $1.119 million in Data Year 2, and $1.898 million in Data Year 3 are required to support the Future of Heat capital programs discussed above. The five incremental FTEs include three FTEs in Gas Asset Engineering, 0.5 FTE in Customer Strategy, 0.5 FTE in Complex Construction Management, and one FTE for mechanical maintenance. A breakdown and description of the five FTEs is provided in Exhibit __ (GIOP-8).

iii. Gas Control Room

Q. Please describe the O&M requirements needed to support the Gas Control Room.

A. The gas control room has direct control over operations of the natural gas delivery system. Control room employees monitor and adjust the flow and pressure on the Company's system and are critical in the Company's response to correct abnormal operating conditions to ensure the provision of safe and reliable service to customers. It is imperative that these employees are up to date with current regulatory requirements and able to support the Company's operations in real-time. An additional 2.5 FTE resources are requested to ensure that all operational processes in the control room are continuously monitored and updated to comply with updated regulatory requirements, control room employees are appropriately trained on relevant processes and changes, and are able to continue the safe and reliable operation of the gas system.

iv. I&R – Low Pressure Valve Inspection

Q. Please describe the O&M requirements needed for I&R low pressure valve inspections.

A. In response to the East Harlem incident, KEDNY increased the number of low pressure and critical valves installed on the system across New York City to improve the overall safety of low-pressure systems and assist with more effective emergency response. The increased installations began in 2019, with approximately 350 new valves installed annually since that time. These valves require inspections on five-year cycles. The I&R group conducts these mandated inspections, and current I&R staffing levels are inadequate

to timely complete these important safety inspections. As shown in Exhibit___(GIOP-8), the Company requires seven incremental FTEs by Data Year 3 to support the inspections.

v. Stakeholder Management

Q. Please describe the O&M requirements related to Stakeholder Management.

A. The Stakeholder Management department is responsible for the development and execution of outreach plans for all capital projects in Downstate New York. Currently, the department is staffed with two full-time FTEs and two part-time contractors, who manage over 85 gas projects across KEDNY and KEDLI's service territories. The department's workload is expected to grow in the Rate Year and Data Years, and the Company is requesting three additional FTEs that are needed to better manage the project workload and to conduct robust customer and community outreach earlier, and more often, during the capital development process. The addition of incremental FTEs will more closely align the department's size with that of Niagara Mohawk, which has six FTEs and a manager, and is more cost effective than the projected cost of incremental contractor support.

The three incremental FTEs requested will be split between KEDNY and KEDLI, with two in KEDNY and one in KEDLI. The costs of the Stakeholder Management Department are charged 100 percent to capital, except for training costs, which are charged to O&M.

vi. Storm Hardening

Q. Please describe the O&M requirements of the Storm Hardening – Remote Shutoff Valves Program.

A. The installation of storm hardening remote ultrasonic smart meters with integrated shut off valves and devices requires incremental non-labor O&M in the amount of $0.899 million in Data Year 3, as shown in Exhibit___(GIOP-7), for pole rentals and the cost of running, maintaining, and monitoring information systems for the communication equipment to operate the ultrasonic smart meters and devices, as well as administrative and general activities. As discussed in the Reliability section above, the Company requires eight incremental FTEs in Data Year 3 to support this program.

vii. IMP/IVP

Q. Please describe the O&M requirements of the IMP and IVP.

A. Incremental non-labor O&M in the amount of $0.601 million in the Rate Year and reductions in O&M of $0.027 million in Data Year 1, $2.250 million in Data Year 2, and $1.395 million in Data Year 3 as shown in Exhibit___(GIOP-7), are required to conduct the required inspections via ECDA on pipelines that are not ILI-enabled and to conduct ILI on those that are already enabled. These costs include excavation and support for ECDA inspections, evaluation of testing data, and the costs of non-capital repairs such as repair sleeves and on-site material testing. For IVP, these costs are needed for material verification, long seam evaluation program, and other costs associated with new PHMSA rulemaking.

B. Changes to O&M Workload

Q. Please describe the non-safety program incremental O&M workload expenses.

A. The Company projects incremental expense for one O&M program in the Rate Year not related to safety requirements and initiatives – Collections Support.

Q. Please describe the need for incremental O&M to support the Company's collections activities.

A. The Company conducts various collections activities associated with customer arrears, including phone calls, automated messages, and field visits to collect payment and place door hangers with payment reminders. Field visits are also conducted to discontinue service if prior collections activities and notices do not result in payment as well as reconnect service upon receipt of a customer payment or payment agreement. Any arrears that the Company is unable to recover directly from the customer associated with an account are eventually converted to uncollectible, or bad debt, expense, the recovery of which is socialized across its customer base in monthly service bills. Accordingly, collections activities are critically important to mitigate the Company's uncollectible expense and subsequently reduce the costs passed on to customers through rates.

In response to the COVID-19 pandemic, the Governor issued Executive Orders 202.6 and 202.8 (referred to as the "Pause Order") suspending utility non-essential work, including field collections, and amendments were made to the Public Service Law (referred to as the "Parker-Mosley Law") requiring that utilities offer deferred payment agreements to certain customers without down payments, late fees, or penalties. A moratorium was also issued

that prohibited the disconnection of electric and natural gas customers during the COVID-19 State of Emergency period.

As a result of these executive and legislative changes, in March 2020, the Company suspended field collections activities and stopped collecting the late payment fees and other fees associated with customer non-payments including, field collections, reconnection, and no access fees, and continued the suspension of fees through May 2022. Employees already performing collections activities were deployed to other work groups and the Company paused hiring additional collections employees during the pandemic due to the changes noted above and uncertainty of available work.

Additional FTEs are required to continue field collections to mitigate future arrears growth. Specifically, the Company is requesting 30 FTEs to support collections activities to address the attrition of FTEs following the COVID-19 pandemic and increase the Company's field collections activities in the Rate Year and Data Years. The addition of 30 FTEs would bring the total FTEs supporting field collections activities back to pre-pandemic levels. Failure to hire additional field collections FTEs will result in continued increases to the bad debt expense levels and the costs borne by the Company and its customers.

Q. How will the Company mitigate the potential for overlapping recovery between the current FTE request and other filings submitted to the Commission?

A. The Company was able to provide customer arrears forgiveness, in the amount of approximately $148.1 million, through application of the Regular Arrears Supplement

HEAP program, Emergency Rental Assistance Program ("ERAP"), and Phases 1 and 2 of the New York Arrears Relief program. The Company also petitioned for, and received, surcharge recovery of late payment and other collections related fees associated with customer non-payments deferred during the COVID-19 pandemic pursuant to the exogenous costs section (Section 8.1.3) of the Joint Proposal approved in the 2019 Rate Case. Cost recovery under the Exogenous Cost section requires comprehensive review of the costs incurred by the Company during that period, offset by any incremental costs received or savings associated with the deferred amount. To that end, the Company will submit a filing in Case 19-G-0309 to amend its exogenous costs filing to reflect the savings associated with hiring these incremental FTEs and modify the deferred amount collected from customers.

C. <u>O&M Costs Related to Safety and Reliability Programs</u>

Q. Please briefly describe the incremental O&M requirements for the Company's gas safety programs and initiatives.

A. The Company's safety programs address both new mandated safety inspection requirements and implementation of gas pipeline safety enhancements. These programs are described in detail in the Company's Gas Safety Panel testimony. The O&M and FTE requirements of these programs are summarized in Table 8.

Table 8: Gas Safety Programs Incremental O&M and FTEs – Rate Year Request and Cumulative Request by Data Year 3

Category – Non-Labor	Rate Year ($000)	Data Year 3 ($000)
Advanced Communications Infrastructure (AMI)	$1,000	$670
Advanced Communications Infrastructure (RMD)	$759	$2,390
Advanced Communications Infrastructure (Smart Meter Replacement)	0	$26
Advanced Leak Detection	$2,503	$2,643
Inside Service Line Inspections (Bus. District)	$0	($995)
Non Business District Service Line Inspections	$1,321	$(7,586)
Damage Prevention Program Enhancements	$1,146	$2,343
Operator Qualification Program	$1,335	$1,395
Public Awareness	$288	$304
Voluntary IMP	$1,000	$1,056
Total Non-Labor – O&M	**$9,352**	**$2,246**

Category (FTEs)	Rate Year	Data Year 3
Advanced Communications Infrastructure (AMI)	0.0	2.0
Advanced Communications Infrastructure (RMD)	1.0	2.0
Advanced Communications Infrastructure (Smart Meter Replacement)	0.0	15.0
Advanced Leak Detection	4.0	4.0
Operator Qualification Program	18.0	18.0
Low Pressure Valve Inspection - I&R	2.0	7.0
Gas Pipeline Safety and Control Testing	2.0	2.0
Gas Pipeline Safety Management	2.5	2.5
Gas Pipeline Safety Q&A	2.0	2.0
Meter Relocation Program	3.0	4.0
Voluntary IMP	2.0	2.0
Total FTEs	**36.5**	**60.5**

Q. Does this conclude your testimony?

A. Yes, it does.

INDEX OF EXHIBITS

Exhibit ___ (GIOP-1)

Actual and Projected Direct and Indirect Capital Expenditures: Historic Test Year, Link Period, Rate Year, and Data Years

The Brooklyn Union Gas Company d/b/a National Grid NY
Direct Capital Expenditures (CAPEX and COR)

Planning Portfolio	Investment Name	FY24	FY25	FY26	FY27	FY28
Customer Connections	Customer Connections - Install Main	$ 11,375,703	$ 6,935,048	$ 7,040,854	$ 6,105,880	$ 6,203,568
Customer Connections	Customer Connections - Install Services	$ 47,387,805	$ 28,825,360	$ 28,798,027	$ 25,471,973	$ 25,521,900
Customer Connections	Customer Connections - Customer Contributions	$ (1,353,317)	$ (815,747)	$ (828,192)	$ (718,214)	$ (729,705)
Customer Connections	Customer Connections - Install Meter/Regulator	$ 1,221,829	$ 740,562	$ 735,279	$ 645,313	$ 641,542
Customer Connections	Gas System Reinforcement	$ 52,968,695	$ 32,793,298	$ 32,798,172	$ 36,713,658	$ 49,137,528
Customer Connections	Gas System Reinforcement - LTNY11751 - Kew Gardens Gate	$ 350,000	$ 17,000,000	$ 5,300,000	$ -	$ -
Customer Connections	Gas System Reinforcement - LTNY11986 - Flatbush Gate Station	$ -	$ -	$ 100,000	$ 250,000	$ 500,000
Customer Connections	Gas System Reinforcement - LTNY12025 - Belmont Gate Station	$ 1,449,000	$ 15,675,000	$ 4,000,000	$ 10,000,000	$ 15,100,000
Customer Connections	Gas System Reinforcement - LTNY13276 - Jamaica - 175 St Transmission Main	$ -	$ -	$ -	$ -	$ 100,000
Customer Connections	Gas System Reinforcement - LTNY20905 - Corona Gate Outlet Reconfigure	$ 50,000	$ -	$ -	$ -	$ -
Customer Connections - Total		**$ 113,449,715**	**$ 101,153,522**	**$ 77,944,138**	**$ 78,468,609**	**$ 96,474,832**
Mandated	Corrosion	$ 499,211	$ 511,292	$ 521,518	$ 531,948	$ 542,587
Mandated	CSC/Public Works - Non Reimbursable	$ 321,725,397	$ 329,511,152	$ 335,903,668	$ 342,117,886	$ 348,549,702
Mandated	CSC/Public Works - Reimbursements	$ -	$ -	$ -	$ -	$ -
Mandated	CSC/Public Works - SE853 - Flatlands Ave - Phase 2 - H30 Trans Offset Louisiana Ave & Geo	$ 613,700	$ -	$ -	$ -	$ -
Mandated	RCV - LTNY11044 - RCV BQ1243	$ 300,000	$ 2,000,000	$ 50,000	$ -	$ -
Mandated	RCV - LTNY11726 - RCV BQ1238 and BQ1015	$ 1,050,000	$ 8,165,000	$ 100,000	$ -	$ -
Mandated	RCV - LTNY12029 - RCV BQ1005	$ 100,000	$ 200,000	$ 4,320,000	$ -	$ -
Mandated	RCV - LTNY12051 - RCV BQ1019	$ -	$ 100,000	$ 200,000	$ 4,320,000	$ -
Mandated	RCV - RCV BQ1042	$ -	$ -	$ 100,000	$ 200,000	$ 2,040,000
Mandated	RCV - RCV BQ1059	$ -	$ -	$ 100,000	$ 200,000	$ 2,040,000
Mandated	Integrity - Cross Bore Remediation	$ 159,181	$ 100,000	$ -	$ -	$ -
Mandated	Large Diameter Pipe Rehabilitation	$ 617,473	$ 9,437,557	$ 9,626,308	$ 9,818,834	$ 10,015,211
Mandated	Large Diameter Pipe - CI Joint Encapsulation	$ -	$ 3,512,613	$ 3,580,758	$ 3,647,002	$ 3,715,566
Mandated	Large Diameter Pipe Rehabilitation - CI Main Lining - 134th St, Queens	$ 105,000	$ -	$ -	$ -	$ -
Mandated	Large Diameter Pipe Rehabilitation - CI Main Lining - 137th Ave	$ 4,280,000	$ 50,000	$ -	$ -	$ -
Mandated	Large Diameter Pipe Rehabilitation - CI Main Lining - 3rd Ave/43rd St	$ -	$ -	$ 6,337,138	$ 25,000	$ -
Mandated	Large Diameter Pipe Rehabilitation - CI Main Lining - 61st St/4thAve	$ 3,871,000	$ 50,000	$ -	$ -	$ -
Mandated	Large Diameter Pipe Rehabilitation - CI Main Lining - Avenue Y, Brooklyn	$ 125,000	$ -	$ -	$ -	$ -
Mandated	Large Diameter Pipe Rehabilitation - CI Main Lining - Prospect Pl	$ 50,000	$ -	$ -	$ -	$ -
Mandated	Large Diameter Pipe Rehabilitation - CISBOT	$ 6,428,562	$ 6,848,607	$ 7,056,104	$ 7,266,787	$ 7,487,019
Mandated	Main Protection - Access Protection Remediation	$ 100,000	$ -	$ -	$ -	$ -
Mandated	Main Replacement - Proactive - Leak Prone Pipe	$ 156,519,058	$ 186,685,177	$ 223,395,795	$ 251,500,036	$ 269,893,511
Mandated	Main Replacement - Reactive - Advanced Leak Detection		$ 103,770	$ 105,846	$ 107,963	$ 110,122
Mandated	Main Replacement - Reactive - Maintenance	$ 6,857,347	$ 7,023,295	$ 7,163,761	$ 7,307,036	$ 7,453,176
Mandated	Main Upgrades - Low Pressure Main Valve Installation	$ 1,564,500	$ -	$ -	$ -	$ -
Mandated	Meter Work - Meter Changes	$ 3,320,970	$ 3,387,389	$ 3,455,137	$ 3,524,239	$ 3,594,724
Mandated	Meter Work - Meter Relocation		$ 2,775,000	$ 5,716,500	$ 11,775,990	$ 12,129,270
Mandated	Meter Work - Proactive ERT Replacement		$ 2,172,788	$ 2,760,929	$ 3,383,818	$ 4,042,853
Mandated	Automatic Meter Reading (AMR) - Replacement (ERT Purchases)	$ 4,791,715	$ 4,470,033	$ 4,372,888	$ 4,127,896	$ 4,146,944
Mandated	Pipeline Integrity - IMP - Brooklyn Backbone/Original Extension to Transco approx 42,767 f	$ -	$ 500,000	$ 2,000,000	$ 5,000,000	$ 10,000,000
Mandated	Pipeline Integrity - IMP - Greenpoint LN-1.1.0 Robotic ILI approx. 11,750 feet	$ -	$ 250,000	$ 500,000	$ 7,000,000	$ 50,000
Mandated	Pipeline Integrity - IMP - Jamaica Bay Line ILI	$ 10,311,262	$ 18,966,000	$ 9,000,000	$ -	$ -
Mandated	Pipeline Integrity - IMP - Southern Line Robotic ILI	$ 15,000,000	$ 15,000,000	$ 15,000,000	$ -	$ -
Mandated	Pipeline Integrity - IVP - BBB 3rd Ave 24 inch Part R Replacement	$ 500,000	$ 7,800,000	$ 7,100,000	$ 1,000,000	$ -
Mandated	Pipeline Integrity - IVP - BBB Vanderbilt Ave 20in Part R Replacement	$ 875,000	$ 2,000,000	$ 500,000	$ -	$ -
Mandated	Pipeline Integrity - IVP - BQ1014	$ 7,850,000	$ -	$ -	$ -	$ -
Mandated	Pipeline Integrity - IVP - Clove Lakes Line AO Smith pipe replacement	$ 19,570,000	$ 29,140,000	$ 250,000	$ -	$ -
Mandated	Pipeline Integrity - IVP - Coney Island Bridge Crosssing	$ 200,000	$ 200,000	$ 500,000	$ 5,000,000	$ 100,000
Mandated	Pipeline Integrity - IVP - Fulton & Grand Casing Work	$ 554,231	$ 7,251,400	$ 58,500	$ -	$ -
Mandated	Pipeline Integrity - IVP - LN-1.3.0 - Coney Island	$ -	$ -	$ -	$ -	$ 200,000
Mandated	Pipeline Integrity - IVP - LN-1.4.0 - Spur to Con Ed Nar Gen	$ 200,000	$ 250,000	$ 500,000	$ 6,000,000	$ 100,000
Mandated	Pipeline Integrity - IVP - LN-3.0.0 - Southern Line - Part R	$ 500,000	$ 750,000	$ 3,100,000	$ 4,500,000	$ 3,100,000
Mandated	Pipeline Integrity - IVP - LN-3.3.0 - Van Wyck/116 Ave-129 St/South Conduit	$ 8,810	$ -	$ -	$ -	$ -
Mandated	Pipeline Integrity - IVP - LN-4.0.0 - Jamaica Bay Line	$ -	$ 200,000	$ 500,000	$ 5,000,000	$ -
Mandated	Pipeline Integrity - IVP - LN-6.1.0 - Spur to Staten Island	$ -	$ -	$ 500,000	$ 500,000	$ 2,000,000
Mandated	Pipeline Integrity - IVP - Reactive Main Replacement	$ 530,604	$ 541,000	$ 552,000	$ 563,000	$ 574,000
Mandated	Pipeline Integrity - IVP - Spur - 20" Spur to South Staten Island Gate; Tie-in, Tee, and Statio	$ -	$ -	$ 250,000	$ 100,000	$ 3,500,000
Mandated	Pipeline Integrity - IVP - Verification Coney Island Spur - Replace BQ 1104	$ 67,000	$ -	$ -	$ -	$ -

The Brooklyn Union Gas Company d/b/a National Grid NY
Direct Capital Expenditures (CAPEX and COR)

Planning Portfolio	Investment Name	FY24	FY25	FY26	FY27	FY28
Mandated	Purchase Meters (New/Replacements)	$ 7,118,040	$ 8,948,732	$ 9,156,944	$ 10,230,599	$ 11,109,465
Mandated	Replace Pipe on Bridges		$ 650,000	$ 500,000	$ 400,000	$ 200,000
Mandated	Service Replacement - Atmospheric Corrosion Inside Inspections (Remediation)	$ 1,895,577	$ 1,941,450	$ 1,980,279	$ 2,019,885	$ 2,060,282
Mandated	Service Replacement - Inactive Accounts	$ 417,957	$ 426,836	$ 435,273	$ 443,758	$ 452,293
Mandated	Service Replacement - Reactive - Leaks	$ 6,537,940	$ 6,696,158	$ 6,830,081	$ 6,966,683	$ 7,106,016
Mandated	Service Replacement - Reactive - Non-Leaks - Other	$ 6,126,947	$ 6,275,219	$ 6,400,724	$ 6,528,738	$ 6,659,313
Mandated	Service Replacement - Valve Installation/Replacement	$ 25,000	$ 25,605	$ 26,117	$ 26,639	$ 27,172
Mandated	Take Station - Over Pressure Protection - Transco Narrows	$ 100,000	$ -	$ -	$ -	$ -
Mandated	Transmission Station Integrity - PHMSA - Bensonhurst MiniGate	$ 7,399,000	$ 75,000	$ -	$ -	$ -
Mandated	Transmission Station Integrity - PHMSA - Bush Terminal (IF-09)	$ -	$ 300,000	$ 10,000,000	$ 8,000,000	$ 200,000
Mandated	Transmission Station Integrity - PHMSA - Cambria Transfer	$ -	$ -	$ -	$ 100,000	$ 200,000
Mandated	Transmission Station Integrity - PHMSA - Canarsie Gate Station	$ -	$ -	$ -	$ -	$ 100,000
Mandated	Transmission Station Integrity - PHMSA - Citi Field	$ 3,731,000	$ -	$ -	$ -	$ -
Mandated	Transmission Station Integrity - PHMSA - Clifton Gate Station	$ 560,000	$ 3,036,000	$ 70,000	$ -	$ -
Mandated	Transmission Station Integrity - PHMSA - Flatbush Mini Gate	$ -	$ -	$ -	$ -	$ 100,000
Mandated	Transmission Station Integrity - PHMSA - Fort Hamilton Mini Gate	$ -	$ 100,000	$ 200,000	$ 13,000,000	$ 100,000
Mandated	Transmission Station Integrity - PHMSA - Grasmere Gate Station	$ 300,000	$ 9,500,000	$ 9,170,000	$ 30,000	$ -
Mandated	Transmission Station Integrity - PHMSA - Hyman station	$ 656,000	$ -	$ -	$ -	$ -
Mandated	Transmission Station Integrity - PHMSA - Kennedy Gate	$ -	$ 100,000	$ 13,000,000	$ 150,000	$ -
Mandated	Transmission Station Integrity - PHMSA - Kings Plaza Mini Gate	$ 175,000	$ 200,000	$ 200,000	$ 15,000,000	$ -
Mandated	Transmission Station Integrity - PHMSA - Mariners Harbor	$ -	$ -	$ 100,000	$ 200,000	$ 13,000,000
Mandated	Transmission Station Integrity - PHMSA - Newtown Transfer	$ -	$ -	$ -	$ 100,000	$ 200,000
Mandated	Transmission Station Integrity - PHMSA - North Brooklyn Mini Gate	$ 10,000	$ -	$ -	$ -	$ -
Mandated	Transmission Station Integrity - PHMSA - Van Wyck Gate Station	$ -	$ -	$ 100,000	$ 200,000	$ 16,100,000
Mandated - Total		**$ 604,297,482**	**$ 688,227,074**	**$ 713,346,267**	**$ 747,913,738**	**$ 752,999,228**
Reliability	CNG - CNG Fill - Brooklyn - Canarsie - Retirement (Removal)	$ -	$ -	$ -	$ 400,000	$ -
Reliability	CNG - CNG Fill - Brooklyn - Greenpoint - Retirement (Removal)	$ -	$ -	$ -	$ 500,000	$ -
Reliability	CNG - CNG Fill - Proactive	$ 510,000	$ 400,000	$ 408,000	$ 200,000	$ -
Reliability	Gas Reliability	$ 2,602,531	$ 6,546,416	$ 20,422,952	$ 9,406,206	$ 16,202,441
Reliability	Gas Reliability - LTNY10205	$ 1,000,000	$ -	$ -	$ -	$ -
Reliability	Gas Reliability - System Automation	$ 1,808,562	$ 1,868,245	$ 1,905,609	$ 1,943,722	$ 1,982,596
Reliability	Gas System Control	$ 125,160	$ 129,290	$ 131,876	$ 134,514	$ 137,204
Reliability	Gas System Control - Facilities Upgrades	$ -	$ -	$ 166,667	$ -	$ -
Reliability	Gas System Control - MapBoard Replacement	$ 560,000	$ -	$ -	$ -	$ -
Reliability	Gas System Control - SCADA - Upgrade/Replacement	$ -	$ 1,388,889	$ 1,388,889	$ 1,388,889	$ -
Reliability	Heater Installation Program	$ 1,350,000	$ 900,000	$ 750,000	$ 765,000	$ 780,300
Reliability	Heater Installation Program - Tetco Heater #3 Replacement	$ 4,100,000	$ 9,300,000	$ 12,000	$ -	$ -
Reliability	I&R - Reactive	$ 905,721	$ 927,640	$ 946,193	$ 965,116	$ 984,419
Reliability	I&R - Training and Test Lab	$ 900,000	$ -	$ -	$ -	$ -
Reliability	LNG - Barge Piping Decommissioning	$ -	$ -	$ -	$ 50,000	$ 50,000
Reliability	LNG - Blanket	$ 2,764,373	$ 2,819,660	$ 2,876,053	$ 2,933,574	$ 2,992,246
Reliability	LNG - Boiloff Heaters/Steam Boiler Upgrade	$ 175,000	$ 475,000	$ 50,000	$ 3,950,000	$ 4,275,000
Reliability	LNG - Bulkhead Upgrade	$ 100,000	$ 700,000	$ 100,000	$ 1,300,000	$ 3,900,000
Reliability	LNG - Controls System Upgrade	$ 1,038,000	$ 14,850,000	$ 15,858,000	$ -	$ -
Reliability	LNG - Cyber Security Upgrade	$ 1,452,451	$ -	$ -	$ -	$ -
Reliability	LNG - Dike Stabilization Tank 1 East	$ -	$ -	$ 200,000	$ 200,000	$ 350,000
Reliability	LNG - Fire Protection System Upgrade	$ 500,000	$ 3,500,000	$ 5,000,000	$ 100,000	$ -
Reliability	LNG - Flare Heater Refurbishment	$ 50,000	$ 150,000	$ 350,000	$ 1,500,000	$ 3,050,000
Reliability	LNG - Flare Refurbishment	$ 1,500,000	$ 1,500,000	$ -	$ -	$ -
Reliability	LNG - Generators Upgrade	$ 350,000	$ 350,000	$ 250,000	$ 300,000	$ 1,175,000
Reliability	LNG - Hydrant & Deluge Piping Upgrade	$ 594,600	$ 2,683,424	$ 19,691,700	$ 6,879,890	$ -
Reliability	LNG - New Control Room	$ 200,000	$ 300,000	$ 5,000,000	$ 10,000,000	$ -
Reliability	LNG - Nitrogen System Refurbishment	$ 1,239,000	$ 3,000,000	$ -	$ -	$ -
Reliability	LNG - Piping Insulation Replacement & Inspection	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Reliability	LNG - Plant Outlet Drip Leg	$ 639,000	$ 50,000	$ -	$ -	$ -
Reliability	LNG - Pump Upgrade (Tank 1)	$ 1,270,000	$ 3,590,000	$ 100,000	$ -	$ -
Reliability	LNG - ReGen Heater Replacements	$ -	$ -	$ -	$ 50,000	$ 500,000
Reliability	LNG - Relocate Maintenance Area & New Control Building	$ 15,582,000	$ 19,548,000	$ 12,392,000	$ -	$ -
Reliability	LNG - RNG Blanket	$ 200,000	$ 204,000	$ 208,080	$ 212,242	$ 216,486

The Brooklyn Union Gas Company d/b/a National Grid NY
Direct Capital Expenditures (CAPEX and COR)

Planning Portfolio	Investment Name	FY24	FY25	FY26	FY27	FY28
Reliability	LNG - Salt Water Pump House Upgrade	$ 15,506,096	$ 25,028,870	$ 15,389,675	$ -	$ -
Reliability	LNG - Security System Upgrade	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ -	$ -
Reliability	LNG - Solar Panels	$ -	$ -	$ -	$ 50,000	$ 100,000
Reliability	LNG - Stormwater Drainage	$ 100,000	$ 150,000	$ 800,000	$ -	$ -
Reliability	LNG - Sub M - Sub L Interconnect	$ 100,000	$ 1,100,000	$ -	$ -	$ -
Reliability	LNG - Tail Gas Compressor Upgrade	$ 721,000	$ 1,319,000	$ 2,352,000	$ 20,000	$ -
Reliability	LNG - Tank 2 Foundation Heaters	$ 600,000	$ 360,000	$ 190,000	$ 4,720,000	$ 9,930,000
Reliability	LNG - Tank 2 Upgrade	$ -	$ -	$ -	$ -	$ 500,000
Reliability	LNG - Tank IPC Coating Upgrade	$ 3,000,000	$ 100,000	$ 750,000	$ 1,100,000	$ -
Reliability	LNG - Truck Load/Unload Station - Long Term Supply	$ 6,490,000	$ -	$ -	$ -	$ -
Reliability	LNG - Turbo Expander Generator	$ -	$ -	$ -	$ 50,000	$ 300,000
Reliability	LNG - Vapor Suppression System	$ 1,290,000	$ 2,000,000	$ 1,851,000	$ 0	$ -
Reliability	LNG - Vaporizers 3 & 4 Replacement	$ 1,610,000	$ -	$ -	$ -	$ -
Reliability	LNG - Vaporizers 7 & 8 Replacement	$ 435,000	$ 3,000,000	$ 15,500,000	$ 12,600,000	$ 3,000,000
Reliability	LNG - Vaporizers 9 & 10 Replacement	$ -	$ -	$ -	$ -	$ 100,000
Reliability	Main Protection - Storm Hardening - Install Remote Service Shutoff Valves	$ -	$ -	$ -	$ -	$ 3,741,215
Reliability	Main Upgrades - Water Intrusion	$ 150,000	$ 153,630	$ 156,703	$ 159,837	$ 163,033
Reliability	Proactive Regulator Stations - Proactive	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 1,500,000	$ 2,958,438
Reliability	Proactive Regulator Stations - GOV-03	$ 5,279,000	$ 3,695,000	$ 100,000	$ -	$ -
Reliability	Proactive Regulator Stations - GOV-11	$ -	$ 106,090	$ 212,180	$ 7,000,000	$ 6,000,000
Reliability	Proactive Regulator Stations - GOV-20	$ 500,000	$ 8,076,000	$ 2,206,000	$ 20,000	$ -
Reliability	Proactive Regulator Stations - GOV-226	$ -	$ -	$ -	$ 112,551	$ 225,102
Reliability	Proactive Regulator Stations - GOV-29	$ -	$ -	$ -	$ -	$ 116,000
Reliability	Proactive Regulator Stations - GOV-303	$ 226,000	$ -	$ -	$ -	$ -
Reliability	Proactive Regulator Stations - GOV-305/339	$ 60,000	$ -	$ -	$ -	$ -
Reliability	Proactive Regulator Stations - GOV-54	$ 4,430,000	$ -	$ -	$ -	$ -
Reliability	Proactive Regulator Stations - GOV-61	$ -	$ -	$ 109,000	$ 219,000	$ 13,000,000
Reliability	Proactive Regulator Stations - GOV-68 Refurbishment	$ 25,000	$ -	$ -	$ -	$ -
Reliability	Proactive Regulator Stations - GOV-78	$ -	$ 106,090	$ 212,180	$ 13,000,000	$ 21,855
Reliability	Proactive Regulator Stations - GOV-99	$ -	$ -	$ -	$ 112,551	$ 225,102
Reliability	Proactive Regulator Stations - IF-02	$ 165,000	$ 200,000	$ 13,582,000	$ 100,000	$ -
Reliability	Proactive Regulator Stations - IF-03	$ 280,000	$ 10,000,000	$ 3,742,000	$ 160,000	$ -
Reliability	Regulator Station - Over Pressure Protection	$ 280,567	$ 289,826	$ 295,622	$ 301,535	$ 307,565
Reliability	Smart Residential Methane Detector Program	$ 2,000,000	$ -	$ -	$ -	$ -
Reliability	Transmission Mains- Greenpoint	$ 535,000	$ 5,806,000	$ 50,000	$ -	$ -
Reliability	Transmission Service Integrity	$ 500,000	$ 2,000,000	$ 3,000,000	$ 2,000,000	$ -
Reliability	Tunnel Integrity Mains - Citizens Gate - Tunnel Rehab	$ -	$ 2,000,000	$ 1,500,000	$ -	$ -
Reliability- Total		**$ 90,299,061**	**$ 145,171,069**	**$ 154,706,378**	**$ 87,404,625**	**$ 78,284,002**
Non Infrastructure	Telecomm - Comm site upgrades	$ 51,420	$ 52,440	$ 53,490	$ 55,000	$ 56,000
Non Infrastructure	Telecomm - Radio Capital Expenditures	$ 69,242	$ 70,918	$ 72,336	$ 73,783	$ 75,258
Non Infrastructure	Telecomm - Radio System Updates	$ -	$ 225,000	$ 150,000	$ 25,000	$ -
Non Infrastructure	Telecomm - Reactive	$ 49,000	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Non Infrastructure	Tools & Equipment - Combustible gas indicator (CGI)	$ -	$ 2,675,000	$ -	$ -	$ -
Non Infrastructure	Tools & Equipment - Construction	$ 3,292,485	$ 3,285,280	$ 3,350,985	$ 3,418,005	$ 3,486,365
Non Infrastructure	Tools & Equipment - Field Operations	$ 1,798,547	$ 1,842,072	$ 1,878,913	$ 1,916,491	$ 1,954,821
Non Infrastructure	Tools & Equipment - I&R	$ -	$ 50,000	$ 50,000	$ 50,000	$ 50,000
Non Infrastructure	Tools & Equipment - Learning & Development	$ 187,500	$ 192,038	$ 195,763	$ 199,385	$ 203,133
Non Infrastructure	Tools & Equipment - Meter Testing	$ 196,196	$ 204,904	$ 214,194	$ 224,118	$ 234,080
Non-Infrastructure - Total		**$ 5,644,390**	**$ 8,647,650**	**$ 6,015,682**	**$ 6,011,781**	**$ 6,109,657**
Advanced Communication Infrastructure	Advanced Communication Infrastructure- AMI Network	$ -	$ -	$ -	$ 1,991,000	$ 3,484,000
Advanced Communication Infrastructure	Advanced Communication Infrastructure- Residential Methane Detectors	$ -	$ 3,305,000	$ 6,742,000	$ 10,315,000	$ 14,028,000
Advanced Communication Infrastructure	Advanced Communication Infrastructure- Smart Meter	$ -	$ -	$ -	$ 6,130,000	$ 9,828,000
Advanced Communication Infrastructure - Total		**$ -**	**$ 3,305,000**	**$ 6,742,000**	**$ 18,436,000**	**$ 27,340,000**
Future of Heat	Future of Heat - Gas Demand Response	$ -	$ 69,981	$ 51,776	$ 36,177	$ 13,491
Future of Heat	Future of Heat - Newtown Creek	$ 15,713,000	$ -	$ -	$ -	$ -
Future of Heat	Future of Heat - Renewable Natural Gas (RNG) Interconnections	$ -	$ -	$ -	$ -	$ 1,000,000
Future of Heat	Future of Heat - Renewable Natural Gas (RNG) Interconnections - #2	$ -	$ 1,080,518	$ 1,888,128	$ 895,891	$ 403,809
Future of Heat	Future of Heat - Renewable Natural Gas (RNG) Interconnections - #2 - Piping	$ -	$ -	$ 4,086,920	$ -	$ -
Future of Heat	Future of Heat - Renewable Natural Gas (RNG) Interconnections - #1	$ -	$ 1,080,518	$ 1,888,128	$ 895,891	$ 403,809

The Brooklyn Union Gas Company d/b/a National Grid NY
Direct Capital Expenditures (CAPEX and COR)

Planning Portfolio	Investment Name	FY24	FY25	FY26	FY27	FY28
Future of Heat	Future of Heat - Renewable Natural Gas (RNG) Interconnections - #1 - Piping	$ -	$ -	$ 1,379,336	$ -	$ -
Future of Heat - Total		**$ 15,713,000**	**$ 2,231,017**	**$ 9,294,288**	**$ 1,827,959**	**$ 1,821,108**
Operator Qualification Program	Operator Qualification Program - Learning & Development - FTE's	$ -	$ 248,677	$ 253,501	$ 258,191	$ 263,045
Operator Qualification Program	Operator Qualification Program - Learning & Development - Tools & Equipment	$ -	$ 112,500	$ 23,750	$ 24,189	$ 24,644
Operator Qualification Program	Operator Qualification Program - Operations - Contract Increases	$ -	$ 12,000,000	$ 12,232,800	$ 12,459,107	$ 12,693,338
Operator Qualification Program	Operator Qualification Program - Operations - FTE's	$ -	$ 72,717	$ 74,128	$ 75,499	$ 76,919
Operator Qualification Program	Operator Qualification Program - Pipeline Safety - FTE's	$ -	$ 187,048	$ 190,676	$ 194,204	$ 197,855
Operator Qualification Program	Operator Qualification Program - Pipeline Safety - ITS System	$ -	$ 200,000	$ 203,880	$ 207,652	$ 211,556
Operator Qualification Program - Total		**$ -**	**$ 12,820,942**	**$ 12,978,736**	**$ 13,218,842**	**$ 13,467,356**
KEDNY - Total - Direct		**$ 829,403,649**	**$ 961,556,274**	**$ 981,027,489**	**$ 953,281,554**	**$ 976,496,185**
KEDNY - COR - Direct -		**$ 23,223,302**	**$ 26,923,576**	**$ 27,468,770**	**$ 26,691,884**	**$ 27,341,893**
KEDNY - Total Less COR - Direct		**$ 806,180,347**	**$ 934,632,698**	**$ 953,558,719**	**$ 926,589,671**	**$ 949,154,292**
Indirects	Facilities - Base	$ 4,556,737	$ 2,797,300	$ 1,392,500	$ 1,474,100	$ 1,310,000
Indirects	Facilities - EV Charging	$ 450,000	$ 6,220,000	$ 1,500,000	$ 6,010,000	$ 2,420,000
Indirects	Facilities - Safety	$ 2,166,460	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Indirects	Facilities - Greenpoint Masterplan - Planning	$ 232,000	$ -	$ -	$ -	$ -
Indirects	Facilities - Greenpoint Warehouse Demo and Temp	$ 5,000,000	$ -	$ -	$ -	$ -
Indirects	Facilities - Bayridge	$ 1,957,608	$ 7,360,000	$ -	$ -	$ -
Indirects	Facilities - Staten Island 200 Asset Renewal - Replacement	$ -	$ 2,700,000	$ 2,700,000	$ -	$ -
Indirects	Facilities - SI Forest Ave Asset Renewal - Replacement	$ -	$ -	$ -	$ -	$ 692,345
Indirects	Facilities - Jamaica DO 89-67 162nd Street Asset Renewal - Replacement	$ -	$ -	$ -	$ -	$ 1,436,050
Indirects	Facilities - Jamaica DO 127-11 Farmers Blvd Asset Renewal - Replacement	$ -	$ -	$ -	$ 843,396	$ 843,396
Indirects	Facilities - Greenpoint Infrastructure	$ -	$ 12,125,000	$ 12,125,000	$ 12,125,000	$ 12,125,000
Indirects	Facilities - Roofing Program	$ 150,000	$ 3,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Indirects	Facilities - Arc Flash Program	$ 123,075	$ 21,650	$ -	$ -	$ -
Indirects	Facilities - L&D Pipeline OP Qual Training Center	$ -	$ 5,000,000	$ 2,500,000	$ -	$ -
Indirects	Facilities - Greenpoint Masterplan - Execution	$ 1,000,000	$ 4,600,000	$ 10,300,000	$ 17,500,000	$ 10,000,000
Indirects	Facilities - Canarsie Bathroom & Locker Reno (C087332)	$ 1,040,000	$ -	$ -	$ -	$ -
Indirects	Facilities - Greenpoint Bathroom & Locker Refresh (C087726)	$ 1,100,000	$ -	$ -	$ -	$ -
Indirects	Facilities - Canarsie Bldg 40 Exterior Windows and Façade (C085209)	$ 2,200,000	$ -	$ -	$ -	$ -
Indirects	Facilities - Greenpoint Site Electrical Upgrades (C081819)	$ 1,300,000	$ 1,000,000	$ -	$ -	$ -
Indirects	Facilities - Greenpoint S&S Building Generator to Brightwaters (S008592)	$ 500,000	$ -	$ -	$ -	$ -
Indirects	Facilities - Jamaica New Maintenance Facility (C088848)	$ -	$ 2,000,000	$ -	$ -	$ -
Indirects	Facilities - GP - Guard Booth / Front Entrance Beautification (C089025)	$ 1,300,000	$ -	$ -	$ -	$ -
Indirects	IT Gas	$ 1,934,360	$ 2,900,000	$ 2,000,000	$ 1,900,000	$ 1,900,000
Indirects	Fleet	$ 450,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
Indirects	IMWM	$ 300,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000
KEDNY- Total - Indirect		**$ 25,760,240**	**$ 51,223,950**	**$ 35,017,500**	**$ 42,352,496**	**$ 33,226,790**
KEDNY - COR - Indirect -		**$ 4,609,100**	**$ 1,197,300**	**$ 892,500**	**$ 974,100**	**$ 810,000**
KEDNY - Total Less COR - Indirect		**$ 21,151,140**	**$ 50,026,650**	**$ 34,125,000**	**$ 41,378,396**	**$ 32,416,790**
KEDNY - Total - Direct & Non Direct		**$ 855,163,889**	**$ 1,012,780,224**	**$ 1,016,044,989**	**$ 995,634,050**	**$ 1,009,722,975**
KEDNY - Total COR - Direct & Non Direct		**$ 27,832,402**	**$ 28,120,876**	**$ 28,361,270**	**$ 27,665,984**	**$ 28,151,893**
KEDNY - Total Less COR - Direct & Non Direct		**$ 827,331,487**	**$ 984,659,348**	**$ 987,683,719**	**$ 967,968,066**	**$ 981,571,082**

Exhibit ___ (GIOP-2)

Charts Demonstrating Components of Unit Cost Increases

The Brooklyn Union Gas Company d/b/a National Grid NY

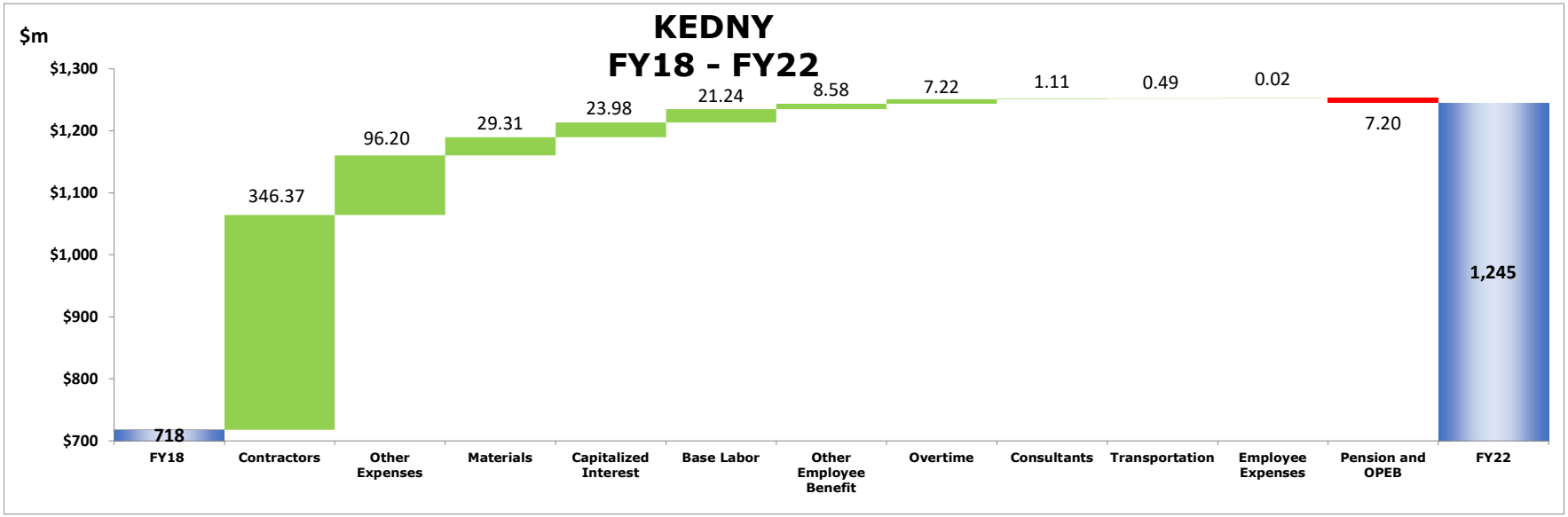


Exhibit ___ (GIOP-3)

Gas Safety and Reliability Surcharge Including Unit Cost Incentive Proposals

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge
Example of All Components of Gas Safety and Reliability Surcharge (GSRS)
(000)

	Page Reference	Rate Year FY 2025	Data Year FY 2026	Data Year FY 2027	Data Year FY 2028
Recovery of Incremental LPP Proactive Replacement Costs	Page 2-4	$684	$1,130	$1,840	$1,447
Positive Revenue Adjustment - LPP Productivity Incentive	Page 6	$0	$0	$1,148	$1,200
Recovery of Incremental Leak Repair Costs	Page 7	$1,575	$0	$1,079	$0
Positive Revenue Adjustment - Leak Repair Incentive	Page 7	$2,860	$0	$1,148	$0
Total Gas and Safety Surcharge		$5,119	$1,130	$5,215	$2,648

Please note, Gas Safety Metrics are measured on an annual CY basis, but are being reflected in FY on the summary of all GSRS components as follo
CY2024/FY2025; CY2025/FY2026; CY2026/FY2027; CY2027/FY2028

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge (GSRS)
Example of Recovery of Incremental Leak Prone Pipe (LPP) Proactive Replacement Costs
(000)

LPP Rate Allowance and Example Assumptions for Illustrative Purposes of the Recovery of Incremental Costs and the Removal and Productivity Incentives:

	[RATE ALLOWANCE]			[EXAMPLE ASSUMPTIONS FOR ILLUSTRATIVE PURPOSES]				
Rate Year	Cumulative Proactive Repl. Threshold (Miles)	Rate Allowance Capital Average Unit Cost	Rate Allowance D&R Average Unit Cost	Example for Illustrative Purposes Total Cumulative (Miles)	Example for Illustrative Purposes Cumulative Incremental (Miles)	Example for Illustrative Purposes Annual Incremental Miles Subject to GSRS	Example for Illustrative Purposes Capital Average Unit Cost	Example for Illustrative Purposes D&R Average Unit Cost
FY 2025	18	$1,999	$3,477	19	1	1	$2,094	$3,500
FY 2026	39	$2,047	$3,573	40	1	0	$2,130	$3,600
FY 2027	62	$2,104	$3,678	64	2	1	$2,071	$3,700
FY 2028	86	$2,163	$3,786	90	4	2	$2,104	$3,800

	[RATE ALLOWANCE] Rate Allowance - 18 Miles Proactive Replacement at $1,999 Average Unit Cost								[EXAMPLE FOR ILLUSTRATIVE PURPOSES] Example-1 Incremental Miles at $2,094 Avg Unit Cost & D&R's at $3,500 Avg Unit Cost								
	Capital Expend. Closes To Plant In-Service (Note 1) (a)	Plant Balance (b)	Depreciation Expense 1.69% (Note 2) (c)	Accumulated Depreciation Reserve Balance (d)	Net Utility Plant (e) (b) + (d)	Pre - Tax WACC 8.89% (Note 3) (f)	Opex (g)	Total Revenue Require-ment (h) (c)+(f)+(g)	Capital Expend. Closes To Plant In-Service (Note 1) (i)	Plant Balance (j)	Depreciation Expense 1.69% (Note 2) (k)	Accumulated Depreciation Reserve Balance (l)	Net Utility Plant (m) (j) + (l)	Pre - Tax WACC 8.89% (Note 3) (n)	Opex (o)	Total Revenue Require-ment (p) (k)+(n)+(o)	Amount Subject to Surcharge (Note 4)
FY 2025																	
Mar-2024	0	0	0	0	0	0			0	0	0	0	0	0			
Apr-2024	15,666	15,666	0	0	15,666	116			888	888	0	0	888	7			
May-2024	15,801	31,467	22	-22	31,445	233			895	1,783	1	-1	1,782	13			
Jun-2024	16,752	48,219	44	-66	48,153	357			949	2,732	3	-4	2,729	20			
Jul-2024	14,678	62,897	68	-134	62,763	465			832	3,564	4	-8	3,557	26			
Aug-2024	15,957	78,854	88	-222	78,632	582			904	4,468	5	-13	4,456	33			
Sep-2024	16,382	95,236	111	-333	94,903	703			928	5,397	6	-19	5,378	40			
Oct-2024	17,586	112,822	134	-467	112,355	832			997	6,393	8	-26	6,367	47			
Nov-2024	13,905	126,727	159	-626	126,101	934			788	7,181	9	-35	7,146	53			
Dec-2024	14,794	141,521	178	-804	140,717	1,042			838	8,020	10	-46	7,974	59			
Jan-2025	17,800	159,321	199	-1,003	158,318	1,173			1,009	9,028	11	-57	8,971	66			
Feb-2025	14,345	173,666	224	-1,227	172,439	1,277			813	9,841	13	-70	9,772	72			
Mar-2025	16,357	190,023	244	-1,471	188,552	698			927	10,768	14	-83	10,685	40			
	$190,023		$1,471		94,647	$8,413	$2,210	$12,093	$10,768		$83		5,363	$477	$124	$684	$684
Miles	18						18		1								
Feet	95,040						95,040		5,280				Incremental D&R's		35		
D&Rs (forecast assumes .7% per foot)						0.7%	636						D&Rs per foot		0.7%		
Unit Cost per Foot	$1,999						$3,477		$2,094	ok, under cap			Actual D&R unit cost		$3,500	ok, under cap	
2% Cap on Unit Cost	$2,039						$3,546		$2,039	2% Cap on Unit Cost			2% Cap on Unit Cost		$3,546		

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge (GSRS)
Example of Recovery of Incremental Leak Prone Pipe (LPP) Proactive Replacement Costs
(000)

	[----------RATE ALLOWANCE----------]								[----------EXAMPLE FOR ILLUSTRATIVE PURPOSES----------]								
	Rate Allowance -21 Miles Proactive Replacement at $2,047 Average Unit Cost								Example-0 Incremental Miles at $2,130 Avg Unit Cost & D&R's at $3,600 Avg Unit Cost								
	Capital Expend. Closes To Plant In-Service (Note 1) (a)	Plant Balance (b)	Depreciation Expense 1.69% (Note 2) (c)	Accumulated Depreciation Reserve Balance (d)	Net Utility Plant (e)	Pre - Tax WACC 8.95% (Note 3) (f)	Opex (g)	Total Revenue Require-ment (h)	Capital Expend. Closes To Plant In-Service (Note 1) (i)	Plant Balance (j)	Depreciation Expense 1.69% (Note 2) (k)	Accumulated Depreciation Reserve Balance (l)	Net Utility Plant (m)	Pre - Tax WACC 8.95% (Note 3) (n)	Opex (o)	Total Revenue Require-ment (p)	Maximum Amount Subject to Surcharge (Note 4)
FY 2026					(b) + (d)			(c)+(f)+(g)					(j) + (l)			(k)+(n)+(o)	
Mar-2025		190,023		-1,471	188,552	703				10,768		-83	10,685	40			
Apr-2025	18,716	208,739	267	-1,738	207,001	1,544			0	10,768	15	-98	10,669	80			
May-2025	18,877	227,615	293	-2,031	225,584	1,682			0	10,768	15	-114	10,654	79			
Jun-2025	20,012	247,627	320	-2,351	245,276	1,829			0	10,768	15	-129	10,639	79			
Jul-2025	17,536	265,163	348	-2,699	262,464	1,957			0	10,768	15	-144	10,624	79			
Aug-2025	19,063	284,226	373	-3,072	281,154	2,097			0	10,768	15	-159	10,609	79			
Sep-2025	19,571	303,797	400	-3,472	300,325	2,240			0	10,768	15	-174	10,594	79			
Oct-2025	21,009	324,806	427	-3,899	320,907	2,393			0	10,768	15	-189	10,579	79			
Nov-2025	16,611	341,417	457	-4,355	337,062	2,513			0	10,768	15	-204	10,564	79			
Dec-2025	17,673	359,091	480	-4,835	354,255	2,642			0	10,768	15	-220	10,548	79			
Jan-2026	21,265	380,356	505	-5,340	375,016	2,797			0	10,768	15	-235	10,533	79			
Feb-2026	17,137	397,492	535	-5,875	391,618	2,920			0	10,768	15	-250	10,518	78			
Mar-2026	19,541	417,034	559	-6,433	410,600	1,531			0	10,768	15	-265	10,503	39			
	$227,011		$4,963		300,020	$26,847	$2,649	$34,459	$0		$182		10,594	$948	$0	$1,130	$1,130
Miles	21						21		0								
Feet	110,880						110,880		0				Incremental D&R's		0		
D&Rs (forecast assumes .7% per foot)						0.7%	741						D&Rs per foot		0.7%		
Unit Cost per Foot	$2,047						$3,573		$2,130	over cap - limit to 2% cap			Actual D&R unit cost		$3,600	ok, under cap	
2% Cap on Unit Cost	$2,088						$3,644		$2,088	2% Cap on Unit Cost			2% Cap on Unit Cost		$3,644		

	[----------RATE ALLOWANCE----------]								[----------EXAMPLE FOR ILLUSTRATIVE PURPOSES----------]								
	Rate Allowance - 23 Miles Proactive Replacement at $2,104 Average Unit Cost								Example-1 Incremental Miles at $2,071 Avg Unit Cost & D&R's at $3,700 Avg Unit Cost								
	Capital Expend. Closes To Plant In-Service (Note 1) (a)	Plant Balance (b)	Depreciation Expense 1.69% (Note 2) (c)	Accumulated Depreciation Reserve Balance (d)	Net Utility Plant (e)	Pre - Tax WACC 9.10% (Note 3) (f)	Opex (g)	Total Revenue Require-ment (h)	Capital Expend. Closes To Plant In-Service (Note 1) (i)	Plant Balance (j)	Depreciation Expense 1.69% (Note 2) (k)	Accumulated Depreciation Reserve Balance (l)	Net Utility Plant (m)	Pre - Tax WACC 9.10% (Note 3) (n)	Opex (o)	Total Revenue Require-ment (p)	Maximum Amount Subject to Surcharge (Note 4)
FY 2027					(b) + (d)			(c)+(f)+(g)					(j) + (l)			(k)+(n)+(o)	
Mar-2026		417,034		-6,433	410,600	1,557				10,768		-265	10,503	40			
Apr-2026	21,061	438,095	586	-7,020	431,075	3,268			902	11,669	15	-280	11,389	86			
May-2026	21,242	459,337	616	-7,636	451,701	3,425			909	12,579	16	-297	12,282	93			
Jun-2026	22,520	481,857	646	-8,281	473,575	3,591			964	13,543	18	-314	13,229	100			
Jul-2026	19,733	501,590	677	-8,959	492,631	3,735			845	14,387	19	-333	14,054	107			
Aug-2026	21,452	523,042	705	-9,664	513,378	3,892			918	15,306	20	-353	14,952	113			
Sep-2026	22,023	545,065	735	-10,399	534,666	4,054			943	16,248	22	-375	15,873	120			
Oct-2026	23,642	568,707	766	-11,165	557,542	4,227			1,012	17,260	23	-398	16,863	128			
Nov-2026	18,693	587,399	799	-11,965	575,435	4,363			800	18,060	24	-422	17,638	134			
Dec-2026	19,888	607,288	826	-12,790	594,497	4,508			851	18,912	25	-447	18,464	140			
Jan-2027	23,930	631,218	854	-13,644	617,574	4,682			1,024	19,936	27	-474	19,462	148			
Feb-2027	19,284	650,502	887	-14,531	635,971	4,822			825	20,762	28	-502	20,259	154			
Mar-2027	21,990	672,492	914	-15,446	657,046	2,491			941	21,703	29	-531	21,172	80			
	$255,458		$9,012		534,322	$48,615	$2,986	$60,614	$10,935		$266		15,859	$1,443	$131	$1,840	$1,840
Miles	23						23		1								
Feet	121,440						121,440		5,280				Incremental D&R's		35		
D&Rs (forecast assumes .7% per foot)						0.7%	812						D&Rs per foot		0.7%		
Unit Cost per Foot	$2,104						$3,678		$2,071	N/A, no incremental miles			Actual D&R unit cost		$3,700	N/A, no incremental miles	
2% Cap on Unit Cost	$2,146						$3,751		$2,146	2% Cap on Unit Cost			2% Cap on Unit Cost		$3,751		

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge (GSRS)
Example of Recovery of Incremental Leak Prone Pipe (LPP) Proactive Replacement Costs
(000)

	[----------RATE ALLOWANCE----------]								[----------EXAMPLE FOR ILLUSTRATIVE PURPOSES----------]								
	Rate Allowance - 24 Miles Proactive Replacement at $2,163 Average Unit Cost								Example-2 Incremental Miles at $2,104 Avg Unit Cost & D&R's at $3,800 Avg Unit Cost								
	Capital Expend. Closes To Plant In-Service (Note 1) (a)	Plant Balance (b)	Depreciation Expense 1.69% (Note 2) (c)	Accumulated Depreciation Reserve Balance (d)	Net Utility Plant (e)	Pre - Tax WACC 9.14% (Note 3) (f)	Opex (g)	Total Revenue Require-ment (h)	Capital Expend. Closes To Plant In-Service (Note 1) (i)	Plant Balance (j)	Depreciation Expense 1.69% (Note 2) (k)	Accumulated Depreciation Reserve Balance (l)	Net Utility Plant (m)	Pre - Tax WACC 9.14% (Note 3) (n)	Opex (o)	Total Revenue Require-ment (p)	Maximum Amount Subject to Surcharge (Note 4)
FY 2028					(b) + (d)			(c)+(f)+(g)					(j) + (l)			(k)+(n)+(o)	
Mar-2027		0		0	0	0				0		0	0	0			
Apr-2027	22,595	22,595	0	0	22,595	171			1,832	1,832	0	0	1,832	14			
May-2027	22,789	45,384	32	-32	45,352	344			1,848	3,679	3	-3	3,677	28			
Jun-2027	24,160	69,544	64	-96	69,448	527			1,959	5,638	5	-8	5,630	43			
Jul-2027	21,170	90,714	98	-193	90,521	686			1,716	7,354	8	-16	7,339	56			
Aug-2027	23,014	113,728	128	-321	113,407	860			1,866	9,220	10	-26	9,194	70			
Sep-2027	23,627	137,355	160	-481	136,874	1,038			1,915	11,135	13	-39	11,096	84			
Oct-2027	25,364	162,719	193	-674	162,045	1,229			2,056	13,192	16	-55	13,137	100			
Nov-2027	20,054	182,773	229	-903	181,870	1,379			1,626	14,817	19	-73	14,744	112			
Dec-2027	21,337	204,109	257	-1,159	202,950	1,539			1,730	16,547	21	-94	16,453	125			
Jan-2028	25,673	229,782	287	-1,446	228,336	1,731			2,081	18,628	23	-117	18,511	140			
Feb-2028	20,689	250,471	323	-1,769	248,701	1,886			1,677	20,306	26	-143	20,162	153			
Mar-2028	23,591	274,062	352	-2,121	271,941	1,031			1,913	22,218	29	-172	22,046	84			
	$274,062		$2,121		136,506	$12,420	$3,208	$17,750	$22,218		$172		11,067	$1,007	$268	$1,447	$1,447
Miles	24						24		2								
Feet	126,720						126,720		10,560				Incremental D&R's		71		
D&Rs (forecast assumes .7% per foot)						0.7%	847						D&Rs per foot		0.7%		
Unit Cost per Foot	$2,163						$3,786		$2,104	ok, under cap			Actual D&R unit cost		$3,800	ok, under cap	
2% Cap on Unit Cost	$2,206						$3,862		$2,206	2% Cap on Unit Cost			2% Cap on Unit Cost		$3,862		

Notes and Assumptions:

1) For this calc., LPP Proactive Replacement capital expenditures include an allocation of Operator Qualification Program
   The combined capital expenditures are $190.023M in FY 2025, $227.011M in FY 2026, $255.458M in FY 2027 and $274.062M in FY28 per page 8
   Revenue requirement assumes capital expenditures are placed in-service in the month spent.
2) Depreciation is based on the existing composite depreciation rate for mains and services based on 12/31/2022 plant balances.
3) Utilizes pre-tax WACC by fiscal year with a ROE of 9.8%.
4) The amount subject to surcharge is limited to the Company's average costs of main replacement and for D&R's allowed in rate allowance, subject to a 2% cap
5) The FY 2025 incremental mileage spend will be rolled forward to the FY 2026 - FY 2028 surcharges, calculating a return on the net plant investment and associated depreciation expense.
6) The FY 2026 incremental mileage spend will be rolled forward to the FY 2027 - FY 2028 surcharge, calculating a return on the net plant investment and associated depreciation expense.
7) The FY 2027 incremental mileage spend will be rolled forward to the FY 2028 surcharge, calculating a return on the net plant investment and associated depreciation expense.

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge
D&R Cost of Incremental LPP Proactive Mileage in Rate Allowance

	FY25	**FY26**	**FY27**	**FY28**
LPP Proactive Miles	18	21	23	24
LPP Proactive Feet	95,040	110,880	121,440	126,720
Ratio of D&R to LPP Proactive Feet	0.7%	0.7%	0.7%	0.7%
Total D&R's	636	741	812	847
Unit Cost	$3,477	$3,573	$3,678	$3,786
Total Cost of LPP Proactive D&R's	$2,209,589	$2,649,014	$2,986,487	$3,208,145

D&R Ratio based on FY22	FY22
for Proactive LPP Mains	
Footage	153,581
D&R	1,027
	0.7%

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge
Example of Proactive Leak Prone Pipe (LPP) Productivity Incentive Positive Revenue Adjustment (PRA)
Using a 1.5% Savings Tier

INCENTIVE THRESHOLDS

	FY25		FY25 Proactive Main Replacement Unit Cost Incentive Mechanism																			
		Base	Tier 1				Tier 2				Tier 3				Tier 4				Tier 5				Tier 6	
Unit Cost		$ 1,999	$ 1,999	>	$ 1,969		$ 1,969	>	$ 1,940		$ 1,940	>	$ 1,911		$ 1,911	>	$ 1,882		$ 1,882	>	$ 1,854	<=	$ 1,854	
Savings From Base			0.00%		< 1.50%		>= 1.5%		< 3.00%		>= 3.00%		< 4.50%		>= 4.50%		< 6.00%		>= 6.00%		< 7.50%		>= 7.50%	
Positive Incentive Pre-Tax Basis Point (BP)			0				2				4				6				8				10	
Estimate of one BP (Grossed Up for Taxes)	$ 476,734						$ 953,467				$ 1,906,935				$ 2,860,402				$ 3,813,869				$ 4,767,337	

	FY26		FY26 Proactive Main Replacement Unit Cost Incentive Mechanism																			
		Base	Tier 1				Tier 2				Tier 3				Tier 4				Tier 5				Tier 6	
Unit Cost		$ 2,047	$ 2,047	>	$ 2,017		$ 2,017	>	$ 1,986		$ 1,986	>	$ 1,957		$ 1,957	>	$ 1,927		$ 1,927	>	$ 1,898	<=	$ 1,898	
Savings From Base			0.00%		< 1.50%		>= 1.5%		< 3.00%		>= 3.00%		< 4.50%		>= 4.50%		< 6.00%		>= 6.00%		< 7.50%		>= 7.50%	
Positive Incentive Pre-Tax Basis Point (BP)			0				2				4				6				8				10	
Estimate of one BP (Grossed Up for Taxes)	$ 523,295						$ 1,046,590				$ 2,093,180				$ 3,139,770				$ 4,186,360				$ 5,232,950	

	FY27		FY27 Proactive Main Replacement Unit Cost Incentive Mechanism																			
		Base	Tier 1				Tier 2				Tier 3				Tier 4				Tier 5				Tier 6	
Unit Cost		$ 2,104	$ 2,104	>	$ 2,072		$ 2,072	>	$ 2,041		$ 2,041	>	$ 2,010		$ 2,010	>	$ 1,980		$ 1,980	>	$ 1,950	<=	$ 1,950	
Savings From Base			0.00%		< 1.50%		>= 1.5%		< 3.00%		>= 3.00%		< 4.50%		>= 4.50%		< 6.00%		>= 6.00%		< 7.50%		>= 7.50%	
Positive Incentive Pre-Tax Basis Point (BP)			0	0			2				4	4			6	6			8	8			10	
Estimate of one BP (Grossed Up for Taxes)	$ 574,124						$ 1,148,247				$ 2,296,494				$ 3,444,741				$ 4,592,989				$ 5,741,236	

	FY28		FY28 Proactive Main Replacement Unit Cost Incentive Mechanism																			
		Base	Tier 1				Tier 2				Tier 3				Tier 4				Tier 5				Tier 6	
Unit Cost		$ 2,163	$ 2,163	>	$ 2,130		$ 2,130	>	$ 2,098		$ 2,098		$ 2,067		$ 2,067	>	$ 2,036		$ 2,036	>	$ 2,005	<=	$ 2,005	
Savings From Base			0.00%		< 1.50%		>= 1.5%		< 3.00%		>= 3.00%		< 4.50%		>= 4.50%		< 6.00%		>= 6.00%		< 7.50%		>= 7.50%	
Positive Incentive Pre-Tax Basis Point (BP)			0				2				4				6				8				10	
Estimate of one BP (Grossed Up for Taxes)	$ 600,159						$ 1,200,318				$ 2,400,636				$ 3,600,954				$ 4,801,272				$ 6,001,590	

EXAMPLE FOR ILLUSTRATIVE PURPOSES:

	FY25	FY26	FY27	FY28
Unit Cost	$ 2,094	$ 2,130	$ 2,071	$ 2,104
Savings From Base	N/A	N/A	-1.55%	-2.7%
Positive Incentive Basis Point (BP)	0	0	2	2
Estimate of Basis Point PRA			$ 1,148,247	$ 1,200,318

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge
Recovery of Incremental Leak Repair Costs and Leak Repair Incentive Positive Revenue Adjustment (PRA)

Line #	Example of Incremental Leak Repairs Above Rate Plan	HTY	FY25	FY26	FY27	FY28
1	Total Leak Backlog Target		1,350	1,200	750	600
2	Less: Leak Reduction Adjustment		-	300	0	100
3	Adjusted Leak Backlog Target		1,350	900	750	500
4	Leak Backlog - Example		1,044	1,000	548	550
5	Leaks Incremental to Backlog Target		306	(100)	202	(50)
	Recovery of Incremental Leak Repair Costs:					
6	Incremental Leaks Subject to Recovery		306	0	202	0
7	Average Per Unit Repair Cost Rate Allowance	$4,832	$5,148	$5,247	$5,342	$5,436
8	Total Incremental Cost Subject to Recovery		$1,575,188	$0	$1,079,034	$0
	Leak Repair Incentive PRA:					
9	Prior Year's Incremental Leak Carryover			6	-94	8
10	Current Year Incremental Leak Repairs		306	-100	202	-50
11	Total Incremental Leak Repairs		306	-94	108	-42
12	Earned Basis Points		6	0	2	0
13	Estimate of Basis Point PRA (Grossed Up for Taxes)		$ 476,734	$ 523,295	$ 574,124	$ 600,159
14	Estimate of Basis Point PRA		$2,860,402	$0	$1,148,247	$0

Total Leak Reduction Adjustment Criteria:

# High Emitting Type 3 Leaks Repaired	Total Leak Reduction Adj. Factors
0 - 99	0
100 -199	100
200 -299	200
>= 300	300

Line # Explanations

1 CY 2024 per targets set in Joint Proposal in Case 19-G-0309. CY 2025, CY 2026 and CY 2027, Line 3 from prior year less 150 leaks.
2 Prior year incremental leaks included in Leak Repair Incentive based on Leak Reduction Adjustment table
3 Line 1 minus Line 2
4 Example of Actual Leak Backlog at end of associated CY
5 Line 3 minus Line 4
6 Line 5
7 Incremental average per unit repair cost in historic test year inflated to rate year included in rate allowance
8 Line 6 times Line 7
9 Current CY Line 2 minus prior year Line 11
10 Line 5
11 Line 9 plus Line 10
12 Basis Point (BP) Limited to Two BP for each 100 Leaks Repaired (Maximum of 300 leaks or 6 BP per year)
13 Based on rate case proposal included Company 2023 filing.
14 Line 12 times Line 13

Assumptions for Leak Repair Cost Recovery:
1) The Leak Repair incentive is dependent on meeting the annual backlog reduction targets.
2) The Average Per Unit Proposed Repair Cost Rate Allowance is used in calculating the recovery, regardless of the actual average unit repair cost.
3) The Average Per Unit Proposed Repair Cost Rate Allowance is limited to incremental cost only (i.e. excludes base labor and transportation)

Assumptions for Leak Repair Incentive:
1) The Leak Repair incentive is dependent on meeting the annual backlog reduction targets.
2) The Company can accrue a positive revenue adjustment of two basis points for each 100 Incremental Leaks Subject to Recovery up to a maximum of 300 additional leak repairs or 6 Basis Points per year.
3) The incremental leaks above the 100 increments will be carried over to the next CY performance.

Please note, Gas Safety Metrics are measured on an annual CY basis, but are being reflected in FY on the summary of all GSRS components as follc
CY2024/FY2025; CY2025/FY2026; CY2026/FY2027; CY2027/FY2028

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge
Proactive Leak Prone Pipe (LPP) Average Unit Cost

		Capex Forecast Per GIOP-1 (100% of Capex Forecast) - rounded to 000				Allocation Basis
		FY25	**FY26**	**FY27**	**FY28**	
Mandated - KEDNY	Main Replacements - (Proactive) - Leak Prone Pipe	$ 186,685	$ 223,396	$ 251,500	$ 269,894	100% Proactive LPP
Operator	Operator Qualification Program - Learning &	$ 249	$ 254	$ 258	$ 263	All Main Work
Operator	Operator Qualification Program - Learning &	$ 113	$ 24	$ 24	$ 25	All Main Work
Operator	Operator Qualification Program - Operations - Contract	$ 12,000	$ 12,233	$ 12,459	$ 12,693	All Main Work
Operator	Operator Qualification Program - Operations - FTE's	$ 73	$ 74	$ 75	$ 77	All Main Work
Operator	Operator Qualification Program - Pipeline Safety -	$ 187	$ 191	$ 194	$ 198	All Main Work
Operator	Operator Qualification Program - Pipeline Safety - ITS	$ 200	$ 204	$ 208	$ 212	All Main Work

		Capex Forecast Per GIOP-1 (100% of Capex Forecast)			
		FY25	**FY26**	**FY27**	**FY28**
Mandated - KEDNY	Main Replacements - (Proactive) - Leak Prone Pipe	$ 186,685,177	$ 223,395,795	$ 251,500,036	$ 269,893,511
Operator Qualification Program-KEDNY	Operator Qualification Program - Learning & Development - FTE's	$ 248,677	$ 253,501	$ 258,191	$ 263,045
Operator Qualification Program-KEDNY	Operator Qualification Program - Learning & Development - Tools & Equipment	$ 112,500	$ 23,750	$ 24,189	$ 24,644
Operator Qualification Program-KEDNY	Operator Qualification Program - Operations - Contract Increases	$ 12,000,000	$ 12,232,800	$ 12,459,107	$ 12,693,338
Operator Qualification Program-KEDNY	Operator Qualification Program - Operations - FTE's	$ 72,717	$ 74,128	$ 75,499	$ 76,919
Operator Qualification Program-KEDNY	Operator Qualification Program - Pipeline Safety - FTE's	$ 187,048	$ 190,676	$ 194,204	$ 197,855
Operator Qualification Program-KEDNY	Operator Qualification Program - Pipeline Safety - ITS System	$ 200,000	$ 203,880	$ 207,652	$ 211,556

		Capital Forecast Allocated to Proactive LPP Program for GSRS Unit Cost				Proactive Feet of LPP Program				Proactive LPP Program Unit Cost per Foot			
		FY25	**FY26**	**FY27**	**FY28**	**FY25**	**FY26**	**FY27**	**FY28**	**FY25**	**FY26**	**FY27**	**FY28**
Mandated - KEDNY	Main Replacements - (Proactive) - Leak Prone Pipe	$ 186,685,177	$ 223,395,795	$ 251,500,036	$ 269,893,511	95,040	110,880	121,440	126,720	1,964.28	2,014.75	2,070.98	2,129.84
Operator Qualification Program-KEDNY	Operator Qualification Program - Learning & Development - FTE's	$ 64,740	$ 70,604	$ 77,309	$ 81,419	95,040	110,880	121,440	126,720	0.68	0.64	0.64	0.64
Operator Qualification Program-KEDNY	Operator Qualification Program - Learning & Development - Tools & Equipment	$ 29,288	$ 6,615	$ 7,243	$ 7,628	95,040	110,880	121,440	126,720	0.31	0.06	0.06	0.06
Operator Qualification Program-KEDNY	Operator Qualification Program - Operations - Contract Increases	$ 3,124,037	$ 3,407,036	$ 3,730,588	$ 3,928,895	95,040	110,880	121,440	126,720	32.87	30.73	30.72	31.00
Operator Qualification Program-KEDNY	Operator Qualification Program - Operations - FTE's	$ 18,931	$ 20,646	$ 22,607	$ 23,808	95,040	110,880	121,440	126,720	0.20	0.19	0.19	0.19
Operator Qualification Program-KEDNY	Operator Qualification Program - Pipeline Safety - FTE's	$ 48,695	$ 53,106	$ 58,150	$ 61,241	95,040	110,880	121,440	126,720	0.51	0.48	0.48	0.48
Operator Qualification Program-KEDNY	Operator Qualification Program - Pipeline Safety - ITS System	$ 52,067	$ 56,784	$ 62,176	$ 65,482	95,040	110,880	121,440	126,720	0.55	0.51	0.51	0.52
										Weighted Unit Per Foot			
		$ 190,022,935	**$ 227,010,586**	**$ 255,458,109**	**$ 274,061,984**	**95,040**	**110,880**	**121,440**	**126,720**	**1,999**	**2,047**	**2,104**	**2,163**

The Brooklyn Union Gas Company d/b/a National Grid NY
Gas Safety and Reliability Surcharge
Main Replacement Footage

KEDNY - ALL MAIN								
Program	FY25 - Proposed		FY26 - Proposed		FY27 - Proposed		FY28 - Proposed	
Customer Connections - Install Main	11,429	3.13%	11,304	2.84%	9,535	2.35%	9,423	2.30%
Main Replacement Proactive - LPP	95,040	26.03%	110,880	27.85%	121,440	29.94%	126,720	30.95%
Public Works (CSC)	230,000	63.00%	230,000	57.77%	230,000	56.71%	230,000	56.18%
Gas System Reinforcement	11,324	3.10%	22,000	5.53%	22,000	5.42%	22,000	5.37%
Gas Reliability	3,563	0.98%	10,215	2.57%	8,890	2.19%	7,550	1.84%
Reactive	3,150	0.86%	3,150	0.79%	3,150	0.78%	3,150	0.77%
Large Diameter Pipe Rehabilitation	10,560	2.89%	10,560	2.65%	10,560	2.60%	10,560	2.58%
Total Footage	365,066	100.00%	398,109	100.00%	405,575	100.00%	409,403	100.00%

The Brooklyn Union Gas Company d/b/a National Grid NY
Leak Repair Costs - Operating Expense
Calendar 2022 Actual Costs

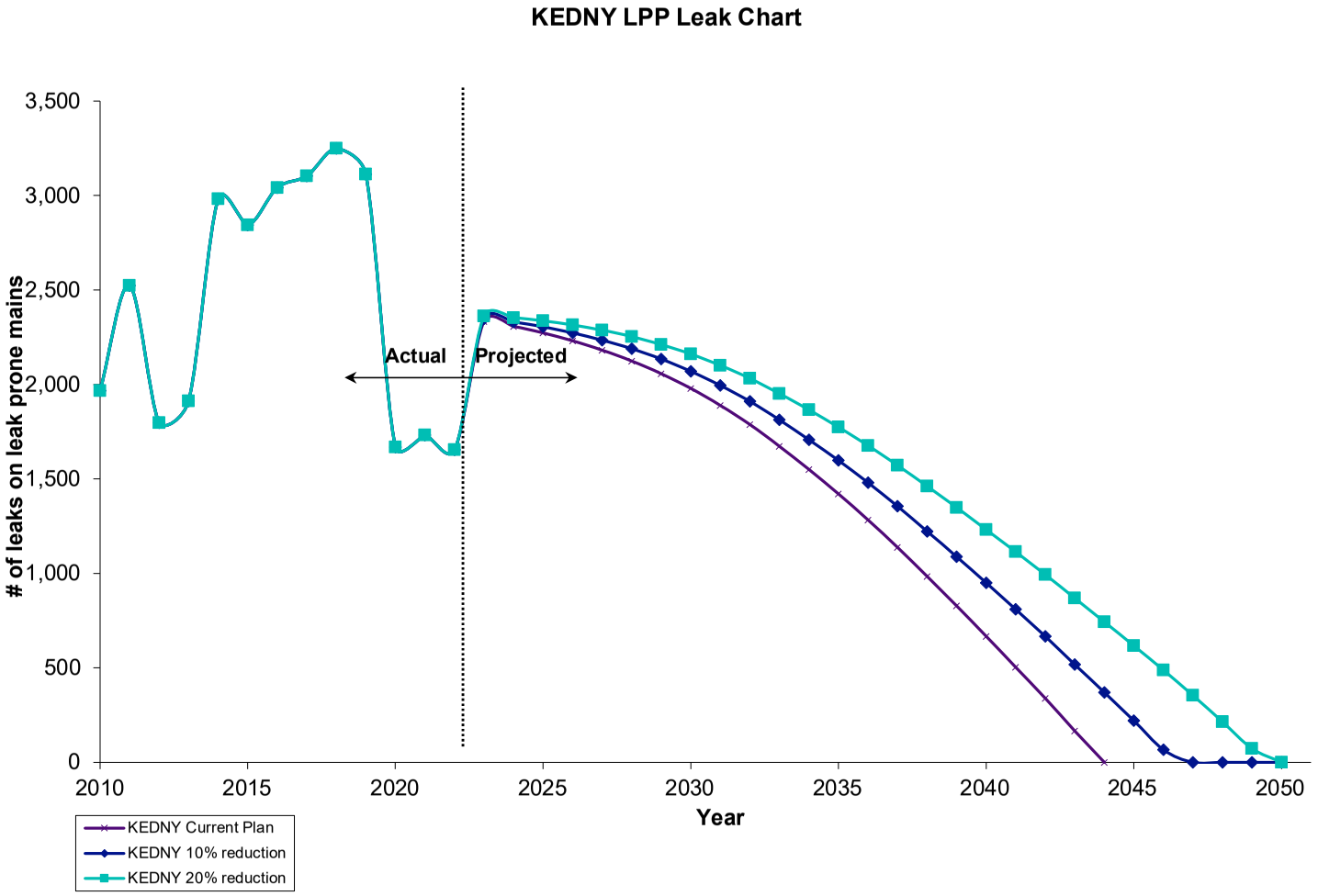
	Total Unit Cost		Incremental Unit Cost	
	KEDNY	KEDLI	KEDNY	KEDLI
Base Labor	$4,759,382	$1,356,210		
Overtime	$2,375,277	$1,019,216	$2,375,277	$1,019,216
Contractors	$1,548,329	$150,574	$1,548,329	$150,574
Paving	$6,275,971	$1,054,647	$6,275,971	$1,054,647
Transportation	$1,517,418	$887,254		
Employee Expenses	$172	$509	$172	$509
Materials	$14,265	$109,137	$14,265	$109,137
Other Expenses	($91,231)	($210,757)	($91,231)	($210,757)
Other Employee Benefit	$2,074,688	$743,301	$2,074,688	$743,301
Pension and OPEB	$567,796	$392,424	$567,796	$392,424
Total Dollars	$19,042,066	$5,502,515	$12,765,266	$3,259,051
O&M Leak Repair Units	2,642	1,202	$2,642	$1,202
Cost Per Unit	$7,207	$4,578	$4,832	$2,711

			Inflation		
HTY to RY1	7,679	4,877	6.54%	5,148	2,889
RY2	7,827	4,971	1.93%	5,247	2,944
RY3	7,968	5,061	1.81%	5,342	2,998
RY4	8,109	5,150	1.77%	5,436	3,051

Exhibit ___ (GIOP-4)

Chart Summarizing Projected Leak Rates for LPP for Various Main Replacement Strategies

KEDNY LPP Leak Projection for Future Years



National Grid

Exhibit___(GIOP-4)
Page 1 of 1

Exhibit ___ (GIOP-5)

Data Sheets for Gas and Future of Heat Capital Programs

Advance Communication Infrastructure- AMI Network

Type: ☐ **Project** ☒ **Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **ACI**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat/Rei, John	**Business Contact:** Khan, Saadat	

Work Description:

The program includes a seven-year Gas AMI Network deployment that will begin with two years to develop an organizational impact assessment and detailed business proposal, including a full IT solution plan, benefit-cost analysis (BCA), and solution design. If approved, this will be followed by an upgrade of IT back-office system integrations (see INVID 6664B NY Gas Smart Meter Solution & INVID 6664C NY Gas Remote Methane Detector (RMD) Solution), field area network (FAN) development, procurement, and FAN installation.

The proposed AMI Network deployment will enable other key investments including Advanced Residential Methane Detectors (RMDs) and smart ultrasonic gas meters. Additionally, existing IT architecture and integrations with National Grid systems made in previous investments, *i.e.*, Storm Hardening and/or the Upstate NY AMI program, will be reused and/or extended where it is effective and efficient to do so.

The Company is proposing to install approximately 500 network routers over FY27-28 and 2,100 network routers in total (through FY31) to cover 80% of KEDNY's service territory. The remaining 20% of the territory that lacks network coverage will utilize cellular technology in the end devices (including smart meters and advanced RMDs), which will not require a fixed network. The detailed program plan, including the type of communication used, will be decided in the first year after completion of the organizational impact assessment and BCA.

As described above, this is a two-phase project:

- **Phase One** will include development of a full AMI Network Solutions plan (e.g., final scope, resourcing, costs, timeline, etc.). The Company proposes to file the full AMI Network Solutions plan for DPS Staff's review and approval within one calendar year of receiving approval to recover costs for the creation of this plan through the rate filing.
- Subject to DPS Staff acceptance of the full AMI Network Solutions plan, **Phase Two** will execute the filed plan.

The time, resource, and cost estimates for the full AMI Networking Solutions implementation for KEDNY are based on these high-level assumptions. If these assumptions change, the associated time, resource, and costs to implement the AMI Network solution will be impacted. These assumptions include the following:

- For the smart gas meters and advanced RMDs deployed in KEDNY, approximately 80% will leverage the Fixed Network being proposed in this investment, and approximately 20% will use cellular network communication.

- The Company's existing implementation of Itron's OpenWay Collection Manager for Storm Hardening will be extended to support Itron Intelis smart gas meters.
- Existing integrations with the National Grid's IT systems for Storm Hardening and/or the Upstate NY AMI will be reused and/or extended to support end devices (*i.e.,* smart meters and residential methane detectors) where it is effective and efficient to do so.

Justification Summary:

Existing automated meter reading (AMR) and traditional devices cannot meet evolving gas network safety goals or support the realization of certain internal energy policy objectives. An AMI Network will provide end to end connectivity with various connected devices such as smart gas meters, gas meter modules, advanced RMDs, and other sensors and devices while offering new capabilities to our customers.

The use of AMI solution with smart meters will give National Grid the ability to receive near-immediate alerts to potentially dangerous conditions such as open fuel lines (high flow), high pressure, or fires and automatically triggering gas shutoff back to the Company which allows for expedited response to the customer's location. This will prevent the dangerous incidents like Merrimack Valley incident in 2018. Additionally, an AMI solution with enable advanced remote methane detectors (RMDs). Once implemented, the Company can leverage additional smart gas meter capabilities that work in tandem with RMDs. For example, when an RMD detects gas inside a customer's premises, the smart meter will remotely stop the flow of gas at the meter, preventing additional gas from leaking inside the customer's premises. Without an AMI network, all "connected" end devices (*i.e.,* smart meters and connected RMDs) would need to have cellular modules which increases the associated operating costs and provides deployment challenges for the Company.

The proposed AMI Network will enable the Company to replace the current legacy meter reading solutions with a modern, flexible system that provides the ability to collect meter reads over-the-air and eliminate AMR vehicle/labor costs and emissions. It will also enhance the level of service provided to National Grid customers by providing customers with more frequent and granular energy usage information and greater control over their energy usage and associated costs. The collection of more granular usage information also enables the Company to implement distributed energy resource (DER) programs, which has shown potential to lower customer energy consumption during peak load scenarios. The deployment of Gas AMI positions National Grid to achieve New York State's new energy policy goal in reducing greenhouse gas emissions.

Among other benefits, AMI will support grid modernization functions, such as demand modelling and load forecasting, that will promote the development of a more dynamic, efficient, sustainable, and reliable energy network capable of serving future generations of utility customers. The AMI Network provides the foundation to support fundamental change in the energy future of National Grid's customers and the gas distribution system.

Any effort aimed at driving a fundamental change in the energy future of New York customers will require new business capabilities supported by modern technology. Absent AMI, National Grid and its customers will not be able to implement certain changes necessary to support the State's energy and environmental goals. The implementation of AMI will improve safety and equip customers with the knowledge and tools required to better inform energy decisions and effectively manage their energy bills, driving customer cost benefits while supporting environmental initiatives.

Customer Benefits:

The following customer and Company benefits are anticipated in connection with this program:

1. **Prevention of Dangerous Incidents**
   - Near-immediate alerts to potentially dangerous conditions, such as open fuel lines (high flow), high pressure, or fires and automatically triggering gas shutoff, will be provided back to the Company allowing for expedited response to the customer's location.

- Additional over pressurization safety layer for low pressure customers without regulators to prevent incidents for example, Merrimack Valley incident.

2. **Quick Odor Response**
   - Ability to stop the flow of gas from gas control room in the event of gas leaks/RMD detection or fire.
   - Fully integrated RMD solution with AMI will allow National Grid to respond quicker to potential gas leaks before it presents safety risks to customers and the general public.

3. **Avoided Operation and Maintenance (O&M) Costs**
   - AMI implementation will allow for the potential avoidance of certain future O&M costs, including:
     - AMR meter reading vehicles and labor;
     - Certain meter investigations / outages; and
     - Costs associated with "soft-off" of customer gas service.

4. **Customer Benefits**
   AMI customer portal will give customers visibility into their individualized meter data. With AMI, National Grid can also offer specific energy insights based on such data. Customers would also have the freedom to change energy consumption behaviors to realize greater savings and reduced emissions. Furthermore, autonomous outage notifications will reduce the customer outage time from occurrence of the initial outage to resolution.

5. **Greenhouse Gas Emissions Reduction**
   AMI deployment will reduce the greenhouse gas emissions by reducing vehicle trips to read meters. It will also allow for reduced load during peak times by enabling DER programs, which have been shown to potentially to lower customer energy consumption during peak load scenarios. AMI will also provide the functionality to reduce emissions by providing remote shutoff capability.

6. **Revenue Protection Benefits**
   The increased frequency of data at shorter time intervals enables National Grid to prevent meter abuse, such as theft of service and inactive meter consumption, through earlier identification of anomalies. The costs associated with theft of service and unaccounted-for-gas results are included in customer rates.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ -	$ 1,991	$ 3,484
OPEX	**$ 1,000**	$ 1,000	$ 434	$ 670
TOTAL	**$1,000**	**$1,000**	**2,425**	**4,154**

Supplemental Information

Alternatives

Alternative 1: Use 100% Cellular-enabled end devices. Installing all cellular devices that do not require a fixed network. This may require significant O&M investments in cellular data charges and will limit device capabilities and operating life.

Alternative 2: Do Nothing. This option would not provide end-to-end connectivity for connected devices such as smart meters and RMDs. Additionally, National Grid's service territory primarily uses automated meter reading ("AMR") technology for its meters. AMR meters are equipped with a one-way radio frequency ("RF") communication device called an encoder receiver transmitter ("ERT"). A fleet of Company service vans is required to drive the entire service territory monthly to collect customer usage information. With this method of meter reading, National Grid primarily collects total energy consumption on a monthly basis, as compared to the granular data supported by AMI. Additionally, in AMR mode, National Grid is unable to receive the safety notifications in real time to respond more quickly and in timely manner.

Alternative 3: Non-Pipes Alternative ("NPA")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☐ **Yes** ☒ **No**

Please briefly explain the results: Installation of an AMI network is not a typical gas infrastructure investment that can be avoided with an NPA solution.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Some of the projects in this program may be in DAC regions. Project routing is determined based on distribution system need, constructability of below ground infrastructure, and cost. The impact on the surrounding area will be consistent with standard below ground utility infrastructure work, which is temporary in nature. The Company will minimize the construction impact on the community, where possible.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. AMI deployment will reduce the greenhouse gas emissions by reducing vehicle trips to read meters. It will also allow for reduced load during peak times by enabling DER

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

programs, which have been shown to potentially lower customer energy consumption during peak load scenarios. AMI will also provide the functionality to reduce emissions by providing remote shutoff capability. AMI also offers customers specific energy insights based on their usage data, which will allow customers to change their energy consumption behaviors and reduce emissions. Because of the nascent stage of this program and customer-sided variables, the total emissions reduction associated with this project cannot be calculated at this time.

Studies/References That Support the Program:

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☒ Addresses storm/climate change resiliency **Other Customer Benefits:** ☒ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☒ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☒ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☒ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ Societal Benefits/Externalities: ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Advanced Communication Infrastructure – Smart Meter Replacement

Type: ☐ **Project** ☒ **Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **ACI**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat/Rei John	**Business Contact:** Muhammad Tambra	

Work Description:

This program includes the FY25-FY28 funding for the procurement, testing, processing, IT back-office system integrations, and proactive replacement of traditional diaphragm meters with smart gas meters in the low-pressure areas of KEDNY's service territory.

There are approximately 1M gas meters in KEDNY's low pressure territory, of which this program plans to proactively target and replace 800k diaphragm meters using smart ultrasonic gas meters. The remaining traditional gas diaphragm meters will be replaced in other KEDNY investments, such as Meter Purchase Replacements, Storm Hardening, and leak prone pipe replacement (low pressure to high pressure main replacement).

The proposed deployment will begin in FY27, pending approval of IT back-office system integrations which is planned to start in FY27 complete by FY28 (see INVID 6664B NY Gas Smart Meter Solution). The estimated number of smart meter replacements in FY27 will cover 1% of the total targeted population, or 7,965 smart meters.

The estimated number of smart meter replacements for FY25-FY28 are:

	FY25	FY26	FY27	FY28
Total			7,965	15,930

Justification Summary:

Existing residential gas meters in KEDNY cannot meet evolving gas network safety goals to prevent safety incidents like Merrimack Valley or support the realization of National Grid's energy goals by 2050.

The use of smart ultrasonic gas meters provides an additional layer of protection and enhances safety for National Grid customers by detecting potentially dangerous conditions such as open fuel lines (high flow), high pressure, or fires and automatically triggering gas shutoff. When used together with an AMI-type Network Solution, it will provide near-immediate alerts back to the Company which allows for expedited response to the customer's location.

Additionally, once the advanced remote methane detector (RMD) program investment (see INVID 6664C NY Gas Remote Methane Detector (RMD) Solution) has been implemented, the Company will leverage additional smart gas meter capabilities that work in tandem with RMDs. For example, when an RMD detects gas inside a customer's premises, the smart meter can remotely stop the flow of gas at the meter, preventing additional gas from leaking inside the customer's premises.

Smart Gas Meters also enhance the level of service provided to National Grid customers by providing more accurate and timely measurement of gas consumption over time. When used with an AMI-type network solution, smart gas meters additionally provide customers with more frequent and granular energy usage information.

OPEX amount consists of cellular data costs for smart meters using cellular functionality which is estimated to be 20% of the total targeted population. This aligns with the AMI Network proposed investment assumption that 20% of all connected devices will utilize cellular technology.

Customer Benefits:

Smart meter will enhance safety and service quality for customers and improve distribution systems reliability and efficiency. Specifically, these meters will:

- Improve metering and billing accuracy
- Prevent dangerous high flow/pressure gas incidents
- Result in fewer unplanned service interruptions
- Built in excess flow, high temp and high-pressure cut-offs will prevent potentially dangerous incidents
- Provide additional over pressurization safety layer for low pressure customers without regulators
- Measure gas using the ultrasonic measuring technology – no moving parts
- Provide the ability to stop the flow of gas quicker from safe distance in the event of fire or gas leaks/emergencies
- Provide the ability to stop gas immediately from the office in the event of an odor call
- When used with AMI, eliminate the AMR vehicle meter reader cost and emissions
- Built-in module replaces the traditional meter/ERT setup
- Theft and tamper detection to protect revenue
- Light weight and compact – fits easily in tight spaces and prevent employee injury

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX			$ 6,130	$9,828
OPEX			$9	$26
TOTAL			**$ 6,139**	**$9,854**

Supplemental Information

Alternatives

Alternative 1: Do Nothing. Keep buying traditional diaphragm meters. This option is not viable as the Company knows at some point in near future traditional meters will no longer be available and having no meters or not ready to accept the smart meters would not comply regulatory requirements, adversely impact customer satisfaction, and result in our inability to support customer connections.

Alternate 2: Install Smart Gas Meters as part of current meter change programs over time. This will not protect low pressure customers from incidents in a timely manner.

Alternate 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: Installation of smart meters is not a typical gas infrastructure investment that can be avoided with an NPA solution.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Some of the projects in this program may be in DAC regions. Project routing is determined based on distribution system need, constructability of below ground infrastructure, and cost. The impact on the surrounding area will be consistent with standard utility infrastructure work, which is temporary in nature. The Company will minimize the construction impact on the community, where possible.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. AMI and smart meter deployment will reduce the greenhouse gas emissions by reducing vehicle trips to read meters. It will also allow for reduced load during peak times by enabling DER programs, which have been shown to potentially lower customer energy consumption during peak load scenarios. AMI also offers customers specific energy insights based on their usage data, which will allow customers to change their energy consumption behaviors and reduce emissions. AMI would also provide the Company with the ability to remotely shut off the supply of gas in the event of a leak. Because of the nascent stage of this program and customer-sided variables, the total emissions reduction associated with this project cannot be calculated.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☒ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☒ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Advanced Communication Infrastructure - Residential Methane Detector Program

Type: ☐ **Project** ☒ **Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐**Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **ACI**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Emma, Nicole	

Work Description:

Residential Methane Detectors (RMDs) are natural gas detectors installed inside customer premises as close to the gas service point of entry (POE) into the building to detect the presence of gas. Upon detecting a specified threshold of methane, the Company will receive an alert from a customer RMD, allowing National Grid to send personnel to the customer's location to investigate the alert. These detectors will utilize the latest technologies tested by the Company's Gas Materials Lab and approved through UL standards.

This program will include the implementation of several different types of RMDs in KEDNY's (The Company's) operating territory: Connected Wi-Fi, Cellular or Fixed network; and Static (non-connected). Each type of RMD will be installed differently based on reliability and availability of the product. Furthermore, this program is dependent on an IT standalone RMD solution (see INVID 6664F Standalone RMD Solution), which will allow for connectivity and monitoring of the RMDs without integration into the Company's internal systems until a full solution is developed.

The Company's Fixed Network Solution and IT integration of gas smart meters (see INVID 6664B KEDNY/NY Gas Smart Meter Solution) will allow the Company to leverage connected RMD capabilities that work in tandem with smart meters. Within the AMI solution, connected RMDs will be able to communicate with the customer's smart meter to automatically stop the flow of gas at the meter. Installing these detectors in customer homes will help prevent additional gas from leaking inside the customer's premises and providing a near-immediate Company response to a potential gas leak.

Full end-to-end communication for the connected RMDs will be enabled by the Fixed Network Investment in KEDNY and the IT investment mentioned previously. Following is a proposed RMD installation schedule by category.

	FY25	FY26	FY27	FY28
Static RMDs	1,000	2,000	3,000	3,000
Wi-Fi RMDs	2,000	3,000	4,000	4,000
Advanced RMDs	13,000	26,000	38,000	51,000

Static and Wi-Fi RMDs unit and installation cost will be OPEX (operating, day-to-day expenses) due to the lower unit cost of the RMD. The cost and installation of Fixed Network or cellular RMDs will be CAPEX (capital, long-term expenses) due to the higher cost of the RMD. The cost of cellular connection and the annual fee will be OPEX. For the cellular and Wi-Fi RMDs, the cost to develop and maintain a stand-alone platform associated with monitoring these devices created by an outside vendor is included in the estimate.

Justification Summary:

The main driver for the RMD program is increased safety of our customers. This program will give the Company access to a real-time feedback loop of potential gas presence in the area of installation, allowing for a more immediate response in the event of a gas leak without customer calling the company. Leveraging the telecommunication solution implemented as part of the Fixed Network project will provide the RMD pilot with the necessary data paths and connections from the customer, through the head end systems, all the way to National Grid. RMD's will be a contribution to the future ecosystem of communicating gas devices to increase the safety and reliability to the company's gas customers.

Additionally, by adding the installation of connected RMDs as part of our annual Business District (BD) Survey – Service Line Inspections, the frequency of the BD Survey can be requested to be reduced from annually to once every 5 years and active corrosion inspections will be reduced from once every 3 years to every 5 years. This additional layer of protection of continuous monitoring of methane presence within customer premises that RMDs provide would directly reduce the Company's OPEX spend associated with BD surveys and active corrosion inspections if approved by the commission as seen in the following table:

Business District Survey 1-year to 5-year Savings:

FY25	FY26	FY27	FY28
$ 0	**$ 300,000**	**$ 600,000**	**$ 995,000**

Customer Benefits:

Implementing a fully integrated, RMD solution will allow National Grid to improve the safety of gas customers by receiving alerts to potential gas leaks in near-real time. The Company will have the ability to provide faster response to potential gas leaks in customer premises than current gas network infrastructure allows. This layer of protection will decrease the potential for natural gas leaks to become dangerous enough to risk the lives of customers. The RMDs trigger based on methane presence in air not based on odorant in gas, in few national gas incidents odorant was stripped due to varying soil conditions.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	**$ 3,305**	**$ 6,742**	**$ 10,315**	**$ 14,028**
OPEX	**$ 759**	**$ 1,486**	**$ 2,088**	**$ 2,390**
TOTAL	**$ 4,064**	**$ 8,228**	**$ 12,403**	**$ 16,418**

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This option does not increase safety or reliability to the customers.

Alternative 2: Deploy non-connected residential methane detectors only. This option does not provide real-time feedback of potential gas-leaks. This method would require customer's to manually call the company and therefore increases the chance of the natural gas leak in becoming hazardous.

Alternative 3: Non-Pipes Alternative ("NPA")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** RMD installations will be made across the service territory and prioritized, where possible, in DACs to improve public safety.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. Being aware of methane leaks in real-time will allow the Company to expedite our response to leaks and shut off gas more quickly. This will ultimately reduce the amount of methane emissions resulting from potential leaks.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☒ Reflects efficiency savings (see above)
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☒ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Atmospheric Corrosion Inside Inspection Remediation

Type: ☐ **Project** ☒**Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000287	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Fong, Carmen	

Work Description:
To plan and execute a proactive service inspection program for all gas services within the KEDNY service territory. The program will include remediation, replacement, and retirement of substandard service lines in accordance with established safety standards. FY22 work plan includes 480 jobs, but is subject to change depending on the outcome of the inspections.

Justification Summary:
Successful execution of the program will improve the safety of gas service piping exposed to atmospheric corrosion. Allocating dedicated funding provides for a prompt managed replacement program. This program will enhance public safety and gas system reliability for years. Inside gas service leaks require a prompt emergency response. It should be recognized that we have been successful in managing leaks and leak backlog. However, inside atmospheric corrosion, leaks represent a low probability, high consequence risk.

Additional benefits highlighted include:

- Reduced risk associated with exposed service piping
- Enhanced customer satisfaction while achieving synergy savings through integration with other programs (e.g. leak survey etc.)
- Improved public, community, and government relations due to decreased odor calls
- Improved system performance
- Contribution towards the Company's greenhouse gas reduction goals

Customer Benefits:
For inside meter sets, the wall penetration of the gas service pipe is the weakest point which is prone to corrosion and cannot be visually inspected. The service line requires the replacement of the inside and outside below-grade piping. This program will help improve customer safety.

Funding Detail

Cost Breakdown:

	$000	FY25	FY26	FY27	FY28
CAPEX	**Atmospheric Corrosion Inside Inspections-KEDNY**	$ 1,941	$ 1,980	$ 2,020	$ 2,060

OPEX					
TOTAL		$ 1,941	$ 1,980	$ 2,020	$ 2,060

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This alternative is not feasible as this program is mandated. (Not Recommended)

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

If yes, please briefly explain the results: NPAs are not suitable for this program as it is reactive to address repairs for on-system assets currently serving customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Not a specific project or installation and applies across the service territory. Remediating or replacing substandard service lines improves asset condition and reduces potential leaks.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact**. Direct - Quantifiable. This program will contribute to GHG emission reductions by proactively targeting and replacing substandard service lines before a leak occurs. Based on 480 jobs annually and an average service length in KEDNY of 45 ft., the program would replace 21,600' or 4.1 miles of services. Using unprotected steel as the replaced material produces approximately 927 MT CO_2e reduction annually.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Automatic Meter Reading (AMR) - Replacement (ERT Purchases)

Type: ☐**Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000547	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Muhammad Tambra	

Work Description:

This program includes the purchase and installation of Automatic Meter Reading (AMR) equipment to support KEDNY's mandated Meter Test/Replacement Program, customer connections, and continued Customer Meter Service (CMS) operations for failed units in the field. The estimated units required for FY25 - FY28 are:

	FY25	FY26	FY27	FY28
Total	39,036	33,556	30,283	26,324

Each year, a quantity of AMR units is replaced in the field by CMS technicians due to failure. This program covers the labor associated with the installation of AMR units by CMS technicians for failed units, and the purchase of AMR units to support meter replacement and customer connection programs. The higher unit counts in FY25 & FY26 will address the backlog of failed units. The unit counts in FY27 & FY28 taper down due to the failure rate decrease and purchase of ultrasonic smart meters starting from FY27 (see smart meter program).

Justification Summary:

Continuation of the AMR program will increase meter reading accuracy, reduce the number of estimated bills, and reduce the cost of meter reading.

Customer Benefits:

- Provides actual meter readings for billing
- Reduces estimated bills
- Elimination of premise access every cycle in order to obtain an actual read

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 4,470	$ 4,373	$ 4,128	$ 4,147
OPEX				
TOTAL	$ 4,470	$ 4,373	$ 4,128	$ 4,147

Supplemental Information

Alternatives

Alternative 1: Revise Project Scope and Size – Partial Deferral. This option is not viable as it would result in potential compliance issues with regulatory requirements, adversely impact customer satisfaction and in inefficiencies by increasing the number of estimated customer bills, and increasing meter reading costs by requiring manual meter reading.

Alternative 2: Do Nothing. This option is rejected as it will result in increased labor costs by increasing the number of manual customer reads. estimated customer bills and increasing meter reading costs by requiring manual meter reading.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Some of the projects in this program may be in DAC regions. Project routing is determined based on distribution system need, constructability of below ground infrastructure, and cost. The impact on the surrounding area will be consistent with standard utility infrastructure work, which is temporary in nature. The Company will minimize the construction impact on the community, where possible.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

4. **Please explain the project's GHG impact.** Indirect Impact. AMR allows the Company to remote read meters and reduces greenhouse gas emissions by reducing vehicle trips to read meters.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☒ Reflects efficiency savings of $___
☒ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Brooklyn Backbone (BBB) 3rd Ave 24in "Part R" Cut Outs

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101562	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/23**	**Estimated In-Service Date: 3/28**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
Cut out & replace approx. 120 ft of existing 24" piping at the I/O 3rd Ave and 7th St along the Brooklyn Backbone. The replacement piping will include approx. 120 ft of new 24" piping and (2) 24" Iso Joints. This cut out is being performed to remediate missing records issues in accordance with DOT Part R schedule requirements.

Justification Summary:
The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:
Replacement of pipe with inadequate records will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company can comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 7,800	$ 7,100	$ 1,000	$ -
OPEX				
TOTAL	$ 7,800	$ 7,100	$ 1,000	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☐ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☒ Other: Company meets regulatory requirements

Capitalize the Joint Repair of Large Diameter Cast Iron Pipes

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Saadat Khan	**Business Contact:** Carmen Fong	

Work Description:

KEDNY delivers gas to customers through 4,190 miles of distribution mains. The distribution infrastructure has been constructed over time using construction methods and materials available at the time – including Cast Iron (CI). CI pipe material has relative strengths and weaknesses. For example, CI pipes are highly resistant to corrosion in benign environments, but tend to break due to ground movements, especially small-diameter CI pipes. In addition, CI bell and spigot joints tend to leak when the jute drays up, but CI pipe equal to and greater than 16" have a lower rate of Joint Leaks and breaks due to greater wall thickness.

Most of the CI mains were constructed with bell and spigot joints, and leaks have developed at those connections over time due to the drying up of jute. The joint leaks are the only major issue with the 16" and larger CI pipeline serviceability.

Currently, KEDNY uses a robotic internal sealing method called CISBOT (CI Sealing Robot) for CI mains 16 inches to 42 inches. Unlike other methods of joint repair, CISBOT allows for sealing more joints on the large-diameter CI pipe. This paper provides a summary and explanation for managing the 16" and larger CI pipeline joint leak repairs to change from OPEX to CapEx since the repair of the joints extends the life of CI pipes.

Justification Summary:

In 2009, PHMSA promulgated pipeline safety regulations for managing the integrity of gas distribution pipelines. National Grid implemented Distribution Integrity Management Program (DIMP) plans to identify threats, evaluate risk, measure performance, monitor results, and take action to reduce risk. The ten years repair analysis shows (Figure 1) less percentage of Broken Main and Joint Seals on large diameter distribution piping on the KEDNY system from 2012 to 2021. The impact of cold weather on the less than 16” system is higher, and the current LPP replacement program addresses less than 16” mains.

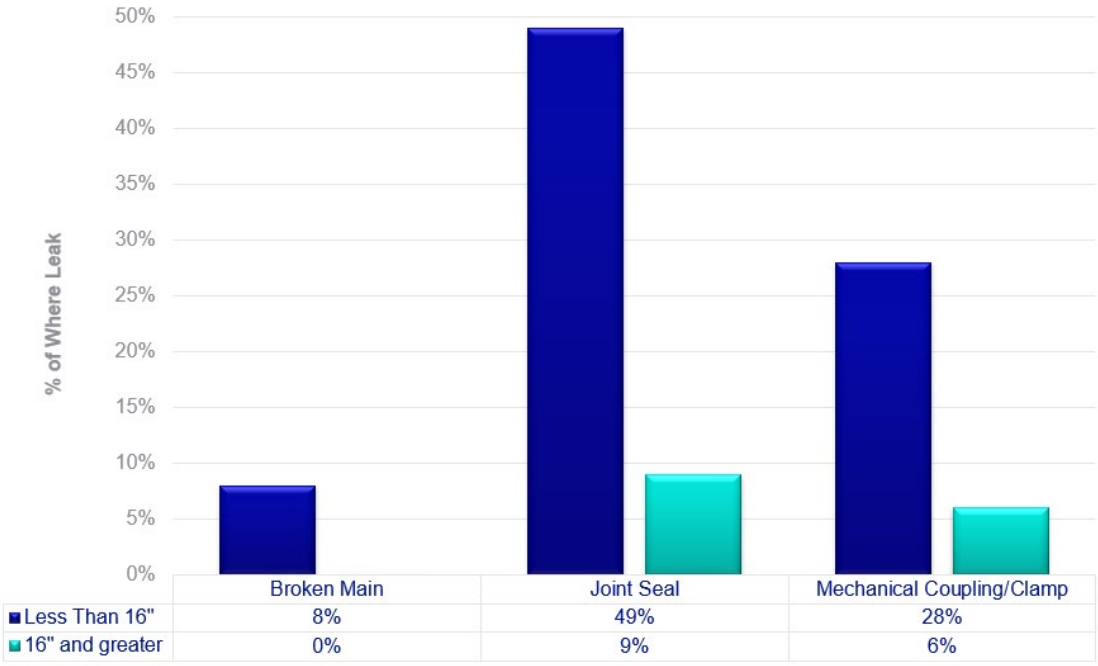


Figure 1: Leaking percentage on Cast Iron Pipe
Note: Above performance percentage are estimated of last 10 years data analysis

Currently, CISBOT and repair of 48" and larger pipe joint repairs are capitalized. As demonstrated above, based on the last ten years of data, the primary issue with larger diameter CI (16" and larger pipes) is joint leaks repair of those joints extend the asset life and long-term integrity. Full replacement of these pipes is costly due to the size and depth. In addition, full replacements are not feasible due to the urban location of much of the large diameter CI main inventory and larger excavation requirements. KEDNY has more than 105 miles of large diameter CI mains. Therefore, repairing the joint seal is the most cost-effective way on the existing mains, minimizing public disruptions and reducing costs to our customers. Because the large diameter CI pipes have only joint leak issues and repairing those extend the life of the asset, it should be treated as CapEx. Several utilities already capitalize CI joint repairs. Rhode Island capitalizes all joint repairs, and Massachusetts capitalizes three consecutive joint repairs of all sizes. Capitalization will reduce the cost to our customers.

Customer Benefits:
Reduced customer cost impact of large diameter joint repairs and extend the life of the asset.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	**$ $3,513**	**$ $3,581**	**$ $3,647**	**$ $3,716**
OPEX				
TOTAL	**$ $3,513**	**$ $3,581**	**$ $3,647**	**$ $3,716**

Supplemental Information

Alternatives

Alternative 1: Do Nothing. Leaving the cost of large diameter joint repairs as OPEX would not reduce the cost to customers.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: CI joint repairs are reactive in nature and do not replace or install new pipe, but rather preserve the integrity of existing pipe that presently serve customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** DACs may be impacted as the locations are not selected prior to repair. The repairs are reactive based on the leaks discovered.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This is an accounting change which considered a betterment of a large CI pipe and will extend the useful life beyond the original expected life of the pipes. The accounting change has no contribution on GHG emission.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☒ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☐ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ Societal Benefits/Externalities: ☐ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

CISBOT

Type: ☐ **Project** ☒**Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000293	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Fong, Carmen	

Work Description:

KEDNY utilizes several different types of main: cast iron, steel, and, more recently, plastic. Cast iron mains were constructed with bell and spigot joints, and over time, leaks have begun to develop at these connections, whereas steel mains typically develop leaks due to corrosion.

While there are cost-effective methods of repairing and reducing the leaks on small diameter mains, leak repairs on large diameter pipes 12 inch and larger typically cost more due to the location and the depth of the excavations required to access the pipe joints. KEDNY proposes continuing a program that leverages new technology to cost-effectively address large-diameter cast iron joint leaks.

The program uses a robotic internal sealing method known as CISBOT (Cast Iron Sealing Robot) for cast iron mains 16 to 42 inches. Unlike other methods of joint repair, CISBOT allows KEDNY to seal more than 80 joints from one excavation without shutting down the main. KEDNY is proposing to use CISBOT to address approximately two and half miles of large-diameter cast iron per year beginning in FY2025.

Justification Summary:

The current leak repair rate of large-diameter cast iron distribution piping on the KEDNY system is 2.7 leaks per mile (excluding damages), increasing from 1.6 leaks per mile in 2010. Leaks have increased significantly due to exceptionally cold weather in the northeast US in 2014 and early 2015. The impact of cold weather on the system, and resultant leak rates, suggests that an accelerated response to large-diameter pipe is warranted. However, the current LPP replacement program only addresses mains up to 12 inches.

This response to leak prone large diameter pipe is also supported by the Company's recently developed Distribution Integrity Management Plan (DIMP), which specifies that the Company should: (i) know its distribution piping system, (ii) understand the threats to the system, and (iii) evaluate the risks and prepare replacement programs for its leak prone mains and services inventory to help mitigate those risks.

KEDNY has more than 107 miles of large-diameter cast iron. Most of the leaks on these mains are due to joint failures that CISBOT can address. CISBOT is the most cost-effective way to proactively seal the existing Cast Iron mains, reduce costs and minimize disruptions to the public.

Following are the key benefits of CISBOT:

- More cost-effective than replacing the large diameter pipe
- Improved public safety by reducing the risk for gas related incidents

- Improved system reliability and customer satisfaction
- Compliance with federal and state code requirements including new US Department of Transportation (USDOT) Distribution Integrity Management Program requirements (DIMP)
- Increased efficiency resulting from reduced commodity loss
- Ability to focus more resources on retiring small diameter main segments with higher risk profiles
- Reduction in Methane emission

Customer Benefits:

Minimal customer impact is expected during the construction of these projects. Customers can benefit from the program in the following ways:

- Improved public safety due to reduced risk of gas incidents;
- Fewer unplanned service interruptions; and
- Fewer unplanned disruptions to traffic and roadways.

Funding Detail

Cost Breakdown:

	$000	FY25	FY26	FY27	FY28
CAPEX	**CISBOT**	$ 6,849	$ 7,056	$ 7,267	$ 7,487
OPEX					
TOTAL		$ 6,849	$ 7,056	$ 7,267	$ 7,487

Supplemental Information

Alternatives

Alternative 1: Minimal reconditioning of pipe and cast-iron joint sealing. This option would treat only the quantity of main required enabling the company to hold leak rates to present levels. This option will have negative financial consequences as it would require the more traditional OPEX repair methods to be used on the large diameter mains which are typically very expensive.

Alternative 2: Do Nothing. No proactive repair method would result in increased leak activity and increased risk to public safety. This will also result in a negative financial incentive and loss of credibility with regulators and put the Company in violation of its federally regulated DIMP

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**

☒ **Yes** ☐ **No**

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?**
   The CISBOT program projects are determined by addressing existing leaks on the system to leaks, which could be within DACs. It will provide increased reliability for the surrounding area of each project.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Quantifiable. This program remediates leak-prone pipe in the distribution system. The number of leaks and GHG emissions are reduced by reducing the amount of leak-prone pipe in the system. The program is expected to reduce approximately 926 metric tons CO_2e emissions per year.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☒ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

CNG - CNG Fill – Proactive

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000511	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis	**Business Contact:** Smith, Daniel	

Work Description:

KEDNY's Compressed Natural Gas ("CNG") Fill Blanket Program provides for the safe, reliable, and compliant operation of the Canarsie and Greenpoint CNG Vehicle Fuelling Facility through procurement, installation, modification and/or enhancements to equipment, systems, and facilities.

An effective CNG capital program the CNG vehicle fuelling facilities allows for replacement of obsolete and/or deteriorating equipment, and systems that are reaching the end of their useful lives, along with modifications to enhance the safe, reliable, and efficient operation. This program will extend the service life of existing station equipment along with institute process safety improvements for safer operations. Capital investments in the program consist of projects identified and planned for the fiscal year as well as projects to address emerging issues during the year.

The capital work to be sanctioned under this program includes, but is not limited to, the following:

- Upgrades and improvements to mechanical equipment and systems
- Upgrades to and replacement of electrical and control systems including safety shutdown systems
- Upgrade process safety requirements
- Address emergency issues
- Structural improvements of plant and facilities
- Procurement of capital tools and equipment

The CNG Fill Blanket provides for the replacement/modification of obsolete and/or deteriorating equipment and systems to ensure reliable and safe operation of the CNG vehicle fuelling facilities. Capital investments in the program consist of projects identified in advance of the fiscal year as well as projects to address emerging issues during the year.

Justification Summary:

The CNG Blanket Program provides funding for near-term and emergent capital projects needed to maintain safety and reliability at the Canarsie and Greenpoint CNG vehicle fuelling facilities by:

(i) replacing obsolete and/or deteriorating equipment, systems, and facilities that are near the end of their useful lives; and

(ii) modifying/enhancing equipment needed to operate facilities safely and reliably.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of CNG fuel for company vehicles and customer fleets vehicles. The company CNG fleet requires reliable CNG stations to maintain operational readiness and contribute to environmental objectives.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX CNG - CNG Fill - Proactive	$ 400	$ 408	$ 200	$ -
OPEX				
TOTAL	$ 400	$ 408	$ 200	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing
If the CNG Fill Blanket Program investments are not made, there is a risk that the Canarsie and Greenpoint CNG vehicle fill stations will become unavailable to provide alternative fuel to National Grid fleet personnel and third-party customers.

Any potential short-term savings of doing nothing are quickly outweighed by increased maintenance, operating and replacement costs. A "Do Nothing" alternative does not address potential reliability and safety risks associated with not replacing obsolete and/or deteriorating equipment, systems and facilities that are reaching the end of their useful life or modifying/enhancing equipment needed to operate facilities safely and reliably. These risks include:

- Deterioration of CNG facilities/assets
  - severe reduction in useful service life
  - leaks – safety hazards and increased greenhouse gas emissions
  - unplanned maintenance and repairs
- Potential loss or danger to customers and public

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☒ Yes ☐ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ Yes ☒ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as provides alternative fuel for numerous fleet vehicles. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Corrosion

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000294	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Ruppert, Dennis	**Business Contact:** Guinaw, James P.	

Work Description:

This program funds required annual corrosion work on the Company's gas system. Corrosion can lead to failures in plant infrastructure and equipment which are usually costly to repair. Decisions regarding the future integrity of a structure or its components depend entirely upon an accurate assessment of the conditions affecting its corrosion and rate of deterioration. The Corrosion department performs field testing, monitoring, upgrades and repairs to existing corrosion control systems in accordance with Federal and State code requirements, specifically, Federal CFR Title 49 Transportation, Subpart I Pipeline Safety Part 192 and 16 NYCRR Part 255 Transmission and Distribution of Gas, and with industry standards. This includes: periodic testing, inspection, monitoring and diagnostic troubleshooting of existing corrosion control system. The Corrosion department provides engineering standards as well as the design and development of new cathodic protection system and upgrades to existing cathodic protection systems.

Corrosion mitigation for buried piping requires two items:

1. Protective Coating / Barrier – can be installed and tested at the mill or in the field and provides a protective barrier from the elements and the naturally occurring corrosion process.
2. Installation of Cathodic Protection System and acceptance testing of buried piping which is typically performed during the installation of the piping or shortly thereafter.

In addition, there are two types of Cathodic Protection Systems

1. Galvanic Anode System - provide direct current (DC) for cathodic protection through the use of sacrificial anodes (typically 17 lbs. of magnesium) that corrode and are consumed to mitigate corrosion of the pipe.
2. Impressed Current Systems (Rectifiers) - provide cathodic protection through the use of an external power supply, converting AC to DC, while utilizing specialized anodes that support the higher current demands for larger piping systems.

All cathodic protection systems require the following:

- Proper protective coatings
- Isolation from other metallic structures
- Test boxes with anodes & lead wires
- Periodic inspection and testing
- Periodic upgrades (remediation measures) to provide for extended life of the asset

Justification Summary:

The work identified above is part of applicable corrosion control programs and mandated by the CFR and Commission regulations.

The work can be either routine expense work or capital depending on the activity being performed. Typically testing and monitoring are normal operating expenses to maintain the asset. Capital work consists of recoating of mains on bridges, installation of test stations with anodes, and installation of insulator joints on mains and services which substantially extends the life of the asset.

Customer Benefits:

Minimal customer impact is expected during the performance of these corrosion control programs and construction of these projects. Customers can benefit from the program in the following ways:

- Improved public safety due to reduced risk of gas incidents;
- Fewer unplanned service interruptions; and
- Fewer unplanned disruptions to traffic on roads

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 511	$ 521	$ 532	$ 543
OPEX				
TOTAL	$ 511	$ 521	$ 532	$ 543

Supplemental Information

Alternatives

Alternative 1: Discontinue the corrosion program. This is not an option as it conflicts with both state & federal pipeline safety codes as previously noted.

Alternative 2: Non-Pipes Alternative – N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is dependent on existing asset location and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. Cathodic protection increases the pipe's useful life, reducing future emissions associated with leaks.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

CSC/Public Works Program

Type: ☐ **Project** ☒**Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code: 5220000414, 5220000283	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Striffler, Michael G.	**Business Contact:** Yudt, Matthew	

Work Description:

The City/State Construction Program for KEDNY (CSC) consists of work driven predominantly by the NYC Department of Design and Construction (NYCDDC) and NYC Department of Transportation (NYCDOT), as well as various private entities in the Boroughs of Queens, Brooklyn and Staten Island. The CSC program is directed at replacing infrastructure that will be compromised by third party construction activities.

Major categories of work include:

- Planned Municipal Projects
- When & Where Water Projects
- Emergency Sewer Projects
- Complex Curb Projects/Ped ramps
- Encroachments
- Green Infrastructure
- Support & Protection of Facilities

Justification Summary:

National Grid facilities are often in direct conflict with proposed municipal infrastructure or are required to be relocated based on regulatory and code requirements.

The CSC program is subdivided into three components: Reimbursable, Non-Reimbursable and Reimbursements. Projects are categorized into these buckets based on the project funding source. Capital projects initiated by the NYCDDC on behalf of the NYC Department of Environmental Protection (NYCDEP) are reimbursable and subject to the requirements of the NYC Gas Facility Cost Allocation Act (Gas Cost Sharing agreement). As per the NYC Gas Facility Cost Allocation Act (Gas Cost Sharing agreement) relocation costs incurred by National Grid on this project are eligible for reimbursement by the City of New York (CoNY), on an age of main basis (depreciated book value). Conversely, projects funded by the NYSDOT, NYCDOT and private entities are not eligible for reimbursement. The City of New York has expressed its intention not to continue the current Cost Sharing Agreement (CSA) for reimbursements following its expiration on 30 June 2025. Require modification of CSC Capital Tracker and Deferral mechanism from a 90/10 sharing to a fully reconcilable (100%) tracker.

CSC deferral filings have been required and filed for each of the rate years under the existing JP 19-G-0309 & JP 19-G-0310 and are expected to continue throughout the proposed rate case. Under the existing CSC reconciliation mechanism, the Companies will defer for future recovery from or return to rate payers' 90 percent of the difference between the Companies' actual capital spending for CSC, net of reimbursements from municipalities, and the forecasted CSC budgets for each Rate Year.

The Encroachment category ensures the protection and/or replacement of cast iron piping eight inches in diameter or less, which may become exposed and undermined or otherwise be subjected to undue stresses because of its proximity to third-party excavations. Third Party Construction is defined as work performed by sewer, water, electric utility or any agency other than National Grid or its contractors.

The Support and Protection work supports utility facilities during the performance of City of New York sponsored contracts. Examples include the support and protection of utility facilities during trench crossings, installation and removal of catch basins and catch basin chute connection pipes, special care for excavation and backfilling, etc.

As part of New York City's implementation of NYS Assembly Bill A10021B - Joint Bidding on contracts for Public Works projects, National Grid will be responsible for a portion of the "Shared Costs" of work performed by the City contractors. Examples of shared costs include: the maintenance of the construction site, field office, transportation, contract management and mobilization.

National Grid's Government Liaisons work closely with NYC Department of Design and Construction Engineers and consultants to minimize any direct conflicts to the existing gas infrastructure located in the boroughs of Queens, Brooklyn and Staten Island. This work reduces Support and Protect (O&M) costs, maximizes remuneration, and reduces risk exposure to the Company.

Customer Benefits:

Minimal customer impact is expected during the construction of these projects; they are intended to ensure continuous service to customers.

Customers will benefit from the program in the following ways:

Synergistic opportunities are realized through National Grid CSC department's coordination with other company Operational Program work including, but not limited to: Main & Service Replacement, Customer Driven Construction, Reliability, and Long-Term Planning. In addition, National Grid CSC group works closely with The City of New York to minimize impacts to local communities during project execution. This ensures businesses remain open and commerce continues.

National Grid also provides specific focus to ensure the protection and sustainability of The City of New York's green infrastructure; such as bioswales, infiltration basins, permeable paving, etc., assuring the benefit to the community continues to be realized.

Funding Detail

Cost Breakdown:

	$000	FY25	FY26	FY27	FY28
CAPEX	**CSC/Public Works - Non Reimbursable**	$ 329,511	$ 335,904	$ 342,118	$ 348,550

CAPEX	**CAPEX Total**	$ 329,511	$ 335,904	$ 342,118	$ 348,550
OPEX					
TOTAL		$ 329,511	$ 335,904	$ 342,118	$ 348,550

Supplemental Information

Alternatives

Alternative 1: Doing Nothing. This is not an option as we are obligated by statute to remediate interference with Municipal and State construction projects. Additionally, this would reduce the safeguard of Company infrastructure and continued delivery of service in accordance with Company policy and regulatory requirements. (Not Recommended)

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: Public Works City/State construction activities are reactive to municipal works projects scale & scheduling. Pursuant to Sections § 19-143 and § 24-521 of the New York City administrative code, utility companies are required to remove, shift or alter their structures so that the construction and/or repair work of the city will not be delayed.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a Disadvantaged Community (DAC)[1]?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Work is reactive to CoNY projects and any routing determinations are the result of associated infrastructure interference as part of the CoNY project. Pursuant to Sections § 19-143 and § 24-521 of the New York City administrative code, utility companies are required to remove, shift or alter their structures so that the construction and/or repair work of the city will not be delayed.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct – Quantifiable. Leak prone pipe (LPP) is often replaced in connection with CSC projects. The sum of leak-prone pipe estimated to be removed over the term of the proposed rate plan will result in the reduction of 36,543 MT CO2e (metric tons of CO2 equivalent) emissions, of which 16,444 MT CO2e emission reductions will be within DACs.

Based on estimated LPP Abandoned Miles: 93.6

* Source of Percentage of identified DACs: https://climate.ny.gov/-/media/project/climate/files/LMI-dac-criteria-fact-sheet.pdf

Studies/References That Support the Program:

The program is supported by KEDNY's legal obligations under New York State code (including 16 NYCRR Part 255.755, Part 255.756, and Part 255.757), New York law (including NYS General Obligations Law Section 11-102 and Part 131 of NYSDOT Rules & Regulations, NYCRR Title 17 - Accommodation of Utilities within State Highway Right-of-Way) and the New York City Gas Facility Cost Allocation Act (Gas Cost Sharing agreement) which require replacement and/or support and protection of gas facilities during third-party construction.

Benefits

Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel

	☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____	

Customer Gas Connections

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001571,5220000257, 5220000259, 5220000260	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☒ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Klingler, Gerard L.	**Business Contact:** Madsen, Jim	

Work Description:

KEDNY's Customer Connections program involves the installation of new main, services and meters that the Company is required to install pursuant to the regulations and its tariff to serve customer gas requests in the Company's service territory. This program also includes an analysis of electric heat alternatives for projects that meet certain criteria, and information on programs offered by electric utilities to educate customers about all heating options available.

The projected number of services and main that will be installed in connection with this program in the Rate Year and Data Years are provided below.

	FY 2025	FY 2026	FY 2027	FY 2028
Services	1,424	1,386	1,193	1,162
Main Footage	6,967	6,891	5,813	5,744

Justification Summary:

The growth forecast considers the implications of (a) changes in the various market segments; (b) large project inventories; (c) rate/regulatory changes; and (d) system constraint. The forecast also considers factors that drive growth projections and the associated capital expenditures:

- Fuel Pricing – oil versus natural gas
- Inventory levels and turnover ratios
- NYC legislation restricting use of natural gas
- Potential changes to entitlements
- Saturation levels
- Marketing Lead performance
- Designs and resourcing that supports the delivery of capital at efficient pricing.
- Economic Conditions / Building Starts
- Gas system constraints
- NYC permitting requirements that increase permitting/restoration costs.

Conversions. The growth forecast shows steady demand in the multifamily and commercial conversion markets. Residential conversions are forecasted to decrease due to high saturation. There is also the possibility that activity may be impacted during this rate period if changes are made to the existing entitlement structure.

New Construction. The most significant factor that will impact this market is the New York City law banning natural gas, with certain exceptions, in buildings 7 stories or more where applications for the approval of construction documents is submitted on or before July 1, 2027, and buildings less than 7 stories where applications for the approval of construction is submitted on or before December 31, 2023. There is also the possibility that activity may be impacted during this rate period if changes are made to the existing entitlement structure.

Electrification initiatives. National Grid is committed to identifying innovative, clean energy solutions for our customers. In support of the state-wide carbon reduction goals, we have collaborated with Con Edison and PSEG Long Island to provide customers with helpful resources to learn more about alternative heat pump space heating options. All customers who inquire about natural gas are provided with the appropriate electric utilities' website, call center phone number, email address and frequently asked questions document.

In addition, the Company is exploring how utility-owned thermal energy networks could serve as solution for customers. The Utility Thermal Energy Network and Jobs Act, signed into law on July 5, 2022, modifies the existing utility definition to allow for ownership of such systems. The Company is currently in the process of developing and proposing pilots under the terms of the legislation, which may reveal additional information about the sort of customers and/or situations best served by thermal energy networks. At this time, it is not possible to state a specific number of customers that will be served by a geothermal offering in the coming years, but the Company is committed to developing this option and will continue to provide updated forecasts as pilots, including those run by other utilities in NY, progress.

The Company is also undertaking complementary actions that will support customers being able to make informed choices about energy systems. Firstly, the Company, along with other gas utilities, filed a structure, cost recovery mechanism, suitability criteria, and screening criteria for NPAs as part of a filing made on Aug 10, 2022. The Company is also utilizing the Societal Cost Test BCA for reviewing potential NPA opportunities, which should allow for different types of alternatives to be compared on a consistent basis. Having a publicly available and formalized structure to identify and evaluate NPA opportunities should make it more likely that such alternatives will be implemented. As this work picks up speed, the Company is making opportunities and procurement activity publicly available on its NPA website: Non-Pipeline Alternatives | National Grid (nationalgridus.com)

The Company is in the process of deploying a Fuel-Switching Calculator. This tool allows customers to consider the cost and emissions impacts of different heating and cooling technologies, adjusting for user-supplied information and zip-code based energy pricing. Using this tool, customers will be able to assess different alternatives that can meet their needs. This calculator does not provide natural gas as an end-state option, ensuring that customers will have information about alternatives and not simply confirmation of preconceived notions about a familiar energy solution, such as natural gas heating.

Customer Benefits:
The installation of new facilities allows the Company to serve new or expanded customer service needs, upon request, consistent with applicable regulatory obligations.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
Customer Connections - Install Main – CAPEX	$ 6,935	$ 7,040	$ 6,106	$ 6,204
Customer Connections - Install Services - CAPEX	$ 28,825	$ 28,798	$ 25,472	$ 25,522
Customer Connections - Customer Contributions – CAPEX	$ (815)	$ (828)	$ (718)	$ (730)
Customer Connections - Install Meter/Regulator – CAPEX	$ 741	$ 735	$ 645	$ 641
TOTAL	**$35,685**	**$35,746**	**$31,505**	**$31,637**

Supplemental Information

Alternatives

Alternative 1: Do not connect new customers. The Company currently has an obligation to serve customers and cannot deny new applicants at this time.

Alternative 2: Non-Pipes Alternative ("NPA")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☒ Yes ☐ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: Please see answers above. Additionally, an NPA analysis will be conducted on individual projects that consist of 500' of main and greater where five or more customers are served and where the customers express interest.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** The Company has an obligation to serve customers and will install services across the territory, including DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. GHG emissions will not be reduced on the system but, where customers are converting to gas from oil or propane, may reduce GHG emissions previously produced through other heating options.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Avoids customer outages:
☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☒ Customer Trust and Ease influenced
☐ Reduction in Billing Errors and Re-Bills
☐Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☒ Reduces use of Alt. Fuel
☐ Specify Methane Reduction (80x50 Target; 40x30 Targets)
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Gas Reliability Program

Type: ☐ **Project** ☒ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000311		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda E.

Work Description:

The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes initial development of new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

Justification Summary:

Gas planning reliability concerns include transmission and distribution systems with a limited number of feeds (*i.e.*, take stations or regulator stations), systems that are either weakly integrated or consist of long single-feed laterals, networks that contain a wide variety of operating pressures, and varying design philosophies associated with system and supply redundancy (*e.g.*, production plants, take stations, regulator stations).

Gas safety concerns focus on our ability to shut down gas supply quickly and efficiently remotely following a pipeline failure resulting in the release of natural gas to ensure the safety of the first responders, impacted gas customers and the public. The use of RCVs also eliminates the need to locate and excavate manual valves.

The Company also anticipates that federal regulations will eventually require the installation of RCVs. The Pipeline and Hazardous Materials Safety Administration's May 2016 Notice of Proposed Rulemaking ("NPRM") delayed consideration of whether to require RCVs to allow for further consideration of the issue, but the NPRM also includes a rule that would require consideration of RCVs as part of an operator's maintenance program. The Company's RCV program follows PHMSA criteria and will position the Company for eventual compliance.

Customer Benefits:

The Gas System Reliability program ensures that service is maintained in the event of a failure on a major pressure facility. Reliability is improved by adding supply flexibility, integrating single feed systems, making progress to eliminate single feed systems, and by installing RCVs. Without this program, greater numbers of customers are at risk of losing service in the event of a facility failure.

KEDNY's goal is to proactively upgrade the existing valves or install new valves in certain high-volume and high-risk locations to enhance reliability and safety by reducing the amount of time needed to stop the flow of gas in the event of a pipeline failure thereby mitigating the consequences of any such event. Installation of RCVs will be undertaken in a manner that will ultimately comply with regulatory guidance. The purpose of the Reliability program is to increase safety and reliability,

maintain service to customers, reduce quantity of gas released, and reduce response time in the event of a pipeline or facility failure.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 6,546	$ 20,423	$ 9,406	$ 16,202
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 6,546	$ 20,423	$ 9,406	$ 16,202

Supplemental Information

Alternatives

Alternative 1: Do Nothing. Removal of the Gas Planning Reliability program increases risk of system failures including pressures below minimum design levels and possible customer outages. If RCVs are not installed, a pipeline failure would require a manual shutdown of the transmission pipe. This may result in longer times to contain the incident and could result in more damage. Also, by not adding any RCVs the isolation area could be large in some instances, resulting in a larger loss of service to customers. Given PHMSA regulations, this option would leave the Company in violation of industry code requirements.

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

If yes, please briefly explain the results: See above NPA Suitability Screening criteria. This program is not applicable as these standard projects affect the critical reliability of the gas system.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Program covers entire KEDNY region. Routing determined based on distribution system need, constructability of below ground infrastructure, and cost. Impact of surrounding area typical to below ground utility infrastructure work.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emission reductions.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☒ Supports growth forecast
☒ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☒ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction $
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Gas Reliability - RCV - LTNY11044 - RCV BQ1243

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100506		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐**Customer Connections** ☒**Mandated** ☐**Reliability** ☐**Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2022 (FY23)	**Estimated In-Service Date:** November 2024 (FY25)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda

Work Description:
Installation of RCV- BQ1243 (37th St and 3rd Ave). Replace existing 24" valve BQ1243 and install a remote operator on 37th St and 3rd Ave in Greenwood Heights, Brooklyn.

Justification Summary:
The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

Customer Benefits:
This project will improve safety and reliability on the transmission system while maintaining as many customers as possible in the event of an incident. The purpose of the RCV program is to increase safety and reliability, protect the system against pressure collapse in case of a rupture, maintain customers, reduce quantity of gas released, and reduce response time.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 2,000	$ 50	$ -	$ -
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 2,000	$ 50	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Install a new RCV. Replace existing 24" valve BQ1243 and install a remote operator on 37th St and 3rd Ave in Greenwood Heights, Brooklyn.

Alternative 2: Retrofit existing valve. Retrofit the existing valve BQ1243, a 24" ball valve installed in 1989, with an actuator. This option is not ideal due to the congested area.

Alternative 3: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system and is required in direct response to regulatory mandate.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This location was determined by very specific on-system need and existing local infrastructure that will maximize effectiveness.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. By reducing response time, this remote operated valve would reduce the quantity of gas released to the atmosphere in case of damage to the transmission main.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☒ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☒ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Gas Reliability - RCV - LTNY11726 – BBB 2nd Ave Cutout and RCV BQ1238

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100628		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2022 (FY23)	**Estimated In-Service Date:** November 2024 (FY25)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda

Work Description:

Replace existing 24" plug valve BQ1015 with a 26" full port ball valve, replace 24" ball valve BQ1238 will a 26" remote control valve (RCV), and replace 300 feet of 24"/26" steel main with 300 feet of 26" steel main with Iso Joints. Of the 300 feet of new 26" steel main, 125 feet will be replaced to fulfill DOT Part-R scheduling requirements. This project is at the intersection of 2nd Ave and 57th St in Sunset Park, Brooklyn.

Justification Summary:

The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

DOT Part-R schedule requirements mandate the remediation of missing pipeline record gaps prior to 2035, 50% of which must be completed by 2028. For National Grid, Gas Transmission Engineering's IVP group has identified specific portions of transmission gas main, 20% SMYS and above, that are missing hydro test documentation. Some of these sections are identified along the Brooklyn Backbone (BBB).

Customer Benefits:

This project will improve safety and reliability on the transmission system while maintaining as many customers as possible in the event of an incident. The purpose of the RCV program is to increase safety and reliability, protect the system against pressure collapse in case of a rupture, maintain customers, reduce quantity of gas released, and reduce response time.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 8,165	$ 100	$ -	$ -

OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 8,165	$ 100	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Install approximately 300 feet of new 26" steel gas main with Iso Joints, a new 26" ball valve to replace plug valve BQ1015, a new 26" RCV to replace BQ1238, and a full up turned tee at the new BQ1015. This remedies the hydro gap as identified under GTE IVP Part-R DOT, leverages the bundling opportunity between Gas Transmission Engineering and Gas Planning, improves inline pig inspection capabilities, and improves emergency system response capabilities.

Alternative 2: Retrofit the existing valve BQ1238, a 24" ball valve installed in 1983, with an actuator. Hydrotest the identified section of existing pipe that is missing pressure test documentation. This requires the same number of fittings and resources for the shutdown and rewelding / tie in of the old, retested pipe as it requires for installation of any proposed new pre-tested pipe. System reliability would be compromised, and an extended shutdown of the BBB would be required if the hydrotest of the old pipe section fails. This would eliminate the opportunity to improve robotic crawler accessibility of the BBB. Additionally, it would eliminate the bundling opportunity between Gas Transmission Engineering and Gas Planning, and the RCV project would move forward separately, requiring additional shutdown of the BBB.

Alternative 3: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system and is required in direct response to regulatory mandate.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This location was determined by very specific on-system need and existing local infrastructure that will maximize effectiveness.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. By reducing response time, this remote operated valve would reduce the quantity of gas released to the atmosphere in case of damage to the transmission main.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☒ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Gas Reliability - RCV - LTNY12029 - RCV BQ1005

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100666		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2023 (FY24)	**Estimated In-Service Date:** November 2025 (FY26)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda

Work Description:
Installation of RCV - BQ1005 (Bedford Ave and Myrtle Ave). The installation of the RCV will be completed by replacing the existing 20" valve BQ1005 and installing a remote operator on Bedford Ave and Myrtle Ave in Clinton Hill, Brooklyn.

Justification Summary:
The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

Customer Benefits:
This project will improve safety and reliability on the transmission system while maintaining as many customers as possible in the event of an incident. The purpose of the RCV program is to increase safety and reliability, protect the system against pressure collapse in case of a rupture, maintain customers, reduce quantity of gas released, and reduce response time.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 200	$ 4,320	$ -	$ -
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 200	$ 4,320	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Install a new RCV. Replace existing 20" valve BQ1005 and install a remote operator on Bedford Ave and Myrtle Ave in Clinton Hill, Brooklyn

Alternative 2: Retrofit existing valve. Retrofit the existing valve BQ1005, a 20" ball valve installed in 1950, with an actuator.

Alternative 3: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system and is required in direct response to regulatory mandate.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This location was determined by very specific on-system need and existing local infrastructure that will maximize effectiveness.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. By reducing response time, this remote operated valve would reduce the quantity of gas released to the atmosphere in case of damage to the transmission main.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☒ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☒ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Gas Reliability - RCV - LTNY12051 - RCV BQ1019

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100672		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2024 (FY25)	**Estimated In-Service Date:** November 2026 (FY27)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda

Work Description:
Installation of RCV - BQ1019 (Lorimer St and Meeker Ave). Replace existing 24" valve BQ1019 and install remote operator on Lorimer St and Meeker Ave in East Williamsburg, Brooklyn.

Justification Summary:
The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

Customer Benefits:
This project will improve safety and reliability on the transmission system while maintaining as many customers as possible in the event of an incident. The purpose of the RCV program is to increase safety and reliability, protect the system against pressure collapse in case of a rupture, maintain customers, reduce quantity of gas released, and reduce response time.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 100	$ 200	$ 4,320	$ -
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 100	$ 200	$ 4,320	$ -

Supplemental Information

Alternatives

Alternative 1: Install a new RCV. Replace existing 24" valve BQ1019 and install remote operator on Lorimer St and Meeker Ave in East Williamsburg, Brooklyn.

Alternative 2: Retrofit existing valve. Retrofit the existing valve BQ1019, a 24" ball valve installed in 1950, with an actuator.

Alternative 3: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system and is required in direct response to regulatory mandate.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This location was determined by very specific on-system need and existing local infrastructure that will maximize effectiveness.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. By reducing response time, this remote operated valve would reduce the quantity of gas released to the atmosphere in case of damage to the transmission main.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☒ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☒ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Gas Reliability - RCV - RCV BQ1042

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code:		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2025 (FY26)	**Estimated In-Service Date:** November 2027 (FY28)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda

Work Description:
Installation of RCV- BQ1042 (116th Ave and 199th St). Replace existing 24" valve BQ1042 and install a remote operator on 116th Ave and 199th St in St. Albans, Queens.

Justification Summary:
The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

Customer Benefits:
This project will improve safety and reliability on the transmission system while maintaining as many customers as possible in the event of an incident. The purpose of the RCV program is to increase safety and reliability, protect the system against pressure collapse in case of a rupture, maintain customers, reduce quantity of gas released, and reduce response time.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 100	$ 200	$ 2,040
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ -	$ 100	$ 200	$ 2,040

Supplemental Information

Alternatives

Alternative 1: Install a new RCV. Replace existing 24" valve BQ1042 and install a remote operator on 116th Ave and 199th St in St. Albans, Queens.

Alternative 2: Retrofit existing valve. Retrofit the existing valve BQ1042, a 24" plug valve installed in 1957, with an actuator.

Alternative 3: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system and is required in direct response to regulatory mandate.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This location was determined by very specific on-system need and existing local infrastructure that will maximize effectiveness.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. By reducing response time, this remote operated valve would reduce the quantity of gas released to the atmosphere in case of damage to the transmission main.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☒ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☒ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Gas Reliability - RCV - RCV BQ1059

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code:		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2025 (FY26)	**Estimated In-Service Date:** November 2027 (FY28)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda

Work Description:
Installation of RCV- BQ1059 (Linden Blvd and Pennsylvania Ave). Replace existing 24" valve BQ1059 and install a remote operator on Linden Blvd and Pennsylvania Ave in East New York, Brooklyn.

Justification Summary:
The Gas System Reliability program includes capital projects required to maintain system minimum pressures on the gas network in the event of an abnormal operating condition (failure involving a regulator station, gate station, critical main or other major pressure facility on the system). This program includes new RCVs on transmission pipelines in high consequence areas to improve emergency response capabilities and reduce risk. In the event of a pipeline failure that results in a release of natural gas, RCVs will allow control room operators to stop the flow of gas, isolate and shutdown a portion of the system, and mitigate further consequences utilizing a remote command.

Customer Benefits:
This project will improve safety and reliability on the transmission system while maintaining as many customers as possible in the event of an incident. The purpose of the RCV program is to increase safety and reliability, protect the system against pressure collapse in case of a rupture, maintain customers, reduce quantity of gas released, and reduce response time.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 100	$ 200	$ 2,040
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ -	$ 100	$ 200	$ 2,040

Supplemental Information

Alternatives

Alternative 1: Install a new RCV. Replace existing 24" valve BQ1059 and install a remote operator on Linden Blvd and Pennsylvania Ave in East New York, Brooklyn.

Alternative 2: Retrofit existing valve. Retrofit the existing valve BQ1059, a 24" plug valve installed in 1960, with an actuator.

Alternative 3: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system and is required in direct response to regulatory mandate.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?**
   This location was determined by very specific on-system need and existing local infrastructure that will maximize effectiveness.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. By reducing response time, this remote operated valve would reduce the quantity of gas released to the atmosphere in case of damage to the transmission main.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☒ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Gas System Control

Type: ☐ **Project** ☒ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000308		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Delaney, Richard		**Business Contact:** Ostasz, Adam

Work Description:

This program provides a blanket budget to support necessary upgrades to the Control Room. This budget provides flexibility for the Control Room to adapt to the changing regulatory landscape (CRM), as well as to provide a safe, reliable workspace to support 24-hour operations for Gas System Operators.

- Examples include:
  - Workstations
  - Video Display Wall and terminals

Justification Summary:

National Grid operates a mission critical 24/7 Gas Control Center to safely monitor and operate our transmission and distribution assets. It is vitally important to maintain the Control Center with the latest technology to support the Company's operations.

Customer Benefits:

Through the efforts of the Gas System Operators, National Grid is able to deliver natural gas safely and efficiently to the customers and communities we serve. During periods of extreme cold and high demand, the Control Center serves as the transmission operator, distribution operator, and the ISO dealing with interstate pipelines, producers, and marketers to mitigate system issues and supply interruptions.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 129	$ 132	$ 135	$ 137
OPEX				
TOTAL	$ 129	$ 132	$ 135	$ 137

Supplemental Information

Alternatives

Alternative 1: Do Nothing. Allow the technology to degrade. Not selected as it would deliver less than optimal performance to the 24/7 Control Center, which is vital to the Company's system operations.

Alternative 2: Non-Pipes Alternative ("NPAs") - **N/A**

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. Through the operations of the Gas Controller's supply balancing and operations support, National Grid will be able to incorporate RNG and other lower carbon fuels into the system to reduce our reliance on methane and other sources of fossil fuels.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Gas System Control - SCADA Upgrade/Replacement

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220100842	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** January 1, 2025	**Estimated In-Service Date:** December 31, 2026
Sponsor: Delaney, Richard	**Business Contact:** Ostasz, Adam	

Work Description:
Upgrade/Replacement of the Supervisory Control and Data Acquisition (SCADA) system hardware and software. These efforts are to support the upgrade and replacement of devices that support the communication and control of the National Grid Transmission and Distribution Systems.

Justification Summary:
The SCADA System and its associated control devices allow the Gas Control Center to monitor and control the assets of our gas systems. Through increased and enhanced visibility and control, the Company is able maintain the safe and reliable operation of our gas systems.

Customer Benefits:
Through the safe and reliable operation of our system, Gas Control prevents incidents, optimizes the operation of our system, and reduces cost and risk by balancing supplies and preventing incidents.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 1,389	$ 1,389	$ 1,389	$ -
OPEX				
TOTAL	$ 1,389	$ 1,389	$ 1,389	$ -

Supplemental Information

Alternatives

Alternative 1: Do nothing. Allow the technology to degrade and deliver less than optimal performance to the 24/7 Control Center.

Alternative 2: Non-Pipes Alternative - N/A see discussion below

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. Through the operations of the Gas Controller's supply balancing and operations support, National Grid will be able to incorporate RNG and other lower carbon fuels into the system to reduce our reliance on methane and other sources of fossil fuels.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Gas System Reinforcement

Type: ☐ **Project** ☒ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220001155		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☒ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda E.

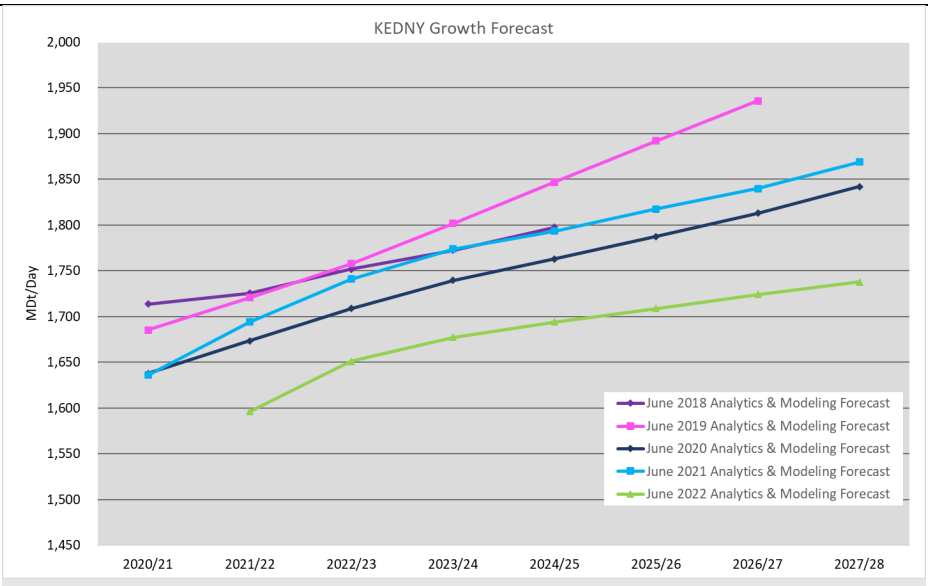
Work Description:

The Gas System Reinforcement Program consists of capital reinforcement projects required to maintain pressure above system minimums on the gas network during periods of peak demand, thereby maintaining continuous service to all gas customers.

Justification Summary:

Federal (49 CFR 192.623) and New York State (16 NYCRR 255.623) regulations require the Company to maintain minimum pressures on the gas system necessary to maintain reliable service to all firm customers. The Gas System Reinforcement Program identifies projects required to maintain service under peak day, peak hour conditions. KEDNY's gas system is designed for a peak day with an average temperature equal to 0°F (65HDD – Heating Degree Days), with five percent of the daily send-out as a peak hour. The peak demand is based on the same forecast utilized to develop the gas supply portfolio, and the Gas System Reinforcement program is a critical component for enabling delivery of that gas supply to firm customers. In some cases, even small to moderate increases in the overall forecast can result in significant reinforcements due to certain regions experiencing higher increases in forecasted demand while other regions may be experiencing lower or decreasing system demands.

The Analytics, Modeling, and Forecasting ("AMF") group's load forecast shows an increasing trend as demonstrated in the below graph.



Examples of distribution system reinforcement projects include, but are not limited to, the following:

- Replacing existing undersized mains with larger diameter mains. Leak-prone pipe is targeted whenever practical.
- Looping or connecting system endpoints by installing new main.
- Installing new district regulators as well as replacing and/or rebuilding existing undersized district regulators.
- Transferring existing customers supplied from low-pressure mains to adjacent high-pressure mains (i.e., load shedding).

Customer Benefits:

Installing these reinforcements will ensure that service is maintained to all firm gas customers on the system. Without the reinforcement program, as many as 42,850 customers are at risk of experiencing pressures below minimum design pressures and, therefore, at risk of losing service. The estimated cost to relight these customers is $64.275M (approximately $1,500 per customer based on previous experiences). This would be incremental costs associated with customer relights should the work not be completed. A secondary benefit of the program is the elimination of leak-prone pipe wherever practicable. For example, the program represents a replacement rate of about 50 percent, approximately 22,490 feet (4.3 miles), of leak-prone pipe in in the first year of the plan. The purpose of the Reinforcement program is to ensure service to all firm customers.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 32,793	$ 32,798	$ 36,714	$ 49,138
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 32,793	$ 32,798	$ 36,714	$ 49,138

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This alternative is rejected because 42,850 customers are predicted to experience pressures below minimum design levels and be at risk of losing service if design conditions were to be experienced during the five-year heating season term under the current gas supply send-out forecast.

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: See above; a majority of the individual jobs within this program are to start within the immediate future (24 months).

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Routing determined based on distribution system need, constructability of below ground infrastructure, and cost. Impact of surrounding area typical to below ground utility infrastructure work.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** These projects will replace 4 miles of Leak Prone Pipe. Total of 1,496 MT of CO2e reduced through LPP replacement.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☒ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☒ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☐ Enhances employee safety ☐ Increases automation (reduces human error) ☐ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☒ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Gas System Reinforcement - LTNY11751 - Kew Gardens Gate

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100310		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☒ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** April 2017 (FY18)	**Estimated In-Service Date:** March 2027 (FY27)
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda E

Work Description:
The Kew Gardens Gate Station project will install a new 350 psig to 15 psig regulator station in Kew Gardens, Queens to maintain pressure above system minimum on the gas network during periods of peak demand, thereby maintaining continuous service to all gas customers. The new regulator station will reduce dependency on deliveries from Con Edison through National Grid distribution regulator stations located in the second ward of Queens fed from Con Edison's transmission main. It is assumed that property purchase will be required to site the regulator station and heater. This project assumes that equipment needed will include a heater, chromatograph, full telemetry, about 400 feet of 20" 350 psig ST main inlet pipe, and about 500 feet of 30"15 psig ST outlet piping depending on where the station is sited.

Justification Summary:
Federal (49 CFR 192.623) and New York State (16 NYCRR 255.623) regulations require the Company to maintain minimum pressures on the gas system necessary to maintain reliable service to all firm customers. KEDNY's gas system is designed for a peak day with an average temperature equal to 0°F (65HDD – Heating Degree Days), with five percent of the daily send-out as a peak hour. The peak demand is based on the same forecast utilized to develop the gas supply portfolio.

The Kew Gardens Gate Station project is required to maintain service under peak day, peak hour conditions, and reduce dependence on transferring gas from Con Edison at National Grid's regulator stations in the second ward of Queens fed from Con Edison's transmission main. The installation of a new regulator station is the cost-effective way to reinforce the area, provides the biggest benefit to the system, and is the most constructible. Additionally, this option also improves reliability through the installation of the new regulator station by providing a new source of gas in the area and allows for other stations in the area to be taken out of service for maintenance and/or contingencies to a lower temperature if needed.

Customer Benefits:
Installing this reinforcement project will ensure that service is maintained to all firm gas customers on the system. Secondary benefit of the project includes:

· Providing an additional source of gas in the second ward of Queens off National Grid's transmission infrastructure which reduces flows from existing National Grid regulator stations in the second ward of Queens fed from Con Edison's transmission mains.

· Reinforcing the Brooklyn/Queens high pressure system supports replacement of low-pressure cast-iron mains with high pressure plastic.
Federal (49 CFR 192.623) and New York State (16 NYCRR 255.623) regulations require the Company to maintain minimum pressures on the gas system necessary to maintain reliable service to all firm customers. This project is part of the Gas System Reinforcement Program which consists of capital reinforcement projects required to maintain pressure above system minimums on the gas network during periods of peak demand, thereby maintaining continuous service to all gas customers and complying with regulations.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 17,000	$ 5,300	$ -	$ -
OPEX	$ -	$ -	$ -	$ -
TOTAL	$ 17,000	$ 5,300	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Install new transmission to distribution regulator station. Install new Gate Station in Kew Gardens, off of NQ transmission main, on Metropolitan Ave near Park Lane South. Project assumes that equipment needed will include a heater, a chromatograph, full telemetry, about 400 feet of 20" 350 psig ST main inlet pipe, and about 500 feet of 30"15 psig ST outlet piping. The exact scope of the project will depend on where the station can be sited.

Alternative 2: Non-pipe Alternative – Portable CNG Injection. Utilizing portable CNG injection was also considered and could temporarily improve system pressures and provide incremental localized supply. However, this option, based on a high-level constructability assessment, would likely be very challenging from a siting perspective, especially considering process safety concerns, and would only be a temporary solution without the sufficient capacity to meet the increase in demand projected in this area.

Alternative 3: Non-Pipes Alternative ("NPAs"). The Companies have already explored this option by issuing an RFP Third-Party Solutions NPA to the market in December 2021. The Companies received one proposal in response to that RFP, but it would not have satisfied the operational requirements that would have allowed the Companies to forgo the planned infrastructure investment described above; based on review of the proposal and discussion with DPS Staff, the Companies did not make an award from that RFP. They continue to test the market for third-party solutions and, if they believe that the market has matured to the point that another RFP could result in viable bids, may issue one. The Companies also continue to explore other means of increasing uptake of their energy efficiency and gas demand response offerings in this geographical area, but do not believe at this time that those would be viable alternatives to the project.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**

☐ **Yes** ☒ **No**

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: See above; project does not qualify as it affects the critical reliability of the gas system.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Routing determined based on very specific distribution system need, constructability of below ground infrastructure, and cost. Impact of surrounding area typical to below ground utility infrastructure work.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project includes the construction of a new regulating station (using modern equipment and technologies) and will have minimal impact to GHG emissions.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☒ Supports growth forecast
☒ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☒ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Gas System Reinforcement - LTNY12025 - Belmont Gate Station

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100507		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☒ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** January 2023	**Estimated In-Service Date:** November 2026
Sponsor: Taddeo, Anthony P.		**Business Contact:** Santangelo, Amanda E.

Work Description:

The Belmont Gate Station is an existing 350 psig to 15 psig regulator station in Brownsville, Brooklyn. The station is capacity constrained. The Belmont Gate Station Project rebuilds the regulator station to increase capacity to maintain pressure above system minimum on the gas network during periods of peak demand, thereby maintaining continuous service to all gas customers. It is assumed that the project will include temperature mitigation to account for the temperature drop associated with the increased flow experiencing a pressure drop, larger intermediate and outlet piping, and a backfeed to the inlet of the station. Additionally, any integrity issues at the existing station will be addressed.

The regulator station modification is expected to be completed before the 2025/26 winter season.

Justification Summary:

Federal (49 CFR 192.623) and New York State (16 NYCRR 255.623) regulations require the Company to maintain minimum pressures on the gas system necessary to maintain reliable service to all firm customers. KEDNY's gas system is designed for a peak day with an average temperature equal to 0°F (65HDD – Heating Degree Days), with five percent of the daily send-out as a peak hour. The peak demand is based on the same forecast utilized to develop the gas supply portfolio.

The increased supply provided by the Belmont Gate Station project is required to maintain service under peak day, peak hour conditions.

Customer Benefits:

· Completion of this project will improve pressures to customers on the 15 psig system in Brownsville, Brooklyn.

The Belmont Gate Station Project will:

· Provide immediate pressure benefits to the 15 psig system by installing larger regulators and replaced undersized intermediate and outlet piping with appropriately sized piping

· Improve pressure and increase reliability by providing a backfeed to the inlet to the Belmont Gate Station which is currently undersized

· Identify and repair any integrity issues within the Belmont Gate Station facility

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	$ 15,675,000	$ 4,000,000	$ 10,000,000	$ 15,100,000
OPEX	-	-	-	-
TOTAL	$ 15,675,000	$ 4,000,000	$ 10,000,000	$ 15,100,000

Supplemental Information

Alternatives

Alternative 1: Non-Pipe Alternative ("NPAs"). Portable CNG Injection Utilizing portable CNG injection was also considered and could temporarily provide incremental localized capacity, thereby improving system pressure. However, this option, based on a high level constructability assessment, would likely be very challenging from a siting perspective, especially considering process safety concerns, and would only be a temporary solution

Alternative 2: Do Nothing. A decision to do nothing would ultimately lead to a failure to comply with the regulations defined by Federal and New York State codes as conditions would continue to decay resulting in customer outages. In addition, restrictions on sales activities would be required in constrained areas and the Company could find itself in violation of its tariff.

The records for this station have not been evaluated, and any deficiencies found may require some level of replacement.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Yes, see above. Project does not qualify as it affects the critical reliability of the gas system and is needed to satisfy integrity concerns.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Rebuilding of an existing Gate Station to benefit that local portion of the distribution system. Routing determined based on very specific distribution system need, constructability of below ground infrastructure, and cost. Impact of surrounding area typical to below ground utility infrastructure work.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact**. Indirect Impact. Replacing old and aging station equipment with new equipment and technologies.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Heater Installation Program

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000316	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

The company's gas heaters have been designed to safely heat gas to mitigate problems caused by low gas temperature such as thermal contraction, reduced toughness, increased potential frost heave, and ice formation. The Heater Management Program focuses on capital upgrades/improvements and new installations of gas heaters, boilers, and heat exchangers.

This project will include process safety upgrades, as well as new BMS controls and fuel train upgrades. This heater equipment upgrade improvements will aid in improving the safety, reliability, operational efficiency, and emission reduction. The company will upgrade the BMS at three sites each year. The program will include heater glycol replacement due to poor glycol sample reports. Heaters will be flushed out with a non-acidic solution to clean heat exchangers and piping associated with that heater and will have all glycol replaced with new. This project will also include installing new heater gaskets, installing Vortex Pilot heaters on high pressure heater fuel trains, recoating heater piping, and new heater insulating solutions to prolong each existing asset.

Justification Summary:

This program is an annual capital improvement program. To determine the work plan and scope of all the heaters in New York City are inspected and risk ranked once every 3 years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, on-site inspections and technical assessments were made for each pressure regulating station considering, pipe and equipment condition, operating pressure, regulator performance, and common data. This information, combined with the potential customer impact resulting from a station outage, was used to prioritize and schedule projects within the capital improvement plan.

The Company's policy ("Management of Cold Gas Temperatures") recommends that heaters be considered for installations where pressure reductions of 200 psi or more occur. Because natural gas temperature will decrease approximately 14 degrees given a 200psi pressure drop, the temperature of the gas leaving a pressure regulating station can fall below freezing if heat is not added. On a cold day, flowing gas temperatures may average 40 degrees or less. After a 200psi pressure reduction, the gas will be flowing at 26 degrees or less. Frost heave can occur as ice forms below 32 degrees and piping can begin to lose strength (become more brittle) as temperature falls below 20 degrees.

The heaters in the program are earmarked for full replacement because they are reaching the end of their service lives. Natural gas heaters are made from carbon steel. They contain a glycol-water mixture, like the antifreeze in an automobile radiator. These heaters have a life expectancy of approximately 25 years, which can be extended or diminished according to

maintenance practices. However, at some point, the integrity of the steel tubes within the heater can become compromised and may result in a leak. Since all these heaters are connected to transmission piping, they are subject to higher pressures and the impact of a leak or tube failure can be catastrophic.

There have been past pipeline failures on KEDNY affiliates' systems due to increased stresses associated with cold gas being introduced into the distribution network. The higher stresses have created axial contraction, coupled with frost heave and lower pipe toughness, which has resulted in weld failures. The installation of additional heaters will help to address these issues.

The heater program will also address process safety by upgrade heater burner management systems.

Customer Benefits:

The heater management program will improve safety and reliability of the gas system by reducing the risk of pipeline failure and subsequent outages, damages, and/or incidents. This program will enhance reliability by installing new heaters, upgrading existing heaters, and replacing obsolete equipment. This program will also aid in the reduction of emissions from the heaters through the installation of more efficient equipment.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 900	$ 750	$ 765	$ 780
OPEX				
TOTAL	$ 900	$ 750	$ 765	$ 780

Supplemental Information

Alternatives

Alternative 1: Process safety upgrades to burner management safety systems. These new systems provide safer and more efficient operation of the current heaters.

Alternative 2: Do nothing.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No

3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**

☐ **Yes** ☒ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program/project is dependent on existing asset location and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. Generally, this project is required for reliability and is not anticipated to result in material GHG emissions reductions; however, newly installed equipment will perform more efficiently than existing equipment and may result in nominal emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

I&R - Reactive

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000510	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Backus, Katie	**Business Contact:** McLaughlin, Stephen	

Work Description:
This program funds the capital repairs of deficiencies at pressure regulating facilities found during inspections and maintenance.

Justification Summary:
Instrumentation and Regulation (I&R) maintains and operates equipment critical for directing gas through the system and ensuring supply is made available when needed. This equipment consists of take stations, pressure regulating stations, critical valves and some commercial customer installations, and supports compressed natural gas (CNG) / non-pipes alternatives.

I&R reactive projects are unplanned capital work resulting from emergency situations, including, but not limited to, the replacement of station valves, pressure regulators and overpressure protection, and instrumentation. Emergency conditions may be identified during the course of mandated operations and maintenance (O&M) work or may be the result of external events (weather, vehicle, power surges, etc.).

The I&R reactive program supports capital replacements that must be completed at or near the time of discovery to maintain safe and reliable pressure regulation. Identified work that is not immediately required for safe and reliable operation of the pipeline can be incorporated into a long-term planning and replacement program.

Customer Benefits:
This program maintains pressure regulating facility reliability by facilitating rapid replacement of smaller individual pieces of equipment critical to safe operations. The primary benefit is the safe and reliable supply of natural gas to customers, free of unplanned outages due to facility shutdowns or malfunctions.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 928	$ 946	$ 965	$ 984
OPEX				

TOTAL	$ 928	$ 946	$ 965	$ 984

Supplemental Information

Alternatives

Alternative 1: Do nothing / defer the work until it can be added to a long term capital work plan. Without the ability to make Capital investments to remediate immediate risks, the department may be required to choose between safety and reliability in an emergency situation. Possible results include loss of service to customers, uncontained emissions to atmosphere, or serious injury to field workers.

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: NPAs are not suitable for this program as it is reactive to address repairs for on-system assets.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?☒Yes ☐ No**
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** The program supports make-safe activities wherever existing I&R equipment is currently in service, which could be within DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network? ☒Yes ☐ No**
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. Reactive budgeting allows operations to ameliorate substandard or emergency conditions, which can include fugitive emissions from leaking connections, pipe damage, or faulty equipment. The ability to make timely repairs can also prevent further deterioration that would necessitate more complex repairs.

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Studies/References That Support the Program:

Benefits
Reliability Benefits
☒ Supports growth forecast
☒ Addresses supply / capacity constraint or supply diversity needs
☒ Addresses storm / climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Inactive Accounts

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101216	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Rodriguez, Philip	**Business Contact:** Smith, Derrick	

Work Description:
This program provides funding for securing gas service in Occupied and / or Unoccupied Premises when the customer account has been terminated. In all cases the meter shall be locked as soon as possible following termination of the account (e.g., during the customer appointment for a final meter read), unless the account has been transferred to a new customer of record.

Justification Summary:
National Grid's procedures provide that meters should be locked any time an account becomes inactive (*i.e.* an account with no customer of record), except in the case of a multi-family building where meter access is under the control of a building superintendent and the Company reasonably believes a new customer will assume responsibility for the account (*e.g.*, a residential property sale). In cases where a meter is required to be locked, if the Company is not able to gain access within a reasonable period, the Company will implement its "can't get in" (CGI) procedures and/or isolate the service line.

The following National Grid procedures address the turning on/off gas services:

- Turn on and Turn Off Gas Meters – CMS03004
- Customer Meter Investigations Gas & Electric – CMS01001
- Securing Inactive Gas Accounts – New York State – CMS05004

Customer Benefits:
Successful execution of the program will ensure the safety and reliability of the gas assets while focusing on improvements in customer safety and customer satisfaction. The primary driver for this program is to improve distribution system and customer reliability while maintaining the highest standards for safety of the gas distribution assets.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 427	$ 435	$ 444	$ 452
OPEX				

TOTAL	$ 427	$ 435	$ 444	$ 452

Supplemental Information

Alternatives

Alternative 1: There are no identified alternatives. Given the safety risk associated with this process it is deemed mandatory.

Alternative 2: Non-Pipes Alternative ("NPAs") N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: This program does not install or replace main and is therefore not eligible for an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒Yes ☐No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Not a specific project or installation and program applies across the service territory.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. No material impact on emissions, however, implementation of this program could help prevent future leaks on unoccupied premises.

Studies/References That Support the Program: Aligns with commitments agreed in the 2019 KEDNY/KEDLI Rate Cases

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Integrity Pipeline Integrity - IMP - Southern Line Robotic ILI

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000444	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: In Progress**	**Estimated In-Service Date: 3/26**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
Modify the Southern Pipeline to allow launch, receive and passage of robotic ILI inspection tool. Scope includes replacing plug valves installing Hot Tap fittings and removal of fittings determined to restrict ILI passage. Permanent vaults to allow for access in subsequent inspections in a seven-year cycle.

Justification Summary:
Pursuant to the 2002 Act, the DOT promulgated rules on managing the integrity of transmission pipelines used by the gas and hazardous liquids industries under 49 CFR Part 192.901 – 192.951, which became effective on January 14, 2004. These regulations require pipeline operators to develop and implement an IMP for "covered" transmission pipelines, which are defined as certain pipelines in high consequence areas (HCA). The program required that the first cycle of pipeline assessments be completed no later than 2012. Reassessments are required to be completed at intervals not exceeding seven years thereafter from the last assessment. The assessments are comprised of external corrosion direct assessment (ECDA) and ILI. The results of each operator's program are summarized and reported to the DOT on an annual basis.

Pipeline safety laws and regulations constantly evolve driving progressive changes in utility operations and asset management. San Bruno and several other high profile pipeline incidents have set in motion recommendations, proposed rulemaking, and the 2011 Act signed into law on January 3, 2012. In 2019 &2022 PHMSA issued two rules (RIN 1 & RIN 2) that will address the 2011 Act mandates and implement several additional changes to the regulations for gas pipelines. The rule includes the following significant items that will affect the IMP & IVP programs:

- Advised operators to make all pipeline segments operating at or over 20 percent SMYS ILI enabled

The Pipeline Safety Improvement Act of 2002 ("2002 Act") requires operators of DOT-reportable gas transmission systems to develop and implement an IMP for all pipelines operating above 20 percent specified minimum yield strength (SMYS) in a high consequence area (HCA). The Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 ("2011 Act") mandates that Pipeline and Hazardous Material Safety Administration (PHMSA) consider whether the existing transmission IMP should be expanded beyond the current requirements, including increased inspections of IMP-covered pipelines using in-line inspection (ILI) technology.

Customer Benefits:
ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company can proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 15,000	$ 15,000	$ -	$ -
OPEX				
TOTAL	$ 15,000	$ 15,000	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Maintain Current IMP using ECDA testing method. This does not support PHMSA's (NTSB) recommendation that operators retrofit pipelines to be ILI enabled.

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meets regulatory requirements

Large Diameter Pipe Rehabilitation

Type: ☐ **Project** ☒**Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001532, 5220101687, 5220101686	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Fong, Carmen	

Work Description:

KEDNY utilizes several different types of main: cast iron, steel, and plastic. Cast iron mains were constructed with bell and spigot joints, and over time, leaks have begun to develop at these connections, whereas steel mains typically develop leaks due to corrosion.

While there are cost-effective methods of repairing and reducing the leaks on small diameter mains, leak repairs on large diameter pipes greater than 12" typically cost more due to the location and the depth of the excavations required to access the pipe joints. KEDNY proposes continue a program that leverages new technology to cost-effectively address large-diameter pipe leaks.

Where feasible, KEDNY is proposing to recondition large diameter cast iron and unprotected steel mains with cured in place lining, which can extend the life of the main for more than 50 years. If it is impractical to utilize this technology, KEDNY will replace that section of large diameter pipe to maintain the integrity of the system, albeit the difficulty and cost to replace will be high. This proven technology has been successfully used by the Company for several years. In congested urban streets, where it is almost impossible to find another lane in the roadway to install a new large-diameter main, the lining is the most cost-effective way to recondition the existing mains, reduce costs, and minimize disruptions to the public. KEDNY proposes to line two miles per year from FY2025 through FY2028. This program consists of pipe which resides outside of the proactive main replacement program.

Justification Summary:

The current leak repair rate of large diameter distribution piping on the KEDNY system is 2.7 leaks per mile (excluding damages), increasing from 1.6 leaks per mile in 2010. Leaks have increased significantly due to exceptionally cold weather during 2014 and early 2015 in the northeast US. The impact of cold weather on the system, and resultant leak rates, suggests that an accelerated response to large diameter pipe is warranted. However, the current LPP replacement program only addresses mains up to 12 inches.

KEDNY's lining program is also supported by the Company's recently-developed Distribution Integrity Management Plan (DIMP), which specifies that the Company should: (i) know its distribution piping system, (ii) understand the threats to the system, and (iii) evaluate the risks and prepare replacement programs for its leak-prone mains and services inventory to help mitigate those risks.

KEDNY has more than 107 miles of large diameter cast iron and unprotected steel main. Installation of the lining is the most cost-effective way to recondition the existing mains, reduce costs and minimize disruptions to the public.

The following are the key benefits of the large diameter lining program:

- More cost-effective than replacing the large diameter pipe
- Improved public safety by reducing the risk for gas related incidents
- Improved system reliability and customer satisfaction
- Compliance with federal and state code requirements including new US Department of Transportation (USDOT) Distribution Integrity Management Program requirements (DIMP)
- Increased efficiency resulting from reduced commodity loss
- Ability to focus more attention on retiring small diameter main segments with higher risk profiles
- Reduction in methane emissions

Customer Benefits:

Minimal customer impact is expected during the construction of these projects. Customers can benefit from the program in the following ways:

- Improved public safety due to reduced risk of gas incidents
- Improved system reliability and customer satisfaction
- Fewer unplanned service interruptions
- Fewer unplanned disruptions to traffic and roadways

Funding Detail

Cost Breakdown:

	$000	FY25	FY26	FY27	FY28
CAPEX	**Large Diameter Pipe Rehabilitation**	$ 9,438	$ 9,626	$ 9,819	$ 10,015
CAPEX	**Large Diameter Pipe Rehabilitation - CI Main Lining - 3rd Ave/43rd St**	$ -	$ 6,337	$ 25	-
CAPEX	**Large Diameter Pipe Rehabilitation - CI Main Lining - 61st St/4thAve**	$ 50	$ -	$ -	-
CAPEX	**Large Diameter Pipe Rehabilitation - CI Main Lining - 137th Ave**	$ 50	-	-	-
CAPEX	**CAPEX Total**	$ 9,538	$ 15,963	$ 9,844	$ 10,015
OPEX					
TOTAL		$ 9,538	$ 15,963	$ 9,844	$ 10,015

Supplemental Information

Alternatives

Alternative 1: Minimal reconditioning of pipe. This option would treat only the quantity of main required enabling the Company to hold leak rates to present levels. This option will have negative financial consequences as it would require the more traditional repair methods on the large diameter mains which are typically very expensive.

Alternative 2: Do Nothing. No proactive replace/reconditioning method would result in increasing leak activity and increased risk to public safety. This may also result in violation of the Company's federally regulated DIMP and lead to regulatory penalties.

Alternative 3: Non-Pipes Alternatives (NPAs)

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: The Large Diameter Main Rehabilitation Program is not suitable for an NPA as it preserves the integrity of existing pipe that presently serve customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** DACs may be impacted as the locations are not selected prior to repair. The repairs are reactive based on the leaks discovered.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Quantifiable. This program will eliminate future large diameter leaks and extend the life of the pipe helping to reduce emissions. The program is expected to reduce approximately 740 metric tons CO_2e emissions per year.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Studies/References That Support the Program:

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☒ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG - Blanket

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000350	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:

KEDNY's Liquefied Natural Gas ("LNG") Blanket Program provides for the safe, reliable, and compliant operation of the Greenpoint LNG Facility through procurement, installation, modification and/or enhancements to equipment, systems, and facilities. An effective LNG capital program allows for replacement of obsolete and/or deteriorating equipment, systems and facilities that are reaching the end of their useful lives, along with modifications to enhance the safe, reliable, compliant, and efficient operation. This program will extend the service life of critical production facilities and institute process safety improvements for plant equipment. Capital investments in the program consist of projects identified and planned for the fiscal year as well as projects to address emerging issues during the year.

The capital work to be sanctioned under this program includes, but is not limited to, the following:

- Upgrades and improvements to mechanical equipment and systems
- Upgrades to and replacement of electrical and control systems including safety shutdown systems
- Structural improvements of plant and facilities
- Procurement of capital tools and equipment
- Preliminary engineering and design of capital projects
- Retirement and/or decommissioning of equipment, plant, and facilities

The LNG Operations Capital Blanket provides for the replacement/modification of obsolete and/or deteriorating equipment and systems to ensure reliable and safe operation of the facilities. These efforts will extend the service life of critical production facilities. Capital investments in the program consist of projects identified in advance of the fiscal year as well as projects to address emerging issues during the year.

Justification Summary:

The LNG Blanket Program provides funding for near-term and emergent capital projects needed to maintain safety and reliability at the Greenpoint LNG facility by:

(i) replacing obsolete and/or deteriorating equipment, systems, and facilities that are near the end of their useful lives; and
(ii) modifying/enhancing equipment needed to operate facilities safely and reliably.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a

strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by providing for the replacement/modification of obsolete and/or deteriorating equipment and systems to ensure reliable and safe operation and extend the service life of the facility. These efforts will ensure that we meet mandate requirements and contribute to the overall reliability of the plants. Capital investments in the blanket program consist of projects identified in advance of the fiscal year as well as projects to address emerging issues during the year.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX LNG - Blanket	$ 2,820	$ 2,876	$ 2,934	$ 2,992
OPEX				
TOTAL	$ 2,820	$ 2,876	$ 2,934	$ 2,992

Supplemental Information

Alternatives

Alternative 1: Portable CNG. The only comparable alternative to LNG is portable CNG. The Company currently utilizes portable CNG skids to manage pressure conditions on the gas system. This is effective for boosting pressures at specific low points on the system. This alternative is rejected because replacing LNG with portable CNG is not feasible due to the flowrate required to match Greenpoint's LNG output.

Alternative 2: Do Nothing. If the LNG Blanket Program investments are not made, there is a risk that the Greenpoint LNG resources will become unavailable during the heating season. This would require the purchase of higher cost city gate supplies (if available) and may result in financial penalties from pipelines if the Company cannot adhere to operational flow orders and other contractual requirements. The lack of LNG Plant availability could lead to customer outages during heating season resulting in a negative customer impact.

Any potential short-term savings of doing nothing are quickly outweighed by increased maintenance, operating and replacement costs. A "Do Nothing" alternative does not address potential reliability and safety risks associated with not replacing obsolete and/or deteriorating equipment, systems and facilities that are reaching the end of their useful life or modifying/enhancing equipment needed to operate facilities safely and reliably. These risks include:

- Deterioration of gas facilities/assets
    - severe reduction in useful service life
    - leaks – safety hazards and increased greenhouse gas emissions
    - unplanned maintenance and repairs
    - operators work around to continue system operations

- Potential loss or danger to customers and public

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☒ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG - Boiloff Heaters/Steam Boiler Upgrade

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001135	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 08/01/2021	**Estimated In-Service Date:** 03/31/2029
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:

The Greenpoint LNG (Liquefied Natural Gas) Facility has two large LNG storage tanks that require continuous removal of vapor, known as boiloff, to maintain the normal operating pressures within the tank. Boiloff gas (BOG) is removed from the tanks via the plant's Cold Blowers and must heated before injecting into the distribution system. The plant uses Boiloff Gas Heater to warm the cryogenic vapor to ambient temperatures. The existing BOG Heaters are shell and tube style heat exchangers and use steam as a heating medium. There are four (4) total BOG Heaters; each tank has two heaters sized to handle different boiloff rates. Small heaters are provided to handle normal boiloff load, whereas the larger heaters can handle more extreme barometric pressure changes. The plant's system consists of a 15-psig boiler, a condensate return tank, pumps, and varies filters for make-up water treatment.

The BOG heaters are at or near their expected design life and have experienced several operational issues over the last several years including,

- Tube rupture and tube collapse
- High differential pressure resulting in operational issues
- Steam trap failures
- Overall steam system reliability

The project shall replace the existing BOG Heaters with a more reliable modern option. The upgraded Boiloff Gas Heaters shall be fully redundant to ensure continuous operation. Piping manifolds shall be designed such that boiloff from either tank can be routed to other's boiloff heaters. The process control system for the system will be upgraded and integrated into the plant's control system. The steam system will also be modified to reflect the new design of the Boiloff Heaters.

Justification Summary:

The plant has experienced poor reliability in both the existing steam system and Boiloff Heaters. The steam boiler has had several tube failures, poor condensate return, and failure of steam traps in the system piping. The boiloff heaters have experienced leaks of steam into the boiloff side of the process, collapse of tubes, and poor hydraulic performance. These issues put strain the operators and reduce the reliability of the facility while creating hazardous situations due to abnormal equipment conditions. The scope of the project will address issues with both the steam system and boiloff heaters while provided a reliable modern boiloff system.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a

strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by replacing equipment that is prone to operability issues and equipment that has inhibited flow of boiloff to the distribution system. New equipment will provide modern control system, increase the equipment reliability, and remove any bottlenecks in the boiloff system. This will also result in improved plant safety by eliminating potential for gas to steam leaks and reducing maintenance frequency that requires equipment to be isolated and opened.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX LNG - Boiloff Heaters/Steam Boiler Upgrade	$ 475	$ 50	$ 3,950	$ 4,275
OPEX				
TOTAL	$ 475	$ 50	$ 3,950	$ 4,275

Supplemental Information

Alternatives

Alternative 1: Electric Heater. Electric trim heaters are used in many industrial process applications to heat liquids and gases. Typical electric heaters are stainless steel vessel which contains a heating element. The boiloff gas is heated in the electric trim heater to the required temperature for the distribution gas system. The heater uses electrical power as the source of heating. This option would eliminate the primary steam user at the site.

Alternative 2: Shell & Tube Heat Exchangers – Water / Glycol Heating System. There are two basic types of heat exchangers - removable and non-removable bundles. U-tube exchangers are the simplest form of construction for removable bundles. They are suitable for clean services (i.e. natural gas/steam) and are least expensive of all types of shell and tube heat exchangers and hence the most economical. This system can utilize a Water-Glycol heating loop instead of the existing steam system. Water-Glycol heating systems uses pumps to circulate a water-glycol solution from a storage vessel through a heater, then to the Boiloff Heaters. These systems are well proven, reliable, and safe.

Alternative 3: Shell & Tube Heat Exchangers – Steam System Upgrade. This alternative will use the same shell and tube heat exchanger as alternative 2 but will mainly upgrade the existing steam system. Upgrades may include adding new condensate collection vessel with new pumps, adding new water treatment systems for commercial boilers, and reworking the existing system piping/controls. The Boiloff Heaters would also be replaced with a modern shell and tube option.

Alternative 4: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☒ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG - Bulkhead Upgrade

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000352	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 06/01/2023	**Estimated In-Service Date:** 01/31/2033
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:

The bulkhead (aka relieving platform) at the Greenpoint Energy Center was constructed in the 1920s and has been deteriorating over the last several decades. The bulkhead structure consists of submerged rip-rap berm on the land side with an embedded timber sheathing wall. The relieving platform extends from the rip-rap berm out forty feet (40 ft) over existing water. The platform is supported by 549 pile bents, spaced along the approximately 2,200 ft waterfront. Each bent consists of 12 plumb piles and 3 batter piles. The condition of the bulkhead ranges from advanced to severely degraded. Load restrictions have been put in place along the bulkhead to limit heavy equipment and vehicle traffic.

This project shall identify then implement the most suitable solution to remediate the bulkhead by reviewing economic, environmental, and lifetime maintenance considerations for multiple options.

Justification Summary:

This project proposes to rehabilitate the existing bulkhead along Newtown Creek to ensure the continued safe and reliable operation of the Greenpoint LNG Facility. Performing modifications will prevent the continued decline of the bulkhead condition from severe to failure which if not addressed will directly impact the facilities ability to operate properly.

The Bulkhead Upgrade was identified as a critical component during the Greenpoint Flood Study as it provides structural integrity along Newtown Creek. The bulkhead is situated along Newton Creek and prevents land erosion from rising water level. The bulkhead may have hidden damage from past storms.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of “Peak Shaving” for New York City customers, the plant also plays a strategic role in the company’s gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by adding to the facility’s resiliency through storm hardening. The bulkhead upgrade will also improve on safety by eliminating the need for load restrictions intended to prevent people and equipment from accessing the most severely degraded areas, reducing the potential of inadvertent injure to employees or damage to equipment.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX LNG - Bulkhead Upgrade	$ 700	$ 100	$ 1,300	$ 3,900
OPEX				
TOTAL	$ 700	$ 100	$ 1,300	$ 3,900

Supplemental Information

Alternatives

Alternative 1: Preserve and Repair Platform. Alternative 1 consists of preserving the timber vertical piles using various methods to the extent that practical load bearing capacity of the platform shall be restored. This will be a goal-oriented approach that will include a combination of restoring missing/corroded hardware, replumbing piles, replacing missing/corroded fishplates, installing pile wraps, and pulling/replacing the worst piles.

Alternative 2: Demolish and Reconstruct Platform. Alternative 2 consists of the complete demolition and reconstruction of a high-level platform on the offshore 15 feet of the perimeter. The perimeter would be rebuilt as a steel pipe or concrete high-level platform. The remainder of the low-level platform will be sealed by a sheet pile cut-off wall and voids would be filled by injection foam or pumped with a cementitious slurry.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG - Controls System Upgrade

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000354	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 07/29/2019	**Estimated In-Service Date:** 01/13/2026
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:

The plant controls at the Greenpoint LNG Facility consist of various hardware and software platforms that are dispersed throughout the facility. Operators interact with these systems through PC based human machine interfaces (HMIs) or push buttons and annunciators on the main control board or local control panels within the process areas. This project intends to perform upgrades and enhancements to the existing control system and operator interfaces by implementing a new 'balance of plant' (BOP) control system that will perform monitoring, control and alarm functions various process equipment and systems throughout the plant. This BOP system will include, but not be limited to the LNG Tank System, Vaporizers, Boiloff System, Odorant System, Utilities. The liquefier contains a dedicated DCS system to manage controls and will not be upgraded as part of this project.

Justification Summary:

The project will integrate existing independent controllers and interfaces into a modern hardware/software platform that standardizes the system components when practical. This will eliminate or replace obsolete equipment and enhance system performance. These upgrades will increase the plant's reliability and enable more efficient plant operation allowing operators to easily respond to any abnormal conditions, thus increasing plant safety. Standardizing hardware will also increase the plant maintainability and allow for future upgrades to be easily integrated into the new control system. Lastly the project will further improve plant reliability by installing redundant power supplies, power circuits, and fiber optic communications.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving on employee safety through increasing automation and implementing best design practices for human factors associated with operator interfaces (HMI) and alarm annunciation. This project will also increase the facility's reliability and resiliency through hardware standardization and redundant cabling/fiber runs.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX LNG - Controls System Upgrade	$ 14,850	$ 15,858	$ -	$ -
OPEX				
TOTAL				

Supplemental Information

Alternatives

Alternative 1: Upgrade Control Systems, PLC System. This alternative intends to perform upgrades and enhancements to the existing control system and operator interfaces by implementing a new Balance-of-Plant (BOP) PLC system that will perform monitoring, control and alarm functions various process equipment and systems throughout the plant.

Alternative 2: Upgrade Control Systems, PLC-DCS System. This alternative intends to implement a Balance-of-Plant (BOP) with a mixed PLC-DCS system that will perform monitoring, control and alarm functions various process equipment and systems throughout the plant.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG - Fire Protection System Upgrade

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101761	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 09/01/2023	**Estimated In-Service Date:** 03/31/2027
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:
The fire protection system at the Greenpoint Liquefied Natural Gas (LNG) Facility was originally installed in the 1960's and consists of non-listed relays. The system has been expanded over the years with various panels and new fire protection equipment. Various gaps in the functionality of the fire protection system were identified as part of the Saltwater Pumphouse project and modification to the system is required to activate the new pumps. While the SWPH project is modifying the signals required to activate the pump as part of the project, the remainder of the system must be evaluated and modernized.

Justification Summary:
As more projects are commissioned and the equipment is added to the plant the fire protection system becomes increasing complex and loses its effectiveness. To ensure safe operation for the foreseeable future, existing gaps must be addressed, and the fire protection system must be upgraded.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving on plant, employee, and public safety through modernizing the fire protection system. The project will improve emergency responsiveness by communicating the zone or location of an incident and will also improve on the system reliability through redundancy.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX				
LNG - Fire Protection System Upgrade	$ 3,500	$ 5,000	$ 100	$ -

OPEX				
TOTAL	$ 3,500	$ 5,000	$ 100	$ -

Supplemental Information

Alternatives

Alternative 1: Fire Alarm System Upgrade. This alternative will modernize the existing fire protection system and remove obsolete components that do not meet current standards. Key features would be to upgrade to programmable/expandable panels, separate panels for gas, releasing and alarms, and upgrades to the communications network.

Alternative 2: Do Nothing / Defer. No investment into upgrading the fire protection system. Individual projects would be required to continue patch into an antiquated system, reducing the systems reliability and overall plant safety.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits ☒ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☒ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☒ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☐ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

LNG – Flare Header Refurbishment

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101569	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01 Apr 2025	**Estimated In-Service Date:** 31 Mar 2029
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:

The Greenpoint Liquefied Natural Gas (LNG) Facility stores and process flammable material in the form of LNG and natural gas. To continue to safely operate the different process systems are connected to a flare system that consists of relief valves, a flare header (warm and cold), a cold flare heater, knockout drum, and the flare itself. When process equipment experiences abnormal operating conditions that cause a build-up of pressure, relief valves open and send material to the flare to prevent that equipment or pipe from being over pressured. This material is transported through a piping network known as the flare header to the flare where it is safely combusted. The system is a critical layer of protection for ensuring the safe operation of the facility. Recent relief events have damaged the flare header and now it requires refurbishment. This project shall refurbish the relief head and evaluate the condition of associated equipment for the cold flare system to determine if it warrants an upgrade.

Justification Summary:

The relief system is required to ensure the safe and reliable operation of the LNG facility. A spill over of cryogenic material from the cold flare system to the warm flare induced cracking in the header and a more recent flare event caused fire to propagate through the warm header resulting in damages that must be repaired. While the repairs and assessment to the flare header have deem it suitable for service, a more permanent solution is required to continue the plants safe operation.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of “Peak Shaving” for New York City customers, the plant also plays a strategic role in the company’s gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits to the plant reliability and safety by ensuring the flare system is available during critical operating windows, maintenance activities, and construction activities that may require a dependable flare system. This improves employee and public safety through the safe handling of hazardous gases in a closed system.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 150	$ 350	$ 1,500	$ 3,050
OPEX				
TOTAL	$ 150	$ 350	$ 1,500	$ 3,050

Supplemental Information

Alternatives

Alternative 1: Refurbish Flare Header and Associated Equipment. The flare header will be replaced and equipment that is near the end of life will be evaluated to determine if it also needs to be replaced.

Alternative 2: Do Nothing / Defer

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG – Flare Refurbishment

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220001676		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 04/01/2024	**Estimated In-Service Date:** 03/31/2025
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
The Greenpoint Liquefied Natural Gas (LNG) Facility operates process equipment are protected by a flare system. This system can be separated into two; a system dedicated to cold vapor handling and one dedicated to warm vapor disposal. Both these systems send relief material to the flare to be combusted safely. The stack measures 75 ft high and has a diameter of 24 inches. Gas ignited pilots maintain flame that facilitates vapor disposal. The stack always operates at a slight vacuum to ensure the proper flow path of gas. This project will refurbish the flare and associated controls, or equipment as required to ensure safe and reliable operation of the plant.

Justification Summary:
In 2018 John Zink, the flare equipment manufacturer, inspected the flare and found several items that needed to be repaired or replaced. This work is crucial in ensuring the safe and reliable operation of the facility.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits to the plant reliability and safety by ensuring the flare system is available during critical operating windows, maintenance activities, and construction activities that may require a dependable flare system. This improves employee and public safety through the safe handling of hazardous gases in a closed system.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 1,500	$ -	$ -	$ -
OPEX				
TOTAL	$ 1,500	$ -	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Refurbish the Flare and Associated Equipment. This option refurbished the flare and associated equipment as required to continue the safe and reliable operation of the facility.

Alternative 2: Do Nothing / Defer

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Studies/References That Support the Program:

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☒ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☐ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

LNG – Generators Upgrade

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220001136		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 04/01/2022	**Estimated In-Service Date:** 03/30/2030
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
Greenpoint LNG Facility utilizes three emergency engine/generators (Engine No. 1, Engine No. 2, Engine No. 3) as an alternative supply of electricity and low-pressure steam for the LNG plant. They provide sufficient power for operation of critical systems and of the Low-Pressure Vaporization System. Of the three existing engines generators Engine No. 2 is currently out of service and is beyond repair. The project shall replace all three of the engine generators with modern equivalents. Along with the equipment upgrade the project will be required to replace associated controls and piping systems as well as modify the foundation to install the generators.

Justification Summary:
The Engine No. 1 and No. 3 are nearing end of life, and Engine No. 2 is out of service. If another of the engine generators fails due to old age and poor condition, the facility would not be able to supply emergency power, as required by code, to the facility in the event of an outage.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving the facilities reliability by ensuring emergency power is available for critical equipment during an unexpected loss of power. The project also increases the facility's safety by upgrading the controls to increase automation and ensuring that emergency power has adequate capacity to safely power all required equipment.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 350	$ 250	$ 300	$ 1,175

OPEX				
TOTAL	$ 350	$ 250	$ 300	$ 1,175

Supplemental Information

Alternatives

Alternative 1: Replace Generators at current location. This alternative will replace the generators at their current location within the Generator Room in the main Control Building. This will allow the project to reuse a significant amount of the existing infrastructure include piping, valves, foundations, electrical systems, and controls.

Alternative 2: Replace Generators at new location. This alternative will replace the generators at a new location. This will require a new building or structure be constructed to house the generators. It will also require significant infrastructure to be installed to support the replacement generators such as piping, valves, electrical, controls systems, and foundations.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG-Hydrant & Deluge Piping Upgrade

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220001065		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 09/18/2018	**Estimated In-Service Date:** 3/31/2026
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:

The Greenpoint LNG Facility has a dedicated saltwater fire protection system. This system was installed in the 1920's to provide fire protection beyond what the NYC hydrant system could supply. This hydrant and deluge piping is composed of concrete lined carbon steel and cast iron and is approaching end of life. The piping is severely corroded and pitted due to years of saltwater exposure. Both systems have undergone many repairs over the years and have posed many challenges for meeting FDNY testing. The hydrant and deluge piping upgrade project are therefore required to address these issues.

Justification Summary:

The Greenpoint LNG facilities has had multiple system failures to the existing saltwater hydrant system and deluge piping over the past several years. Each year, there is exceptionally high operating cost in response to reactive pipe failures. An assessment was conducted to evaluate different options to rehabilitate the system. Multiple studies conducted were conducted to evaluate system rehabilitation options, addressing existing deficiencies, and improving system reliability.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by ensuring adequate fire protection will be available throughout the facility in the event of an emergency. This will increase plant, employee, and public safety by ensuring all locations have adequate hydrant coverage in the event of an emergency.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 2,683	$ 19,692	$ 6,880	$ -
OPEX				

TOTAL	$ 2,683	$ 19,692	$ 6,880	$ -

Supplemental Information

Alternatives

Alternative 1: Hydrant / Deluge System Replacement. A complete system replacement would include the installation of a new saltwater hydrant and delude system. This rehabilitation method assumes all underground piping, valves, and system components would be replaced. Above ground fire hydrants, monitor nozzles and fire department connection could be reused, for cost savings, if maintained and proven functional in accordance with NFPA 25. The new saltwater hydrant system will provide the most value added for National Grid including operational flexibility for future site expansions, system reliability, code compliance, and life safety.

Alternative 2: Cured-in-place (CIPP) to line Existing Piping. Cured-in-place (CIPP) is a trenchless rehabilitation method where a flexible liner is inserted into the existing host pipe via water or air pressure. CIPP does not require excavation for system lateral connections and points can be reconnected with robotic cutters. Excavation may only be required for launching pits depending on system access points. CIPP can be advantageous when working around a multitude of unknown underground utilities.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG – New Control Room

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220100844		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 07/03/2023	**Estimated In-Service Date:** 03/31/2027
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
The Greenpoint Liquefied Natural Gas (LNG) Facility is building a new Maintenance and Control Building. This building will act as the main location where operators work and control equipment. The Control Systems Upgrade project will migrate the controls systems from the existing control building to this new location on the northwest side of the property. The existing control room in the current control building consist of outdated controls equipment, some of which is original to the plant circa 1970. As such a new control room must be furnished and equipped to support plant operations at this new location.

Justification Summary:
To ensure safe, effective, and reliable plant operation a new control must be furnished at the new control building location. All operational functions will be performed out of the new maintenance and control building.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits to plant reliability and safety by providing modern, redundant control equipment at a new control building location. It will enable the operators to relocate to the new combined Maintenance and Control Building which will ensure a more cohesive work environment and improve communication between the operations and maintenance teams. The control room is located at higher elevation which provides operators an overlook to the facility, allowing them to easily monitor the various process units.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 300	$ 5,000	$ 10,000	$ -
OPEX				

TOTAL	$ 300	$ 5,000	$ 10,000	$ -

Supplemental Information

Alternatives

Alternative 1: Furnish New Control Room. Operational functions will be migrated to the new Maintenance and Control Building at the northwest area of the LNG Facility. The existing controls systems will be migrated up to the new building. As such a new control room must be furnished and equipped with all hardware required to operate the facility including monitors, servers, cable, and control stations.

Alternative 2: Do Nothing / Defer

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____
__

LNG - Piping Insulation Inspection & Upgrade

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001664	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** FY25	**Estimated In-Service Date:** FY28
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:
This program is to inspect and upgrade the piping insulation as necessary on various systems within the Greenpoint LNG facility to maintain plant efficiency and extend the life of the piping and equipment. This program will upgrade degraded insulation, refurbish pipe supports/structural components, refurbish coatings, and correct corrosion issues.

Justification Summary:
Deteriorating insulation and corrosion to piping poses a risk to the LNG facility. If left unchecked, it can lead to planned or unplanned shutdowns, impacting the supply of natural gas to the system. The Piping Insulation Inspection & Upgrade program is part of a proactive program to ensure that the existing piping system is assessed, identified, and upgraded.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by proactively inspecting and replacing piping, insulation and pipe supports as needed to ensure reliability and safety at the LNG plant.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 1,000	$ 1,000	$ 1,000	$ 1,000
OPEX				
TOTAL	$ 1,000	$ 1,000	$ 1,000	$ 1,000

Supplemental Information

Alternatives

Alternative 1: Inspect & Upgrade Piping Insulation. Inspect and upgrade the piping insulation as necessary on various systems within the Greenpoint LNG facility to maintain plant efficiency and extend the life of the piping and equipment.

Alternative 2: Do Nothing. If the Piping Insulation Inspection & Upgrade Program investments are not made, there is a risk that the Greenpoint LNG resources will become unavailable during the heating season. This would require the purchase of higher cost city gate supplies (if available) and may result in financial penalties from pipelines if the Company cannot adhere to operational flow orders and other contractual requirements. The lack of LNG Plant availability could lead to customer outages during heating season resulting in a negative customer impact.

Any potential short-term savings of doing nothing are quickly outweighed by increased maintenance, operating and replacement costs. A "Do Nothing" alternative does not address potential reliability and safety risks associated with not replacing deteriorating equipment needed to operate facilities safely and reliably. These risks include:

- Deterioration of gas facilities/assets
  - Severe reduction in useful service life
  - Leaks – safety hazards and increased greenhouse gas emissions
  - Unplanned maintenance and repairs
  - Operator work around to continue system operations
- Potential loss or danger to customers and public

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG - LNG - Relocate Maintenance Area & New Control Building

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000357		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 03/01/2017	**Estimated In-Service Date:** 3/31/2027
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:

This project proposes to relocate the maintenance facility and control room facility at the Greenpoint LNG plant. The plant will take advantage of this opportunity to consolidate the control room and maintenance facility into a centralize building, in hopes of improving plant-wide communications, increasing operating efficiency, and reducing costs.

The new site is located at the northwest portion of the site near Varick Ave and Lombardy St of the Greenpoint LNG property. The two-story building will include additional office space, conference rooms, common area, shower/locker facility, maintenance area and workshops. Located at a higher elevation, the buildings natural overlook will also allow operators to monitor processes, increase security and oversee construction activities.

A later project will install a new control center within the building to bring a more advance control system, integration with Newtown Creek RNG system and to better protect operations personnel on site.

Justification Summary:

Consolidation of the control room and the maintenance building will ensure a more cohesive work environment and improve communication between the operations and maintenance teams.

The new building will increase safety of plant personnel by relocating operations staff from an old control building that is located near process areas to a safer location within the plant. The new location is also at a higher elevation allowing the operators to easily monitor the process areas, ensure security at the site and oversee construction activities.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of “Peak Shaving” for New York City customers, the plant also plays a strategic role in the company’s gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will improve operational efficiency and reliability at the facility ensuring that services are maintained to Gas clients.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 19,548	$ 12,392	$ -	$ -
OPEX				
TOTAL	**$19,548**	**$12,392**	**$ -**	**$ -**

Supplemental Information

Alternatives

Alternative 1: Do nothing / Defer. Without this investment, there maintenance and operations teams will continue to be separated. A centralize building will improve plant-wide communications, increasing operating efficiency, and reducing costs.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** Direct - Quantifiable. This project is required for reliability. The project is expected to result in increased energy consumption for the new structure of approximately 88,320 kWh/year and 739 mmBTU/year, which would result in incremental emissions of 39.5 MT CO_2e.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG - SALT WATER PUMP HOUSE UPGRADE

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000368		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 03/09/2016	**Estimated In-Service Date:** 3/31/2026
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
Relocation and storm hardening of the 1920's era saltwater pump hose (SWPH), including construction of a new system that provides protection for critical equipment and maintains operation of the fire protection system during and after a flood event.

Justification Summary:
The new saltwater pump house (SWPH) provides storm hardening/resiliency since the existing pump house sits below grade and was severely impaired during Superstorm Sandy which affected the availability of the plant. Tests on the NYC hydrant system in Greenpoint have shown that it can only produce a volume of about 300 gpm at a pressure of only 35 – 40 psig which is not nearly adequate to protect this facility. FDNY requirements for plant operation mandate that the saltwater fire suppression system be available.

The fire suppression system provides a dedicated source of salt water for two major systems, the deluge system, and the fire hydrant system. The deluge system consists of coated piping that surrounds each tank with an array of steel risers and nozzles surrounding the dike of each tank rising from the ground. High pressure water is pumped from the SWPH through the nozzles and is sprayed vertically to form a water curtain that surrounds the tanks. The water curtain requires approximately 12,000 gpm per ring of water and will rise to a height of approximately 60 – 70 feet. The purpose of this water curtain is to warm LNG vapor in case of a spill inside the inner dike and to reduce thermal radiation that would otherwise heat the tank in case of a nearby fire from another source including the second LNG tank.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving the plants storm resiliency, safety, and fire protection system reliability. The new SWPH will be designed such that is it out of the flood plain, allowing the plant to safely operate during extreme weather events. Equipment will be modernized, and controls upgraded, improving on the fire protection system reliability and automation.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 25,029	$ 15,390	$ -	$ -
OPEX				
TOTAL	$ 25,029	$ 15,390	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing/Defer Project. Doing nothing or deferring this project will leave major company assets in jeopardy if the current fire protection equipment is unable to perform as designed in the event of a catastrophic fire. Furthermore, FDNY may not allow the facility to operate should the fire suppression system not be operable. The company's reputation, equipment and personnel could all be subject to irrefutable damage.

Alternative 2: Retire the Saltwater Pump House. This option would force the retirement of the LNG plant itself. Since this plant comprises a substantial amount of the peak day supply in NYC, this option is not feasible.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** Direct - Quantifiable. This project is required for reliability. The project is expected to result in increased electricity consumption of approximately 1,928 MWh/year, which would result in incremental electricity-related emissions of 557 MT CO_2e.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG Security System Upgrade

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220001662		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 08/01/2022	**Estimated In-Service Date:** 03/31/2026
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
The Greenpoint Liquefied Natural Gas (LNG) Facility has several security measures in place to ensure plant and operator safety. Perimeter fences, security cameras, manual/automated gates, turn styles, CCTV, and security guards are all utilized as means of site security. This project shall upgrade the site security system.

Justification Summary:
To ensure the safety of the operators and of plant operations upgraded security measures are required.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving employee and public safety through enhanced security measures decreasing the likelihood of trespassers breaching the facility.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 2,000	$ 2,000	$ -	$ -
OPEX				
TOTAL	$ 2,000	$ 2,000	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Security System Upgrades. The plant will upgrade perimeter fencing and tank stair fencing to anti-climb and install privacy screens. New turn styles and automated gates with card readers shall be installed. Intrusion detection, offsite monitoring, blind spot mirrors, and other upgraded measures will also be considered for the security upgrade.

Alternative 2: Do Nothing / Defer

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG - Tank 2 Foundation Heaters

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101204		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 03/01/2020	**Estimated In-Service Date:** 3/31/2029
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
The Greenpoint LNG Facility's Tank 2 has a hot wire loop foundation heating system that was installed in the 1970's and is no longer operating at its original design capacity. Tank 2 is an Liquified Natural Gas (LNG) storage tank that operates at cryogenic temperatures (-260 °F). The foundation heating system prevents the ground from freezing due to these cold temperatures. Several attempts have been made to repair the system by pulling the heating elements and reusing the existing conduits to limited success. Many of the conduits were collapsed or frozen preventing the elements from being replaced. As such the system has continued degrading and requires a long-term solution. This project is to upgrade the tank's existing foundation heating system, restoring it to its original capacity and modernizing the controls.

Justification Summary:
A failure to the foundation heating system could leave the storage tank highly susceptible to frost heaving due to the cryogenic temperatures they are being exposed to. The cryogenic temperatures inside the tank can seep through onto the surface and can cause ice to amass on the ground. Frost heaving can also create cracks in the structure and foundation of the cryogenic tanks which might lead to LNG leaking.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will improve the reliability and safety of the Greenpoint LNG Facility by providing a new tank foundation heating system with modern controls while mitigating the risk of foundation damage or LNG leaks due to frost heave.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 360	$190	$4720	$9,930

OPEX				
TOTAL	$ 360	$190	$4720	$9,930

Supplemental Information

Alternatives

Alternative 1: Bore new heating conduits under tank. Modern boring technology allows for accurate installation of straight conduits beneath existing structures. This option is to install new conduits and a new electric heating system under Tank 2.

Alternative 2: Complete replacement of under tank heating conduit. Replace the existing foundation heating conduits with a modern equivalent. Tank 2 must be taken out of service, emptied, and purged with fresh air to make safe for entry. The tank floor will be removed, and conduits replaced.

Alternative 3: Do nothing / Defer. The condition of the heater has been deteriorating over time. If this issue is not addressed, or the project deferred the performance of the heating system will continue to decline.

Alternative 4: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☒ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** Direct - Quantifiable. This project is required for reliability. The project is expected to result in increased electricity consumption of approximately 189 MWh/year, which would result in incremental electricity-related emissions of 55 MT CO_2e.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

LNG - Tank IPC Coating Upgrade

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101570		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 08/01/2022	**Estimated In-Service Date:** 11/30/2027
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:

The Liquified Natural Gas (LNG) Storage Tanks at the Greenpoint LNG Facility are surrounded by a concrete primary containment dike. The dikes provide sufficient impoundment capacity in case of a spill or leak from the LNG tanks. Given the volatile nature of LNG, an insulating polymer concrete (IPC) Coating is applied to dike's surface to limit heat transfer from the ground to any LNG held within the dike. This reduces the rate of vapor cloud formation and the subsequent risk of ignition.

A recent condition assessment of the impoundment found significant degradation in the IPC coating including cracking, degraded caulked joints, spalling, and delamination. A total of 17,635 square ft of unsound IPC coating across both tanks was identified to be replaced. This material shall be replaced with a comparable polymer material used through the LNG industry.

Justification Summary:

The IPC coating upgrade is required to ensure safe operation of the Greenpoint LNG Facility. The IPC coating acts as one of the final protective measures to mitigate risk in case of a catastrophic tank failure or large spill of LNG. The coating slows the rate of evaporation which lowers the concentration of LNG (methane) below its flammability limits, thus mitigating the potential for a large vapor cloud and subsequent ignition.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving plant safety by ensure the IPC coating is in good condition and will function as intended to prevent vapor cloud formation.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 100	$ 750	$ 1,100	$ 0

OPEX				
TOTAL	$ 100	$ 750	$ 1,100	$ 0

Supplemental Information

Alternatives

Alternative 1: Install InsulPOX Coating in heavily deteriorated areas. InsulPOX coating will be installed in the most heavily deteriorated areas within both the primary impoundment areas. This repair will be to the walls, floors, and caulking for the joints between the coating panels.

Alternative 2: Do nothing / Defer. Without this investment the IPC coating will continue to deteriorate and no longer be effective at mitigating a catastrophic event. It is not recommended that this investment is deferred, or this upgrade is not performed.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG - Vapor Suppression System

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220001133		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 06/11/2021	**Estimated In-Service Date:** 03/31/2026
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:
This project proposes to install Foamglas Fire Suppressant (PFS) insulation within the existing spill impoundment pit. This insulation will be used as a passive safety measure intended to reduce the vapor generation rate of LNG pools during spill scenarios. The PFS insulation will be installed at the base of the impoundment pit and float on top of LNG in the event of a spill.

This project also is to extend an existing LNG impoundment system to service four existing LNG vaporizers at the Greenpoint LNG Facility. The LNG vaporizers are currently not serviced by a dedicated impoundment system to contain LNG spills or leaks. The proposed scope will install new concrete curbing, aprons, trenches, and associated features as necessary to route potential spills away from the vaporizer area where it will be impounded in an existing spill pit.

Justification Summary:
The Vapor Suppression project would help mitigate those LNG release scenarios by reducing the vapor generation rate during spills in LNG process areas.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by improving on plant safety by allowing for spills in the existing vaporizer 7-10 area to be safely routed to an existing spill pit.

Funding Detail

Cost Breakdown:

$000				
CAPEX	$ 2,000	$ 1,851	$ -	$ -
OPEX				

TOTAL	$ 2,000	$ 1,851	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Install Automated High Expansion Foam System. Implement a new high expansion foam system at the Greenpoint LNG plant. The system will be used for vapor control during LNG spills or releases in the vaporizer process area.

Alternative 2: Do nothing. This option proposes to not complete or defer the project which would not accomplish the goal of lowering the risk profile of the plant. The safety of the plant would not change.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Studies/References That Support the Program:

Benefits

Reliability Benefits

☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

LNG -Vaporizers 7&8 Replacement

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000544		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 03/02/2024	**Estimated In-Service Date:** 03/31/2028
Sponsor: Leyble, Dennis		**Business Contact:** Gray, Kevin

Work Description:

Vaporizers 7 & 8 need to be refurbished due to their age and condition to ensure the continued and reliable vaporization at the Greenpoint LNG facility. This project is to replace the obsolete vaporizer control system with a new PLC control system, replace the tube bundles in-kind, inspect and replace the down comer as needed, replace, or repair the down comer support struts, replace the refractory, upgrade the fuel train, inspect, and repair the water box as necessary, test and replace the breakers and feeder cables as needed and replace the pilots. Each vaporizer will supply 50 MMSCFD (100 MMSCFD total) of gas into the 350-psi transmission system. This project will bring the vaporizers into code compliance and extend their life by approximately 35 years.

Justification Summary:

The Greenpoint LNG plant has six submersible combustion vaporizers (7, 8, 9, 10, 11 & 12). Vaporizers 7 & 8 Units were built in the 1970's and designed to vaporize gas into the 350-psi transmission system. Each vaporizer unit consist of four burners which transfers heat to LNG as it flows through the tube bundle.

Vaporizers 7 & 8 are approaching 50 years of service. Although it has been modified several times during its life cycle, there are several issues with the current vaporizers that justify a refurbishment. The issues include:

1. Aging LNG tube bundle
2. Outdated and obsolete relay logic control system
3. Antiquated burner management system (BMS)
4. History of repairs to the down comer support struts
5. Aging fuel train and control valves

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

This project will add further benefits by ensuring there is adequate gas supply in New York City by extending the life expectancy of aging vaporization equipment. This refurbishment will increase equipment reliability, safety, and automation through modernizing the old vaporizers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 3,000	$ 15,500	$ 12,600	$ 3,000
OPEX				
TOTAL	$ 3,000	$ 15,500	$ 12,600	$ 3,000

Supplemental Information

Alternatives

Alternative 1: Refurbish Vaporizers 7 & 8. This project is to replace the obsolete vaporizer control system with a new PLC control system, replace the tube bundle in-kind, inspect and replace the down comer as needed, replace or repair the down comer support struts, replace the refractory, upgrade the fuel train, inspect and repair the water box as necessary, test and replace the breakers and feeder cables as needed and replace the pilots.

Alternative 2: Replace Vaporizers 7 & 8 In-Kind. This alternative consists of replacing vaporizers (7 & 8) in-kind with an updated PLC control system. This alternative satisfies the reliability concern, depending on scope and complexity, this could be cost effective as alternative 1.

Alternative 3: Do Nothing/Defer Project. The consequence of not refurbishing or replacing the vaporizers (7 & 8) is the continued use of aged, outdated, and unreliable equipment at the Greenpoint LNG facility. Doing nothing exposes the Company and its customers to a potential gas supply disruption during the coldest days of the year when the need for natural gas is at its highest. For these reasons, this alternative is not recommended.

Alternative 4: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Societal Benefits/Externalities:

☐ Emissions Reduction

☐ Reduces use of Alt. Fuel

☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)

☐ Other: _____

LNG – Special Projects

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001667, 5220101229, 5220001663, 5220001132	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** LNG – Nitrogen System Refurbishment: 4/1/2022 LNG – Pump Upgrade (Tank 1): 8/24/2020 LNG – Sub M-Sub L Interconnect: 4/1/2021 LNG – Tail Gas Compressor: 12/4/2017	**Estimated In-Service Date:** LNG – Nitrogen System Refurbishment: 3/31/25 LNG – Pump Upgrade (Tank 1): 3/31/26 LNG – Sub M-Sub L Interconnect: 3/31/25 LNG – Tail Gas Compressor: 3/31/25
Sponsor: Leyble, Dennis	**Business Contact:** Gray, Kevin	

Work Description:

KEDNY has identified several special projects to be completed to ensure the continued safe and reliable operation of the Greenpoint LNG plant. The list of Special Projects includes the following:

- LNG – Nitrogen System Refurbishment [5220001667]
- LNG – Pump Upgrade (Tank 1) [5220101229]
- LNG – Sub M-Sub L Interconnect [5220001663]
- LNG – Tail Gas Compressor [5220001132]

Justification Summary:

LNG – Nitrogen System Refurbishment

This project proposes a replacement of the existing nitrogen system. Over time, the nitrogen tanks and associated equipment are starting to deteriorate, and leaks are becoming more frequent. The tanks are also prone to flooding and outside of the LNG main gate putting them at risk to third party damage. The nitrogen system was identified as a critical component during the Greenpoint Flood Study. As a result, this project will storm harden by relocating the Nitrogen System to a higher elevation.

LNG – Pump Upgrade (Tank 1)

This project aims to upgrade the existing LNG Pumps to improve reliability. There are three low pressure LNG pumps located at Tank 1, each rated to supply 50MMSCFD of LNG to the vaporizers. The pumps are original to the plant and has over 50 years of service. An internal pump inspection and replacement will address issues related to these aging pumps and extend service life of the pumps.

LNG – Sub M-Sub L Interconnect
This project is to bring additional electrical reliability to the LNG facility. Connecting Sub-M to Sub-L will allow an alternate electrical feed source to the facility. Further, this project is considered a storm hardening and reliability effort since both Sub-M and Sub-L is located at higher elevation.

LNG – Tail Gas Compressor
The tail gas compressor has seen a significant increase in maintenance costs and a significant decrease in reliability. The project is to replace the aging tail gas compressor with a new compressor to handle simultaneous flow from LP Flash Gas and Boiloff Gas. Furthermore, this project will storm harden the Jet Compressors and provide a more reliable piece of boil-off handling equipment in the event the Jet Compressors flood or are taken out of service.

Customer Benefits:
The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to facility shutdowns. Serving as the principal source of "Peak Shaving" for New York City customers, the plant also plays a strategic role in the company's gas supply portfolio. The facility has two (2) LNG storage tanks with a total design capacity of 1.6 BCF of LNG. Greenpoint LNG facility has a design output of 290 MMSCFD of natural gas. LNG peak shaving facilities operates intermittently, supplying natural gas pipelines during periods of peak need as required.

The Nitrogen System Refurbishment will improve plant reliability and safety by replacing obsolete equipment that is prone to leaks and will provide additional automation to the N2 system.

The Pump Upgrade will improve on the plants reliability by replacing aging equipment that is nearing its end of life

The Sub M / Sub L interconnect will address a storm hardening concern by providing an alternative power feed from a source at a higher elevation while also increasing feeder redundancy.

The Tail Gas Compressor will improve on the plant safety, reliability, and contribute to the storm hardening effort by replacing obsolete equipment, increasing plant automation, and adding resiliency to the boiloff system in case the plant's jet compressors are flooded.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX				
LNG – Nitrogen System Refurbishment	$3,000			
LNG – Pump Upgrade (Tank 1)	$3,590	$100		
LNG – Sub M-Sub L Interconnect	$1,100			
LNG – Tail Gas Compressor	$1,319	$2,352	$20	
OPEX				
TOTAL	**$9,009**	**$2,452**	**$20**	

Supplemental Information

Alternatives

LNG – Nitrogen System Refurbishment

Alternative 1: Replace Outdated N2 Supply System and Install New System South of LNG Tanks

Replace the existing N2 supply system with new equipment, new instruments and new piping up to tie-in points to the LNG plant systems.

Alternative 2: Do Nothing / Defer Project (Not Recommended)

The N2 supply system is from the 1960s/1970s. There are a record of repairs and leaks on the system. As such it is not recommended to do nothing or defer this project.

LNG – Pump Upgrade (Tank 1)

Alternative 1: Replacing the existing (4-stages) T1 LNG LP pumps with new (5-stages) pumps

This option includes the decommissioning of the existing 4-stages T1 LP pumps and replacing them with new 5-stages pumps with new motors.

Alternative 2: Do Nothing / Defer Project (Not Recommended)

The Tank 1 LNG pumps has been in service since it was commissioned in 1968 with very little upgrades to the system. An overhaul of the pump is necessary to ensure the continuation of reliable service and to achieve future demand targets to meeting customers needs.

LNG – Sub M-Sub L Interconnect

Alternative 1: Connect Sub-M to Sub-L. Maintain existing connectivity from Sub-W and Sub-A.

An electrical feed shall be run from Sub-M to Sub-L. An automatic transfer switch (ATS) shall be provided to swap between the new feed from Sub-M and the existing feed from Sub-W. These feeds from Sub-M and Sub-W shall provide power to Sub-L's East Transformer. The feed from Sub-A shall continue to supply power to Sub-L's West Transformer.

Alternative 2: Do Nothing / Defer Project (Not Recommended)

Doing nothing or deferring this project will leave major company assets in jeopardy. This could potentially disrupt the natural gas pipelines during periods of peak demand.

LNG – Tail Gas Compressor

Alternative 1: Replace the tail gas compressor with a modern equivalent and upgrading its controls.

Alternative 2: Do nothing/defer project (not recommended).

Doing nothing or deferring this project will leave major company assets in jeopardy. This could potentially disrupt the natural gas pipelines during periods of peak demand.

Alternative: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**

   ☐ **Yes** ☒ **No**

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**

   ☐ Yes ☒ No

3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**

   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project is within National Grid's property. Minimal impacts to community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** Direct - Quantifiable. This project is required for reliability. The Tail Gas Compressor upgrade is expected to result in increased electricity consumption of approximately 20 MWh/year, which would result in incremental electricity-related emissions of 6 MT CO_2e.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Main Protection - Storm Harrdening-Install Remotely Operated Service Safety Shut-off Smart Meters

Type: ☐ **Project** ☒ **Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Methakul, Rachapal	

Work Description:

This program funds the storm hardening measures to mitigate the public risk caused by flood damages to the gas equipment and service regulator within KEDNY's operating territory. Measures include the installation of remotely operated smart ultrasonic meters with integrated safety shut off and strategic installation of flood sensor to monitor the flood levels.

	FY25	FY26	FY27	FY28
Ultrasonic Meter Install				5,800

Justification Summary:

During Superstorm Sandy, National Grid was forced to shut down large service districts due to a lack of service level control. Inaccurate identification of customers impacted by flooding and the inability to isolate and remotely disconnect the impacted services resulted in long durations of service loss for customers. Services affected by flooding reduced the safety and reliability of the gas system. Approximately 10% of KEDNY's services reside within the Federal Emergency Management Agency's (FEMA) 500 year flood zone, totalling 58,000 customers.

Customer Benefits:

Implementing these storm hardening measures will further ensure the safety and reliability of gas customers within the flood zone while focusing on improvements in service delivery. This program will address the gas service reliability of the customers within the flood zone in the event of a storm surge. Customer satisfaction is negatively impacted due to gas service disruptions, inconvenience, and Company costs associated with the relight process. Conducting targeted interruption of gas service will reduce the customer impact and water intrusion in mains that have a long-lasting impact on the system. The recommended program will resolve future recurring disruptions to customers in a flood zone due to service freeze-ups during winter. This program will also improve emergency planning, incident management, and public safety.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX				$3,741
OPEX				

TOTAL				**$3,741**

Supplemental Information

Alternatives

Alternative 1: Flood Zone Only. This option highlights the minimum capital investment and operating expense requirements to install remotely operated safety shut-off valves and smart ultrasonic meters only within the 100-year flood zone. The risk is not including customers likely to be impacted by a storm and unsystematic management in the event of flooding. Moreover, with two different sets of customers, one with remote shut-off capability and the other without, two different emergency response methods will be called for in the event of flooding. This impacts the response time, increases customer outages, and presents risk.

Alternative 2: Do Nothing. This option leaves customers within the Flood Zone vulnerable to flooding. Further, the emergent issues presented in this proposal will likely continue, and customers will be susceptible to longer durations of service loss. The flooding occurrences present a risk to customers and public safety; flooding of gas services can negatively impact safety and system reliability leading to increased OPEX costs and customer dissatisfaction. In addition, the inability to properly storm harden all customers with a substantial risk of flooding and employ uniform emergency response criteria to future flooding events increases public risk and costs to shut off and restore the customers in the event of flooding. Furthermore, this option also does not align with the efforts of the NYC Storm Hardening Collaborative, which aims to improve resiliency, planning, and strategies addressing the risk-factors of climate change. The Company has a commitment with The City of New York ("City") to continue ongoing efforts of making the gas utility grid more resilient within its operating territory and strengthen it against severe weather events. Not implementing this Storm Hardening solution will negatively impact the relationship National Grid has with The City and presents itself with the risk of not addressing the effects of climate change. The collaboration between National Grid and The City will serve as a solid foundation for addressing the current and future challenges posed to our gas infrastructure by rising sea levels, extreme weather, and other deleterious impacts of climate change; not continuing this positive and productive relationship with The City will be detrimental to the efforts of The Company to protect its customers, stake holders, and infrastructure.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program aims to enhance customer safety by increasing storm hardening measures for homes within the flood zone and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The valve will provide the ability to remotely shutoff the flow of gas to services which will stop gas leaks located after the valve much quicker than previously possible.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Main Replacement – Proactive – Leak Prone Pipe

Type: ☐ **Project** ☒**Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000429	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Fong, Carmen	

Work Description:

Leak prone pipe ("LPP") in the KEDNY service territory is defined as including all 12 inch and smaller pipe that is (i) unprotected (i.e., non-cathodically protected) steel pipe (whether bare or coated), (ii) cast and wrought iron pipe, (iii) unprotected steel/wrought iron, vintage HDPE and copper services (associated services).

KEDNY's existing rate plan (Case 19-G-0309) requires the Company to replace 194 miles of leak prone pipe over four years (*i.e.,* CY2020, CY2021, CY2022 and CY2023).

For the reasons described below, the Company is recommending a proactive base LPP replacement target of 18, 21, 23 and 24 miles in CY2024 through CY2027 respectively. Accelerating replacement to the incentive target level will eliminate all LPP in KEDNY by FY45.

Fiscal Year	CY 2024	CY 2025	CY 2026	CY 2027
Proactive LPP, miles*	18	21	23	24
Total LPP Replacement**, miles	43	46	48	49

Note: * It includes about 0.8 miles of LPP over the rate years to make Coney Island area ready for Hydrogen blend.
** LPP replacement includes miles from City State Construction, Reinforcement and Reliability programs.

Justification Summary:

The December 31st, 2022, inventory of LPP of 12 inch and smaller pipe was 1,416.27 miles (327.12 miles of unprotected steel and 1,089.14 miles of cast iron/wrought iron), which represents approximately 33 percent of the distribution system in KEDNY's territory. The current leak repair rate for all distribution piping on the KEDNY system is 0.43 leaks per mile excluding leaks due to damages, decreased from 0.71 leaks per mile in 2015. The current leak repair rate for LPP is 1.23 leaks per mile; however, the leak rate increased significantly during 2014 and early 2015 due to exceptionally cold weather in Northeast. The impact of cold weather on the leak rates of specially on CI mains suggests that an accelerated replacement of LPP is warranted.

The proposed accelerated replacement of LPP is also supported by the Company's recently developed Distribution Integrity Management Plan (DIMP), which specifies that the Company: (i) know its distribution piping system, (ii) understand the

threats to the system, and (iii) evaluate the risks and prepare replacement programs for its leak prone mains and services inventory to help mitigate those risks.

Leak predictive models show that main replacement levels below a certain threshold will cause leak rates to increase exponentially. Replacement levels below this amount will cause leaks to increase to a point where the Company may not be able to reasonable react to the quantity of new leaks in a timely manner. Furthermore, such increased leak activity will classify larger quantities of mains as actively corroding which will require replacement just the same. The model shows that there is a practical limit to how many leaks a system can have and continue to operate safely.

LPP is only 33 percent of the KEDNY distribution main inventory, yet LPP accounts for 95 percent of leak repairs (excluding damages). Accelerated replacement of this pipe will improve safety, reliability, and customer satisfaction. The key benefits of an accelerated replacement program for LPP include:

- Improved public safety by reducing the risk for gas related incidents
- Improved system reliability and customer satisfaction
- Compliance with federal and state code requirements, including new US Department of Transportation's DIMP requirements
- Increased efficiency resulting from reduced commodity loss
- Reduction of methane emissions helping to reduce greenhouse gas emissions

Customer Benefits:

Customers can benefit from the program in the following ways:

- Improved public safety due to reduced risk of gas incidents
- Fewer unplanned service interruptions
- Fewer unplanned disruptions to traffic and roadways
- Fewer nuisance gas leaks and lowered greenhouse gas emissions

Funding Detail

Cost Breakdown:

	$000	FY25	FY26	FY27	FY28
CAPEX	**Main Replacement - Proactive - Leak Prone Pipe**	$ 186,685	$ 223,396	$ 251,500	$ 269,894
OPEX		$ 2,210	$ 2,649	$ 2,986	$ 3,208
TOTAL		**$ 188,895**	**$ 226,045**	**$ 254.486**	**$ 273,102**

Supplemental Information

Alternatives

Alternative 1: Minimal Replacement. This option would replace only the quantity of main required to hold leak rates to present levels. This option increases safety risks and does not align with the Company's or the Commission's goals to continue to reduce leak rates.

Alternative 2: No Replacements. No main replacement will result in increasing leak activity and increased risk to public safety. This will result in regulatory compliance issues and put the Company in violation of its federally regulated DIMP.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: The Company is required to complete LPP replacement as part of its regulatory commitments. Five projects under the Main Replacement Proactive Program were identified as NPA candidates but none of them were able to proceed due to lack of customer interest. The Company will continue to identify candidates in the future, but the success will depend on customer consent.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program consists of a portfolio of projects which are selected based on ENG0403 which risk ranks based on leak history and corrosion to prioritize LPP replacement. A project's location inside or outside of DAC does not impact the risk score.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct -Quantifiable. Replacing LPP will reduce the number of open leaks within the system and replace LPP with pipe that has a lower leak rate. Using the miles of pipe in the proactive program, the program is expected to reduce emissions by approximately 5,541 metric tons CO_2e in FY25, 6,465 metric tons CO_2e in FY26, 3,972 metric tons CO_2e in FY27, and 4,145 metric tons CO_2e in FY28.

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Studies/References That Support the Program: Joint Proposal in Case 19-G-0309

Benefits

Reliability Benefits

☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☒ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Main Replacement – Reactive

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000297	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Fong, Carmen	

Work Description:

This program funds the replacement of smaller sections of main segments and associated services that are identified during leak repairs and could not be repaired by leak clamps. This program provides Field Operations the ability to quickly make decisions on site to replace actively deteriorated segments of pipe. The program covers the Company's inventory of pipe that is (i) unprotected (i.e., non-cathodically protected) steel pipe (whether bare or coated), (ii) cast and wrought iron pipe, and (iii) unprotected steel/wrought iron and copper services ("associated services").

Justification Summary:

The December 31st, 2022, inventory of LPP of 12 inch and smaller pipe is 1,416.27 miles (327.12 miles of unprotected steel and 1,089.14 miles of cast iron/wrought iron), which represents approximately 33 percent of the distribution system in KEDNY's territory. The current leak repair rate for all distribution piping on the KEDNY system is 0.43 leaks per mile (excluding leaks due to damages) decreased from 0.71 leaks per mile in 2015. The current leak rate on LPP, 1.23 leaks per mile is almost three times the system leak rate.

LPP is only 33 percent of the KEDNY distribution main inventory, yet LPP accounts for 95 percent of leak repairs (excluding damages). The goal of this program is to quickly replace the small sections of actively corroded mains and reduce the risk associated with leak prone pipe in KEDNY's distribution system. The replacement of LPP and associated services is also supported by the Company's Distribution Integrity Management Plan (DIMP), which specifies that the company implement measures to: know its system; understand the threats to its distribution piping system; and evaluate risks and prepare replacement programs to help mitigate the risks associated with its leak prone mains and services inventory.

Customer Benefits:

This program minimizes customer impact by enabling Field Operations to determine when a section of main is beyond repair and must be replaced on site, minimizing the duration of field work and associated inconvenience to the public. The benefits of performing this work include improved community and government relations and reduced greenhouse gas emissions.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 7,023	$ 7,164	$ 7,307	$ 7,453

OPEX				
TOTAL	$ 7,023	$ 7,164	$ 7,307	$ 7,453

Supplemental Information

Alternatives

Alternative 1: Reduce or eliminate the Reactive Main Replacement Program. This alternative would result in increased O&M costs for leak response and repair, and delay the current plan for replacement of all leak prone pipe in the Company's territory. It would also increase the exposure to risk associated with leak prone pipes and may increase customer complaints.

Alternative 2: Eliminate the Reactive Main Replacement Program. This alternative would result in increased O&M costs for leak response and repair and delay the current plan for replacement of all leaks prone pipe in the Company's territory. It would also increase the exposure to risk associated with leak prone pipes and may increase customer complaints.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: NPAs are not suitable for this program as it is reactive to address repairs for on-system assets currently serving customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess

2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** The program supports make-safe activities wherever existing leaks are found, which could be within DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network? ☒ Yes** ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. Reactive budgeting allows operations to ameliorate substandard or emergency conditions, which can include fugitive emissions from leaking connections, pipe damage, or faulty equipment. The ability to make timely repairs can also prevent further deterioration that would necessitate more complex repairs.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Meter Work - Meter Changes

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000307	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Rodriguez, Philip	**Business Contact:** Smith, Derrick	

Work Description:
The KEDNY Gas Meter Change Blanket Program funds the changing of gas meters that are retired from service or abandoned to comply with the specific periodic testing requirements set forth by the New York State Public Service Commission. Additionally, the Company also completes requests to change meters. These meters are known as "change for cause meters".

Justification Summary:
The Commission's regulations require random sampling of gas meter performance on an annual basis. Meters are classified based on manufacturer/model, and the number of meters to be tested within each of these classifications is determined by the population size. The Commission's regulations also require remediation of meters that do not meet the required level of accuracy. The Company is typically allowed eight years to remove and replace a "failed" meter population. In addition, the regulations allow for the retirement of meter groupings. KEDNY currently has meters in each of the meter change program types (random, remediation, and retirement). The quantity of meters changed annually is based on the prior year's performance and remediation program status.

In addition to the mandated programs, the Company also completes requests to change meters based on performance. These meters are known as "change for cause" meters.

Customer Benefits:
Testing and replacing meters support accurate meter reading and customer billing.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$3,387	$3,455	$3,524	$3,595
OPEX				
TOTAL	$3,387	$3,455	$3,524	$3,595

Supplemental Information

Alternatives

Alternative 1: Do not conduct the required meter changes. Not an option as this is a mandated program**.**

Alternative 2: Non-Pipes Alternative ("NPAs") N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Pease briefly explain the results: This program does not install or replace main and is therefore not eligible for an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Not a specific project or installation and program applies across the service territory.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No material impact on emissions.

Studies/References That Support the Program: General Code Part 226 Gas Meters & Accessories-Testing & Reporting, section 26.8 Domestic meters- in-test programs and 226.9 Large volume meters- in-test programs

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: _Regulatory Compliance_____

Meter Work – Meter Relocation

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Saadat Khan	**Business Contact:** Carmen Fong	

Work Description:

The meter relocation program aims to move inside meters sets to outside the premises. Facilities to be relocated include the meter, associated appurtenances and, piping from the point of entry to the pre-existing point of connection to customer-owned piping.

Justification Summary:

This program is focused on the safety of gas customers and is a requirement of the Company's current Joint Proposal adopted in Case 19-G-0309. When renewing services where meters are located inside the customer's premise, all reasonable efforts will be made to relocate meters to the outside with priority given to high pressure services. Consideration for relocation opportunities include:

- Renewal of bare steel services;
- Service renewals involving leak prone pipe;
- Service renewals in "Flood Zones";
- Removal/replacement of mercury regulators upon discovery;
- Repairs on leaking services;
- Interruptions of service to customers who repeatedly deny access for mandated safety inspections; or
- When inspection determines the service is located in a corrosive environment such as: in the vicinity of certain chemical processing operations (e.g., electroplating, dry cleaning chemicals, etc.).

The following exceptions apply to all meter relocation efforts:

- where the customer refuses to provide consent to such relocation;
- where local building codes, regulations, or authorities preclude such relocations;
- where exterior or interior obstacles, space constraints, or physical barriers preclude such relocations;
- when the work involved is an emergency service line repair or replacement;
- where relocation requires extensive interior or exterior restoration and/or complicated interior piping work that would involve excessive costs or present increased operational risks for the Company and/or customer; or
- where the gas meter should not be moved outside for safety reasons.

Indoor gas meters must be inspected for safety at a minimum every five years. An appointment is scheduled to conduct meter inspections, and the customer must be on the premises for up to a four-hour period while the inspection is completed. Therefore, it is recommended to move the meters out, where possible, to further enhance safety, especially in the event a future leak may develop, and for to conduct these periodic inspections without inconveniencing the customer. Additional benefits to outside meter sets include allowing regular access to the meter for reading and verification and no cost to the customer for mandatory annual and/or 5-year leak surveys/corrosion inspections.

Customer Benefits:

This program benefits the customer by making meter sets accessible to Field Operations without entering the customer's building. The gas customer does not need to be on the premises for Field Operations to carry out mandated safety inspections. In the case of a more severe gas incident where access to the meter set is required, the customer does not need to be on the premises to allow Field Operations access. As a result, the customer has more trust in our ability to mitigate any potential incidents regardless of their location on or off the premises.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$2,775	$5,717	$11,776	$12,129
OPEX				
TOTAL	$2,775	$5,717	$11,776	$12,129

Supplemental Information

Alternatives

Alternative 1: Leave 50% Meters Inside. A decision to leave 50% of the meters inside will mitigate some of the risk associated with inside meter sets but ultimately leads to a failure to comply with regulatory requirements.

Alternative 2: Leave all Meters Inside. A decision to do nothing will ultimately lead to a failure to comply with regulatory requirements.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is designed to relocate meters from inside the premise to outside. The locations for the work being conducted are selected solely on the location of the meter, and may be located in DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project will not significantly impact GHG due to the scope of the project being limited to the meter location and associated piping.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Meter Work - Proactive ERT Replacement

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code:	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio ☒ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Saadat Khan	**Business Contact:** Emma, Nicole	

Work Description:

This program covers material and installation costs associated with the purchase and installation to replace ERT units approaching their end of battery life for FY25-FY28.

An analysis was done on the percentage of ERTs that will reach the end of life over the upcoming years based on their age and current battery failure percentage of ERTs. To avoid increasing numbers of failed ERTs, the optimal number of ERTs to be replaced over the next ten years was calculated. These replacements will drastically decrease the number of failed ERTs over the next five years.

	FY25	FY26	FY27	FY28
ERTs Replaced	20,000	25,000	30,000	35,000

Justification Summary:

When the ERTs reach their end of battery life, they will die and stop communicating the meter reads. This action forces the company to manually read the meters or provide estimated read bills to customers, which could cause underbilling to the company's customer. By replacing the aging ERT population, The Company will increase meter reading accuracy, reduce the number of estimated bills, and reduce the cost of meter readings associated with billing errors and customer complaints. In addition, this request supports regulatory requirements for accurate meter readings and billing.

Customer Benefits:

This project enables the company to provide accurate, actual billing information to customers by maintaining the health and integrity of the automatic meter reading (AMR) system.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 2,173	$ 2,761	$ 3,384	$ 4,043
OPEX	$ 0	$ 0	$ 0	$ 0
TOTAL	**$ 2,173**	**$ 2,761**	**$ 3,384**	**$ 4,043**

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This method will result in inaccurate readings & billing to the customer. If nothing is done, the number of dead ERTs by FY28 that will result in estimated bills to customers will drastically increase.

Alternative 2: Read meters manually. This method will result in a more time-consuming process & will require more FTEs to read the meters.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is designed to replace aging ERTs. The locations for the work being conducted are selected solely on the location of the meter and may be located in DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This project will not significantly impact GHG due to the scope of the project being limited to the meter location and associated piping.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☒ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

NYS PSC OQ Ruling: L&D - Tools & Equipment

Type: ☐ **Project** ☒ **Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code: 5230020361	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **OQP**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Mead, John	**Business Contact:** Ackermann, Scott	

Work Description:
This program requests incremental funding for tools, equipment and materials purchases, and upgrades to support training and testing field personnel in compliance with existing and new OQ programs under the NYS PSC OQ Ruling in Case 19-G-0736. Funding will accommodate existing personnel and new expected clients (e.g. contractors, engineers, etc.).

Justification Summary:
The resources described within this document are for: 1) the continuing support of current Gas Technical Training initiatives and 2) the new regulatory and compliance training requirements of the OQ Ruling. Due to increasing demands of the industry and newly adopted regulations, Technical Training needs to increase and enhance its training resources. This proposal will allow for NY Technical Training in DNY to perform all required regulatory and compliance instructor led training, laboratory training, OQ hands on performance evaluations, and field structured on the job training for National Grid employees and contractors.

Tools & Equipment funding is needed to maintain existing equipment, provide new or replace worn or defective equipment, and continue to fund all DNY Technical Training resources needed to deliver mandatory regulatory and compliance training. This will allow Technical Training to continually train and qualify existing and new employees and contractors throughout the year.

Customer Benefits:
Proper funding will ensure that employees and contractors working on National Grid gas infrastructure are appropriately trained in accordance with applicable state and federal regulations. The hands on and field evaluation process provides another layer of inspection and assurance of proper installation which ensures compliance with all policies, procedures, standards, and newly issued mandates. Proper funding for training will also increase the integrity and safety of installed gas infrastructure.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX	**$113**	**$24**	**$24**	**$24**
OPEX				
TOTAL	**$113**	**$24**	**$24**	**$24**

Supplemental Information

Alternatives

Alternative 1: Reduce Request. Reducing the budget line item is not recommended because the funds are needed to maintain existing equipment, provide new or replace worn or defective equipment, and continue to fund all DNY Technical Training resources needed to deliver mandatory regulatory and compliance training.

Alternative 2: Non-Pipes Alternative ("NPAs") - N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☐ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ Yes ☒ No

Please briefly explain the results: NPA analysis is not applicable because the proposal is a tools and equipment investment.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This is a tools and equipment budget and will not have an impact on GHG emissions.

Studies/References That Support the Program: OQ Order

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☒ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☒ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☒ Addresses specific safety initiative: __NYPSC OQ White Paper Ruling__ **Societal Benefits/Externalities:** ☐ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

NYS PSC OQ Ruling: L&D - FTE

Type: ☐ **Project** ☒ **Program**	**Category:** ☐ **Capital** ☒ **Both Capital & O&M**	
Investment Code: 5230020361	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **OQP**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Mead, John	**Business Contact:** Ackermann, Scott	

Work Description:
Incremental full-time equivalent employees (FTEs) are required to support the training and testing of field personnel for the new OQ programs under the PSC Ruling in Case 19-G-0736. FTEs will accommodate existing personnel, new expected clients (e.g. contractors, engineers, etc.), and the additional supporting workload required by the order.

Justification Summary:
The FTE resources described within this document are required for the management of the PSC OQ Ruling, design and development of program materials, training program scheduling, additional instructor led training, additional hands-on performance evaluations, and compliance with new evaluation ratios. The requested FTEs will accommodate existing internal employees as well as contractors, to the extent as determined necessary.

Due to increasing demands of the industry and newly adopted regulations, Technical Training needs to increase and enhance its training resources. This proposal will allow for NY Technical Training in DNY to perform all required regulatory and compliance instructor led training, laboratory training, OQ hands on performance evaluations, and field structured on the job Training for National Grid employees and contractors.

Customer Benefits:
Proper funding will ensure that employees and contractors working on National Grid gas infrastructure are appropriately trained in accordance with applicable state and federal regulations. The hands on and field evaluation process provides another layer of Inspection and assurance of proper installation which ensures compliance with all policies, procedures, standards, and newly issued mandates. Proper funding for training will also increase the integrity and safety of installed gas infrastructure.

Funding Detail

Cost Breakdown:

	FY25	FY26	FY27	FY28
CAPEX – Labor	**$249**	**$254**	**$258**	**$263**
TOTAL	**$249**	**$254**	**$258**	**$263**

Supplemental Information

Alternatives

Alternative 1: Reduce Request. Reducing the budget line item is not recommended because the funds will allow for NY Technical Training in DNY to perform all required regulatory and compliance instructor led training, laboratory training, OQ hands on performance evaluations, and field structured on the job Training for National Grid employees and contractors.

Alternative 2: Non-Pipes Alternative ("NPAs") - N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This budget is related to the hiring of FTEs and will not have an impact on GHG emissions.

Studies/References That Support the Program: OQ Order

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☒ Addresses specific safety initiative: __NYPSC OQ White Paper Ruling__

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: _Increasing compliance will increase public safety awareness_

Pipeline Integrity – IMP – Brooklyn Backbone/Original Extension to Transco approx. 42,767

Type: ☒ **Project** ☐ **Program**	**Category:** ☐ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101743	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/24**	**Estimated In-Service Date: 3/30**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:

ILI enable the Brooklyn Backbone/Original Extension to Transco approx. 42,767 feet to accept a robotic ILI. Works scope includes installation of Hot Tap fittings, replace existing plug valves, install charging points, and permanent vaults to facilitate inspections on a seven-year cycle.

KEDNY proposes an updated IMP that incorporates the elements of the current IMP along with proactive programs such as retrofitting pipelines for ILI including free swimming, robotic and tethered tools. The proposed IMP enhancements provide the greatest amount of risk reduction, thereby improving system safety and reliability. Additionally, it is anticipated that the program will better enable the Company to comply with future regulatory requirements.

Justification Summary:

Pursuant to the 2002 Act, the DOT promulgated rules on managing the integrity of transmission pipelines used by the gas and hazardous liquids industries under 49 CFR Part 192.901 – 192.951, which became effective on January 14, 2004. These regulations require pipeline operators to develop and implement an IMP for "covered" transmission pipelines, which are defined as certain pipelines in high consequence areas (HCA). The program required that the first cycle of pipeline assessments be completed no later than 2012. Reassessments are required to be completed at intervals not exceeding seven years thereafter from the last assessment. The assessments are comprised of external corrosion direct assessment (ECDA) and ILI. The results of each operator's program are summarized and reported to the DOT on an annual basis.

Pipeline safety laws and regulations constantly evolve driving progressive changes in utility operations and asset management. San Bruno and several other high profile pipeline incidents have set in motion recommendations, proposed rulemaking, and the 2011 Act signed into law on January 3, 2012. In 2019 & 2022 PHMSA issued two rules (RIN 1 & RIN 2) that will address the 2011 Act mandates and implement several additional changes to the regulations for gas pipelines. The rule includes the following significant items that will affect the IMP & IVP programs:

- Advised operators to make all pipeline segments operating at or over 20 percent SMYS ILI enabled

Customer Benefits:

ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company can proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers while meeting regulatory requirements.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 500	$ 2,000	$ 5,000	$ 10,000
OPEX				
TOTAL	$ 500	$ 2,000	$ 5,000	$ 10,000

Supplemental Information

Alternatives

Alternative 1: Maintain Current IMP Using ECDA Testing Method. This does not support PHMSA's (NTSB) recommendation that operators retrofit pipelines to be ILI enabled.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Regulatory Compliance

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Pipeline Integrity - IMP - Greenpoint LN-1.1.0 Robotic ILI approx. 11,750 feet

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101744	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/24**	**Estimated In-Service Date: 3/28**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
Pipeline Integrity - IMP - Greenpoint LN-1.1.0 Robotic ILI approx. 11,750 feet, replace valves, add charging ports and install robotic ILI access points as required.

Justification Summary:
Pursuant to the 2002 Act, the DOT promulgated rules on managing the integrity of transmission pipelines used by the gas and hazardous liquids industries under 49 CFR Part 192.901 – 192.951, which became effective on January 14, 2004. These regulations require pipeline operators to develop and implement an IMP for "covered" transmission pipelines, which are defined as certain pipelines in high consequence areas (HCA). The program required that the first cycle of pipeline assessments be completed no later than 2012. Reassessments are required to be completed at intervals not exceeding seven years thereafter from the last assessment. The assessments are comprised of external corrosion direct assessment (ECDA) and ILI. The results of each operator's program are summarized and reported to the DOT on an annual basis.

Pipeline safety laws and regulations constantly evolve driving progressive changes in utility operations and asset management. San Bruno and several other high profile pipeline incidents have set in motion recommendations, proposed rulemaking, and the 2011 Act signed into law on January 3, 2012. In 2019 &2022 PHMSA issued two rules (RIN 1 & RIN 2) that will address the 2011 Act mandates and implement several additional changes to the regulations for gas pipelines. The rule includes the following significant items that will affect the IMP & IVP programs:

- Advised operators to make all pipeline segments operating at or over 20 percent SMYS ILI enabled

Customer Benefits:
ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company can proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers while meeting regulatory requirements.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 250	$ 500	$ 7,000	$ 50
OPEX				

TOTAL	$ 250	$ 500	$ 7,000	$ 50

Supplemental Information

Alternatives

Alternative 1: Maintain Current IMP using ECDA testing method. This does not support PHMSA's (NTSB) recommendation that operators retrofit pipelines to be ILI enabled.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Regulatory Compliance

Pipeline Integrity - IMP - Jamaica Bay Line ILI

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001843	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: In - Progress**	**Estimated In-Service Date: 3/36**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
Jamaica Bay Line - 0.1 - Robotic ILI Enablement --- Work scope includes installation of large diameter Hot Tap fittings, replace existing plug valves, install charging ports and permanent vaults to facilitate inspection on a seven-year cycle.

Justification Summary:
Pursuant to the 2002 Act, the DOT promulgated rules on managing the integrity of transmission pipelines used by the gas and hazardous liquids industries under 49 CFR Part 192.901 – 192.951, which became effective on January 14, 2004. These regulations require pipeline operators to develop and implement an IMP for "covered" transmission pipelines, which are defined as certain pipelines in high consequence areas (HCA). The program required that the first cycle of pipeline assessments be completed no later than 2012. Reassessments are required to be completed at intervals not exceeding seven years thereafter from the last assessment. The assessments are comprised of external corrosion direct assessment (ECDA) and ILI. The results of each operator's program are summarized and reported to the DOT on an annual basis.

Pipeline safety laws and regulations constantly evolve driving progressive changes in utility operations and asset management. San Bruno and several other high profile pipeline incidents have set in motion recommendations, proposed rulemaking, and the 2011 Act signed into law on January 3, 2012. In 2019 &2022 PHMSA issued two rules (RIN 1 & RIN 2) that will address the 2011 Act mandates and implement several additional changes to the regulations for gas pipelines. The rule includes the following significant items that will affect the IMP & IVP programs:

- Advised operators to make all pipeline segments operating at or over 20 percent SMYS ILI enabled

Customer Benefits:
ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company can proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers while meeting regulatory requirements.

Funding Detail

Cost Breakdown:

ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company can proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.

$000	FY25	FY26	FY27	FY28
CAPEX	$ 18,966	$ 9,000	$ -	$ -
OPEX				
TOTAL	$ 18,966	$ 9,000	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Maintain Current IMP using ECDA testing method. This does not support PHMSA's (NTSB) recommendation that operators retrofit pipelines to be ILI enabled.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.

3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Regulatory compliance

Pipeline Integrity - IVP - Clove Lakes Line AO Smith pipe replacement

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101210	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: In Progress**	**Estimated In-Service Date: 3/26**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
Replace approximately 2,700-feet of 30-inch gas transmission pipeline which is part of the Clove Lakes Transmission Line. The records review project for this pipeline revealed the presence of AO Smith (Brand) manufactured pipe in this segment of the pipeline. The industry has determined that AO Smith has been the cause of pipeline failures due to long seam failures and PHMSA has advised operators to evaluate the continued use of this pipe. We have determined that this section of pipe will require proactive replacement to mitigate the risk of failure.

Justification Summary:
AO Smith flash welded seam welds have known issues that can be detrimental to the overall integrity of a pipeline. Cold welds, lack of fusion, stitching, under-trim, and selective seam corrosion (SSC) have all been observed in vintage Flash welded pipe. Pipeline operators have had documented seam failures with flash welded pipe and in particular pipe manufactured by AO Smith. Review of TVC for the Clove Lakes pipeline has indicated that this section of piping can be traced back to AO Smith. Continued use of this pipe has been evaluated and was determined that it should be replaced due to its industry performance issues.

Customer Benefits:
Replacement will allow for the continued operational safety of the Company's transmission system as well as meets the actions outlined in the fit for service evaluation.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 29,140	$ 250	$	$ -
OPEX				
TOTAL	$ 29,140	$ 250	$	$ -

Supplemental Information

Alternatives

Alternative 1: Do nothing and continue to operate existing pipeline. This does not reduce long term risk and does not meet the fit for service requirements and comply with PHMSA's advisory bulletin.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☐ Enhances employee safety ☐ Increases automation (reduces human error) ☒ Enhances Public Safety ☐ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ **Societal Benefits/Externalities:** ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☒ Other: Meets regulatory mandates

Pipeline Integrity - IVP - Coney Island Bridge Crosssing

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101540	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/23**	**Estimated In-Service Date: 3/26**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
This project replaces the entire Coney Island Bridge Crossing, approx. 180-foot long, off the Brooklyn Backbone which was determined to be missing adequate documentation to prove an original pressure was conducted. This relates to a regulatory requirement to verify original pressure test, also referred to as Part R requirement.

Justification Summary:
The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:
Replacement of pipe with inadequate records will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company can comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 200	$ 500	$ 5,000	$ 100
OPEX				
TOTAL	$ 200	$ 500	$ 5,000	$ 100

Supplemental Information

Alternatives

Alternative 1: Do nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ Yes ☒ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Regulatory Compliance

Pipeline Integrity - IVP - Fulton & Grand Casing Work

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101628	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: In-Progress**	**Estimated In-Service Date: 3/25**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
Current pipeline crosses the existing subway tunnel inside a cased (pipe within a pipe) crossing. This project replaces the entire cased crossing for this intersection by excavation and removal of existing shorted assembly. Aproximately 120 feet of 30-inch pipeline will be replaced.

Justification Summary:
Existing casing is "shorted" to the carrier pipe. After multiple attempts to clear short the decision was made to replace the entire crossing. Regulatory requirements mandate that shorted casings must be mitigated to prevent external corrosion of the carrier pipe. Shorted casings are unable to provide adequate cathodic protection levels to the pipe surface. Carrier pipe was installed in a mitered sleeve during original construction. To eliminate the short the entire cased crossing will require replacement.

Customer Benefits:
Replacement of the cased pipe with new pipe will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company can comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 7,251	$ 59	$ -	$ -
OPEX				
TOTAL	$ 7,251	$ 59	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Continue to attempt to clear the short. Multiple techniques have been attempted (wax fill, ribbon anode, end seal replacement) there is low probability that additional attempts will be successful.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Regulatory compliance

Pipeline Integrity - IVP - LN-1.4.0 - Spur to Con Ed Nar Gen

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101538	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/23**	**Estimated In-Service Date: 3/28**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
This project replaces the entire spur, approx. 874-foot long, Spur to Con Ed Nar Gen off the Brooklyn Backbone which was determined to be missing adequate documentation to prove an original pressure was conducted.

Justification Summary:
The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:
Replacement of pipe with inadequate records will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company can comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.
Program Benefits Include:

- Reduces operational risk
- Public safety increased
- Meet regulatory requirements

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 250	$ 500	$ 6,000	$ 100
OPEX				
TOTAL	$ 250	$ 500	$ 6,000	$ 100

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meet regulatory requirements

Pipeline Integrity - IVP - LN-3.0.0 - Southern Line - Part

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101524	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: In-Progress**	**Estimated In-Service Date: 3/27**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
DOT Part R schedule requirements mandate the remediation of missing pipeline records gaps prior to 2035 (50% of which must be completed by 2028). This project scope will remediate the "Part R" hydro gaps associated with the Southern Line at the following specific locations: (4) 26" Plug Valves (BQ1029, BQ1032, BQ1034, BQ1036) and (1) 24" Plug Valve (BQ1040). These will be replaced with min. (25ft) 26" or 24" piping, (2) IJs, and (1) ball valve at each location.

Justification Summary:
The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:
Replacement of pipe with inadequate records will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company is able to comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.
Program Benefits Include:

- Reduces operational risk
- Public safety increased
- Meet regulatory requirements

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 750	$ 3,100	$ 4,500	$ 3,100
OPEX				
TOTAL	$ 750	$ 3,100	$ 4,500	$ 3,100

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

If yes, please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meet regulatory requirements

Pipeline Integrity - IVP - LN-4.0.0 - Jamaica Bay Line

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101543	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/24**	**Estimated In-Service Date: 3/27**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
This project replaces the entire segment 4.0.0 including valves off the Jamaica Bay Line which was determined to be missing adequate documentation to prove an original pressure was conducted. This relates to a regulatory require to verify original pressure test, also referred to as Part R requirement.

Justification Summary:
The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:
ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company is able to proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.
Program Benefits Include:

- Reduces operational risk
- Public safety increased
- Meets regulatory mandates

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 200	$ 500	$ 5,000	$ -
OPEX				
TOTAL	$ 200	$ 500	$ 5,000	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meet regulatory mandate

Pipeline Integrity - IVP - LN-6.1.0 - Spur to Staten Island

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101539	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/25**	**Estimated In-Service Date: 3/29**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
This project replaces the entire spur, approx. 60-foot long, Spur to Staten Island, off the Brooklyn Backbone which was determined to be missing adequate documentation to prove an original pressure was conducted. This relates to a regulatory requirement to verify original pressure test, also referred to as Part R requirement.

Justification Summary:
The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:
ILI enablement will allow for the enhanced operational safety of the Company's transmission system. Through ILI enablement, the Company can proactively inspect existing transmission assets to identify anomalies or other issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.
Program Benefits Include:

- Reduces operational risk
- Public safety increased
- Meet regulatory mandate

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 500	$ 500	$ 2,000
OPEX				
TOTAL	$ -	$ 500	$ 500	$ 2,000

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meet regulatory mandate

Pipeline Integrity - IVP - Reactive Main Replacement

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220002018	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:
This project is responsive to pipe condition assessments performed under the IMP program. Inspections using ILI and ECDA technology are used to identify sections of pipe with possible anomalies. Follow up excavations determine the type of remediation required. Sections of pipe that cannot be repaired with insitu methods must be replaced by cylinder cut outs. The reactive main replacement item funds this type of mitigative activity.

Justification Summary:
The mitigation of anomalies is mandated in the federal, state codes and in NG procedure. Each anomaly is assessed, classified, and mitigated with the appropriate action. Anomalies that are classified as immediate musted be mitigated by removal from the pipeline.

Customer Benefits:
Replacement of pipe with anomalies will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company is able to comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers.
Program Benefits Include:

- Reduces operational risk
- Public safety increased
- Increased operational safety

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 541	$ 552	$ 563	$ 574
OPEX				
TOTAL	$ 541	$ 552	$ 563	$ 574

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meets regulatory mandates

Pipeline Integrity - IVP - Spur - 20" Spur to South Staten Island Gate; Tie-in, Tee, and Station Piping

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220001779	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date: 4/25**	**Estimated In-Service Date: 3/29**
Sponsor: Kern, Mike	**Business Contact:** Conklin, Kevin	

Work Description:

Pipeline Integrity - IVP - Spur - 20" Spur to South Staten Island Gate; Tie-in, Tee, and Station Piping - replace 20" pipe and fittings, tie back into existing pipeline.

This project is to replace pipe that was determined to have insufficient records. PHMSA rule making (MEGA Rule-RIN 1)

Justification Summary:

The recent PHMSA rule making (RIN1) has directed operators to address pipelines that do not have adequate or missing records such as pressure test charts, material reports and weld records. Compliance requirements are for 50% of inventory to be addressed by 2027 and 100% to be addressed by 2035. A comprehensive records review undertaken by the company has identified that this pipeline has inadequate records.

Customer Benefits:

Replacement of pipe with inadequate records will allow for the enhanced operational safety of the Company's transmission system. Through replacement, the Company can comply with new Federal code requirements and address material issues that might adversely affect the integrity of the system and result in gas safety concerns for the system and our customers. Program Benefits Include:

- Reduces operational risk
- Public safety increased
- Meet regulatory mandates

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 250	$ 100	$ 3,500
OPEX				
TOTAL	$ -	$ 250	$ 100	$ 3,500

Supplemental Information

Alternatives

Alternative 1: Do Nothing. This approach will result in the pipeline being out of compliance and could result in a fine and other regulatory action.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☒ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This mandated work is required by federal regulations and cannot be replaced with an NPA.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** Project location was selected based on location of existing assets and could not be avoided. The project will only have a temporary impact on the surrounding area and, where possible, the Company will seek to minimize its time at the location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact:** Direct - Non-Quantifiable. The project will proactively review assets and has the potential to avoid future leaks and failures on the system. Therefore, it could have a nominal impact on GHG reductions if a leak was discovered or avoided early because of the project.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Meet regulatory mandates

Proactive Regulator Stations -GOV-03

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101269		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2024	**Estimated In-Service Date:** 11/30/2024
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

GOV-03 is in Queens, NY and is a 1958 vintage station consisting of safety and district regulator vaults. The inlet pressure to the station is 15 psig and the outlet pressure of the station is 9" w.c. Max flow through the station is 286.16 MCFH. The station consists of 8" Fisher 217 regulators in both safety and district vaults.

The relocation of the station and adding OPP and subsequent retirement of the existing station will improve asset condition, the safety of the asset and address any open reliability concerns. A third layer of over pressure protection will be added to protect the station in an emergency. The station will be designed per ENG01002 standard, and the completion of this project will ensure continuous gas service to customers.

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for GOV-03.

Current condition:

- Current Fisher 217 regulators are obsolete
- No OPP is installed
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

The relocation of the regulating station will improve the asset condition, the safety of the asset and address any open reliability concerns. A third layer of over pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 3,695	$ 100	$ -	$ -
OPEX				
TOTAL	$ 3,695	$ 100	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Rebuild the station and add OPP. Complete rebuild of the station in place, install new vaults, access doors, replace and relocate telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option due to the inadequate existing location of the station. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Queens. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months. _

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Proactive Regulator Stations - GOV-11

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101656	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2026	**Estimated In-Service Date:** 11/30/2026
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

GOV-11 is a 1956 vintage station located in Brooklyn, NY. Gov-11 has an inlet pressure of 15 psig and an outlet pressure of 9.0" water column. The max flow through the station is 274.5 MCFH. Gas through the station is regulated by one (1) 8" Fisher 217 LKB regulator in the safety vault and one (1) 8" Fisher 298 TKBR regulator in the district vault. No over pressurization protection is currently within the station.

The station was identified as a station in need of major updates by our annual capital improvement program. The rebuild of the station and adding OPP will improve asset condition, the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency. The station will be designed per National Grid Engineering standards and the completion of this project will ensure continuous gas service to customers. The current condition of the station calls for a full station rebuild consisting of:

- Replacement of existing station piping
- Installation of new safety and district vaults
- Installation of new regulators, OPP
- Replacement of control lines
- Installation new manholes, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through wall penetrations
- Upgrade of all mechanical RTU equipment
- Tie-in into existing transmission and distribution system piping

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for GOV-11.

Current condition:

- Current Fisher 217 and Fisher 278 regulators are obsolete
- No OPP is installed
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

The rebuild of GOV-11 will improve the asset condition of this regulating station and address any open reliability concerns. The installation of over pressurization protection will better protect the asset in case of an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 106	$ 212	$ 7,000	$ 6,000
OPEX				
TOTAL	$ 106	$ 212	$ 7,000	$ 6,000

Supplemental Information

Alternatives

Alternative 1: Rebuild the station and add OPP. Complete rebuild of the station in place, install new vaults, access doors, replace and relocate telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option due to the inadequate existing location of the station. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Brooklyn. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

	☐ Other: _____	

Proactive Regulator Stations - GOV-20

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101623	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2024	**Estimated In-Service Date:** 11/30/2024
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

GOV-20 is a 1957 vintage station located in Brooklyn, NY next to Prospect Park. The station consists of a safety and district regulator vaults. Inlet pressure to the station is 15 PSIG and outlet pressure of the station is 9" W.C. The station consists of Fisher 217 in the safety vault and Fisher 298TKBR in the district vault. Risk score is 56 and tech score is 3.0. Max flow through the station is 324.1 MCFH.

The station was identified as a station in need of major updates by our annual capital improvement program. The rebuild of the station and adding OPP will improve asset condition, the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency. The station will be designed per National Grid Engineering standards and the completion of this project will ensure continuous gas service to customers. The current condition of the station calls for a full relocation and rebuild of the existing station consisting of:

- Retirement and removal of existing station
- Full station construction in new location
- Installation of new main to connect new station to the gas system
- Installation of station piping
- Installation of safety and district vaults
- Installation of new regulators, OPP
- Replacement of control lines
- Installation new manholes, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through wall penetrations
- Upgrade of all mechanical RTU equipment

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for GOV-20.

Current Station Conditions:

- District vault located in the entry, narrow street of the roundabout.
- District vault was filled with rainwater (main and regulator under water), as the water accumulates in the adjacent corner.
- Atmospheric corrosion was observed on main, control lines and regulators components.
- Transmitters located in the vault.
- Safety vault walls show exposed rebar, posing structural integrity concern.
- No third layer of protection is installed.
- Main and control lines are protected.
- Temperature restriction for this station is 35 degrees.
- Current Fisher 217 and Fisher 278 regulators are obsolete
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

The relocation of the regulating station will improve the asset condition address any open reliability concerns. A third layer of over pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 8,076	$ 2,206	$ 20	$ -
OPEX				
TOTAL	$ 8,076	$ 2,206	$ 20	$ -

Supplemental Information

Alternatives

Alternative 1: Rebuild the station and add OPP. Complete rebuild of the station in place, install new vaults, access doors, replace and relocate telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option due to the problematic existing location of the station. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Brooklyn. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☒ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Proactive Regulator Stations - GOV-61

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101650	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2027	**Estimated In-Service Date:** 11/30/2027
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

GOV-61 is a 1958 vintage station located in Queens, New York. The inlet and outlet pressures at this station are 15 psig and 8.5" water column. The station consists of a safety vault that contains one (1) 8" Fisher 217 regulator and a district vault that contains one (1) 8" Fisher 298 TKBR regulator. There is currently no over pressurization protection at the station. The max flow through the station is 237.1 MCFH.

The station was identified as a station in need of major updates by our annual capital improvement program. The rebuild of the station and adding OPP will improve asset condition, the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency. The station will be designed per National Grid Engineering standards and the completion of this project will ensure continuous gas service to customers. The rebuilding process will include:

- Replacement of existing station piping
- Installation of new safety and district vaults
- Installation of new regulators, OPP
- Replacement of control lines
- Installation new manholes, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through wall penetrations
- Upgrade of all telemetry equipment

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for GOV-61.

Current condition:

- Current Fisher 217 and Fisher 278 regulators are obsolete
- No OPP is installed
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

Rebuilding the regulating station will improve the asset condition, and the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 109	$ 219	$ 13,000
OPEX				
TOTAL	$ -	$ 109	$ 219	$ 13,000

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Queens. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

	☐ Other:_____	

Proactive Regulator Stations - GOV-78

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101657		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2026	**Estimated In-Service Date:** 11/30/2026
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

GOV-78 is a 1958 vintage station located in Brooklyn, New York. The inlet and outlet pressures at the station are 15 psig and 8.5" water column. The station consists of one (1) 8" Fisher 217 regulator in the safety vault and one (1) 8" Fisher 217 regulator in the district vault. There is no over pressurization protection at the station. GOV-78 has a max flow 309.2 MCFH through the station.

The station was identified as a station in need of major updates by our annual capital improvement program. The rebuild of the station and adding OPP will improve asset condition, the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency. The station will be designed per National Grid Engineering standards and the completion of this project will ensure continuous gas service to customers. The current condition of the station calls for a full rebuild, including:

- Replacement of existing piping
- Installation of new safety and district vaults
- Installation of OPP, new safety, and district regulators
- Installation of Roxtec seals at all through-wall penetrations
- Replacement of all control lines
- Replacement of manholes, ladders, pipe supports, and vent poles
- Upgrade of all mechanical RTU equipment

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for GOV-78.

Current condition:

- Current Fisher 217 regulators are obsolete
- No OPP is installed
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

The rebuild of the regulating station will improve the asset condition address any open reliability concerns. A third layer of over pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 106	$ 212	$ 13,000	$ 22
OPEX				
TOTAL	$ 106	$ 212	$ 13,000	$ 22

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Brooklyn. (Not Recommended)

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Proactive Regulator Stations - GOV-226

Type: ☒ **Project** ☐ **Program**	**Category:** ☐ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101658	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2028	**Estimated In-Service Date:** 11/30/2028
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

GOV-226 is a 1960 vintage station located in Brooklyn, NY. The station inlet pressure is 15 psig and the outlet pressure is 8.5" water column. GOV-226 is a two-stage station consisting of two (2) 6"FISHER 217 LKB in series, one for the first stage in the safety vault and one for the second stage in the district vault. There is no third layer of Over Pressure Protection. The current max flow through the station is 161 MCFH.

The station was identified as a station in need of major updates by our annual capital improvement program. The rebuild of the station and adding OPP will improve asset condition, the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency. The station will be designed per National Grid Engineering standards and the completion of this project will ensure continuous gas service to customers. The rebuilding process will include:

- Replacement of existing station piping
- Installation of new safety and district vaults
- Installation of new regulators, OPP
- Replacement of control lines
- Installation new manholes, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through wall penetrations
- Upgrade of all mechanical RTU equipment

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for GOV-226.

Current condition:

- Current Fisher 217 regulators are obsolete
- No OPP is installed
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

Rebuilding the regulating station will improve the asset condition, and the safety of the asset and address any open reliability concerns. A third layer of overpressure protection will be added to protect the station in an emergency situation. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ -	$ 113	$ 225
OPEX				
TOTAL	$ -	$ -	$ 113	$ 225

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Brooklyn. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

	☐ Other: _____	

Proactive Regulator Stations - IF-02

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101621	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2025	**Estimated In-Service Date:** 11/30/2025
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

IF-02 is a 1973 vintage station located in Brooklyn, NY consisting of an inlet valve vault, safety, and district regulator vaults, 30” ball valve vault and bypass regulator vault. Inlet pressure to the station is 60 psig and outlet pressure of the station is 15 psig. Max flow through the station is 1941.8 MCFH. The station consists of 20" Fisher 298 TB in the safety vault, 20" Fisher 298 TB in the secondary vault with 12" FISHER 298 TKB bypass regulator. Current station conditions call for a full station rebuild, including:

- Replacement of existing piping, vaults will be reused
- Installation of OPP and strainer
- Installation of Roxtec seals at all through-wall penetrations
- Replacement of primary and secondary regulators
- Installation of bypass around each vault
- Replacement of all control lines
- Replacement of manholes, ladders, and vent poles
- Upgrade of all mechanical RTU equipment

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for IF-02.

Current Station Conditions:

- Station is in the industrial area in the sidewalk. Morgan Ave is a busy street with concrete plant in the vicinity of the station.
- Inlet valve (BQ5098) is in a dedicated vault with two manholes opening. Inlet valve and components are corroded. Pipes are embedded in steel sleeve and link seals. Strong odor of sewage was present in the inlet valve vault.
- Main in the safety and district vaults are embedded in corroded sleeves and/or link seals with exposed sections of the pipes.
- Regulators in both safety and district vaults are unconventional and difficult to operate/maintain for I&R crew. Regulators and components show signs of corrosion.

- Couplings are present in both safety and district vault.
- Bypass valve (BQ5113) is in the dedicated vault. All components and main in the bypass vault show signs of corrosion.
- Transmitters are in the vault.
- No third layer of protection is installed.
- Main and control lines are protected.
- Temperature restriction for this station is 20 degrees. When taken out of service with IF-03, temperature restriction is 25 degrees.
- Current Fisher 298 regulators are obsolete
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

The rebuild of the regulating station will improve the asset condition address any open reliability concerns. A third layer of over pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 200	$ 13,582	$ 100	$ -
OPEX				
TOTAL	$ 200	$ 13,582	$ 100	$ -

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Brooklyn. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**

   ☒ Yes ☐ No

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**

   ☐ Yes ☒ No

3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**

   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Proactive Regulator Stations - IF-03

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101622		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2024	**Estimated In-Service Date:** 11/30/2024
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

IF-03 is a 1973 vintage station located in Brooklyn, NY. The station consists of an inlet valve vault which contains the 20" inlet valve, and safety and district vaults that each contain one (1) 16" Fisher "T" butterfly valve. There is also an outlet valve vault that contains the 30" outlet valve. Inlet pressure to the station is 60 psig and outlet pressure of the station is 15 psig. Max flow through the station is 4314 MCFH. The current conditions of this station call for a station relocation and rebuild consisting of:

- Retirement and removal of existing station equipment
- Installation of new main to connect the new station to the gas system
- Installation of new safety and district vaults
- Installation of station piping
- Installation of new regulators, OPP, and strainer
- Replacement of control lines
- Installation new manholes, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through wall penetrations
- Upgrade of all mechanical RTU equipment

Justification Summary:

To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments were made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage was used to prioritize and schedule project improvement for IF-03.

Current Station Conditions

- Station is in the industrial area in the sidewalk.
- Inlet valve (BQ5095) is in a dedicated vault with two manholes opening. Inlet valve and components are corroded and there is an active leak. Pipes are embedded in steel sleeve and link seals.
- Main in the safety and district vaults are embedded in steel sleeves and/or link seals.
- Butterfly regulators in both safety and district vaults are unconventional and difficult to operate/maintain for I&R crew. Regulators and components were recently painted but show signs of corrosion.

- Couplings are present in both safety and district vault.
- Bypass valve (BQ-5131) and components were retired, main blanked off and vault was backfilled.
- Transmitters are in the vault.
- No third layer of protection is installed.
- Main and control lines are protected.
- Temperature restriction for this station is 20 degrees. When taken out of service with IF-03, temperature restriction is 25 degrees.

Customer Benefits:

The relocation of the regulating station will improve the asset condition address any open reliability concerns. A third layer of over pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 10,000	$ 3,742	$ 160	$ -
OPEX				
TOTAL	$ 10,000	$ 3,742	$ 160	$ -

Supplemental Information

Alternatives

Alternative 1: Rebuild the station and add OPP. Complete rebuild of the station in place, install new vaults, access doors, replace and relocate telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option due to the inadequate existing location of the station. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in loss of service to customers in the neighbouring areas of Brooklyn. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No

3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**

☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction

☐ Reduces use of Alt. Fuel

☐ Provides access to less expensive fuel:

☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)

☐ Other: _____

Proactive Regulator Stations

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000317	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

This program is an annual capital improvement program. To determine the work plan, all the regulating stations in NYC are inspected and risk ranked once every three (3) years. Using data from the annual Performance Testing (PT), Cathodic Protection (CP) testing, risk assessments, and on-site inspections; technical assessments will be made for each pressure regulating station considering pipe and equipment condition, operating pressure, regulator performance, and corrosion data. This information combined with the potential customer impact resulting from a station outage will be used to prioritize and schedule projects within the Capital Improvement. The scope of the work for the regulator station refurbishment program includes the replacement of obsolete equipment, corrosion issues, structural vault problems, obsolete pressure control valves, and inadequate by-pass designs. In addition, a third layer over-pressure protection will be added to each regulating station whether the station is new or refurbished

Justification Summary:

The proactive regulator program will help to ensure continuous and reliable service to our customers. This program will increase reliability by installing new stations, refurbishing existing stations, replacing obsolete equipment and storm-hardening stations in flood prone areas.

Customer Benefits:

Having a robust capital improvement program will improve assets condition, address any open reliability concerns, and mitigate potential safety issues. Improving the reliability of the system improves customer safety and helps ensure consistent uninterrupted service.

Funding Detail

Cost Breakdown:

$000				
CAPEX	$ 1,500	$ 1,500	$ 1,500	$ 2,958
OPEX				
TOTAL	$ 1,500	$ 1,500	$ 1,500	$ 2,958

Supplemental Information

Alternatives

Alternative 1: Do Nothing/Defer Project. Doing nothing or deferring this program does not meet our obligation to provide safe and reliable gas service, nor the longer-term objective of improving the operation and performance of the pressure regulating stations. The consequences of not completing the work scheduled will result in increased risks associated with the failure of station equipment, and/or the stations associated piping. Specifically, failure to complete identified work would reduce the integrity of the system and potentially result in significant customer outages. (Not Recommended)

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ Yes ☒ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months and involves in-service assets serving existing customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is dependent on existing asset location and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This program will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Purchase Meters (Replacements)

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000306	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Saadat Khan	**Business Contact:** Muhammad Tambra	

Work Description:

This program includes the purchase, testing, processing, and delivery of gas meters and associated instrumentation, including Mandated Meter Test/Replacement Program, growth targets, and continued Customer Meter Services (CMS) operations. The estimated number of meters required to support both programs for FY25 – FY28 are:

	FY25	FY26	FY27	FY28
Total	21,138	18,653	19,582	19,590

National Grid is required to statistically sample and remove meters to be tested for accuracy each year. The number of meters removed and tested is sufficient to assure a statistical confidence level of 95 percent. Test results are entered into a program that performs the statistical calculations based on an approved American National Standards Institute (ANSI) Standard. The NY Public Service Commission has set accuracy limits for residential and commercial meter types. Meter groups that fall beyond the specified limits are placed in a retirement program and are subsequently removed from service and retired.

This program does not include the installation of meters (see Meter Change program).

Justification Summary:

The primary driver for meter and metering instrumentation purchases is compliance with state regulations governing meter accuracy and measurement of gas usage for customer bills. PSC requirements stipulate a random sample and associated remediation/retirement program for installed gas meters. In addition to the mandated meter change program, meters are required to support customer connection targets, as well as to support CMS operational requirements (load change, meter and/or service relocations, damage, & stopped meters)

Meter manufacturers are phasing away from the traditional diaphragm meters to smart meters. Itron has stopped producing the residential 250-class diaphragm meters since December 2021 and moved to smart meters exclusively. Other manufacturers will follow suit, and National Grid will eventually be forced to use the vendor smart meters.

Customer Benefits:

- Metering and billing accuracy
- Fewer unplanned service interruptions
- Ensure meters meet safety standards

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 8,948	$ 9,156	$ 10,230	$ 11,109
OPEX				
TOTAL	$ 8,948	$ 9,156	$ 10,230	$ 11,109

Supplemental Information

Alternatives

Alternative 1: Partial Deferral of meter replacements. This option is not viable as it would result in a partial violation of regulatory requirements, adversely impact customer satisfaction, and result in our inability to support fiscal year customer connections.

Alternative 2: Do Nothing – Leave as is. This option is not viable as it would result in a violation of regulatory requirements or result in our inability to support the replacement of failed units, mandated meter replacement programs, and fiscal year customer connections.

Alternative 3: Non-Pipes Alternatives ("NPAs") - N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☐ **Yes** ☒ **No**

If yes, please briefly explain the results: NPA analysis is not applicable because the proposal does not include installation or replacement of gas pipe.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This program purchases and tests meters and will not have an impact on GHG emissions.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☒ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Regulator Station - Over Pressure Protection

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220020375	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:
The work performed under this program will include the installation of a third layer of over pressurization protection at regulating stations across the New York City system.

Justification Summary:
To ensure the safe and reliable operation of the regulating stations within the gas system, National Grid has committed to installing a third layer of over pressurization protection at each station. This program will aid in this commitment being met.

Customer Benefits:
The installation of a third layer of over pressurization protection at regulating stations across the gas system will increase system reliability, allow for the continued safe operation of the system and ensure customer safety.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 290	$ 296	$ 302	$ 308
OPEX				
TOTAL	$ 290	$ 296	$ 302	$ 308

Supplemental Information

Alternatives

Alternative 1: Do Nothing / Defer Program. This alternative would not bring National Grid closer to meeting its commitment of installing over pressurization protection at regulating stations across the gas system. The consequences of not completing the work scheduled will result in increased risks associated with the failure of station equipment, and/or the stations associated piping.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750K?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ Yes ☒ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is dependent on existing asset location and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This program is required for reliability and is not anticipated to result in GHG emissions reductions.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Replace Pipe on Bridges

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101289	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Fong, Carmen	

Work Description:

This program will replace and/or remediate gas pipe on bridges (or any structures elevated more than four feet above grade) due to specific integrity concerns identified through corrosion inspections.

This program will initially target the projects listed below:

- Newkirk Ave, Brooklyn
- Old Farmers Ln, Staten Island
- Kane St, Brooklyn
- Lincoln St, Staten Island
- Cross Bay Blvd, Queens
- Grand Ave, Queens
- 57th Ave, Queens

Justification Summary:

The gas distribution system includes aboveground piping that crosses roads, railroads, waterways, other municipal facilities, and other geographic features where underground installations were not installed or possible. These crossings may be supported by Company or third-party bridges or other structures at the beginning and end of the crossing.

As these facilities are exposed to atmospheric conditions, Corrosion Control is responsible for the physical inspection and maintenance of each crossing every three (3) years for external corrosion prevention. Corrosion Control also performs routine maintenance and repairs of the pipe coating and support system. When the physical condition of the crossing pipe or support system is beyond normal maintenance, or when the cost and complexity exceed Corrosion Control's responsibility, capital expenditures are required to perform major repairs or replacements to extend the facility life, to design and construct alternate facilities to maintain the integrity of the existing crossing or to install alternate crossings to maintain customer service.

Expenditures required for these pipes on bridges and other structures are not covered by other pipe programs such as, but not limited to, Proactive Main Replacement – Leak Prone Pipe and Large Diameter Pipe Rehabilitation.

Customer Benefits:

This project will help improve the reliability and enhance safety of gas infrastructure.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 650	$ 500	$ 400	$ 200
OPEX				
TOTAL	$ 650	$ 500	$ 400	$ 200

Supplemental Information

Alternatives

Alternative 1: Include Identified Structures in the Proactive Main and Service Replacement (LPP) Program. This option could limit the amount of LPP retirement the Company is able to complete each year because the cost to replace mains on bridges/structures is significantly higher.

Alternative 2: Do Nothing. This option is rejected due to the integrity concerns identified by corrosion inspections.

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☒ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

If yes, please briefly explain the results: Project is not suitable for an NPA as it affects the critical reliability of the gas system and mitigates integrity concerns. No NPA, or combination of NPAs, would remove the need for this project at this time.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program may impact DACs depending on asset location.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct – Quantifiable. This program will contribute to GHG emission reductions by decreasing the number of open leaks and will proactively target rehabilitation of mains before a leak occurs. The program is expected to reduce approximately 5 metric tons CO_2e emissions per year.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

RNG Interconnection 1

Type: ☒**Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101810	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **FOH**		
Annual Program: ☐	**Estimated Start Date:** In-Progress	**Estimated In-Service Date: 3/31/2027**
Sponsor: Kileti, Pradheep	**Business Contact:** Barkwill, Brian	

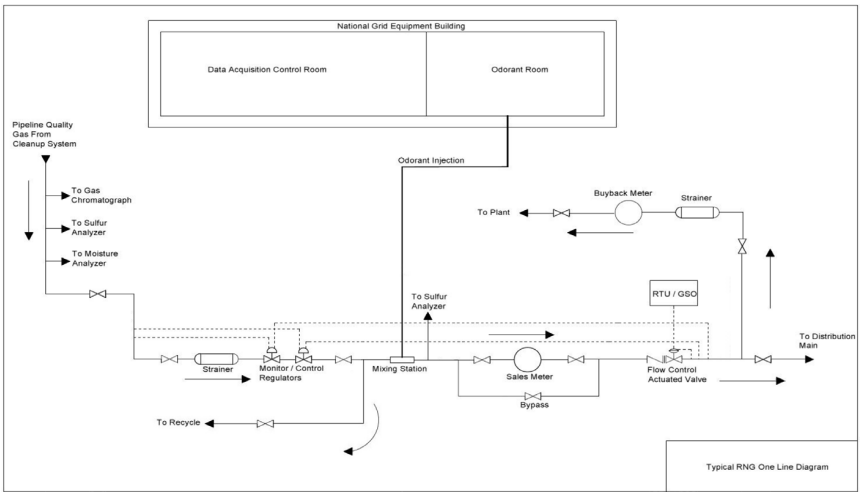
Work Description:

This project will support the interconnection of a renewable natural gas project in KEDNY. The project is expected to produce approximately 570 dth/day into our adjacent 350# system and is considered shovel ready. This would offset gas consumption and reduces carbon emissions associated with customer use in that area.

Justification Summary:

KEDNY is working with the owners of several large wastewater treatment plants throughout Brooklyn, Queens and Staten Island, to inject RNG into the adjacent distribution network. The planned interconnection is located in southern Queens, within an Environmental Justice community, and will beneficially use gas supply that's historically been flared. The Project will reduce the treatment plant's carbon footprint /associated emissions and minimize impacts to the local community. The interconnection is expected to inject over 570 dth/day. This would offset gas consumption and reduces carbon emissions associated with customer use in that area.

The interconnection (4.27M) and approximately 1,350 LF of piping (1.379M) is estimated to cost a total of 5.647M.



The RNG Interconnection system ensures any renewable natural gas has been properly conditioned to meet pipeline quality. The following are the critical components and systems of the RNG Interconnect:

Gas Quality
The Companies require gas chromatographs and sulfur/moisture analyzers to monitor sales gas from an RNG conditioning system to ensure it always meets gas quality requirements. Any instance where out of specification gas is measured, an actuated flow control valve would be shut preventing injection.

Pressure Regulation
The Companies require pressure to be regulated from a higher pressure, down to the operating pressure of the gas network Equally important, a third layer of protection to avoid over pressurization of the gas network is included in the RNG Interconnect. This third layer of protection will help prevent high-profile gas accidents caused by human error with sensing lines.

Odorization
RNG is a colorless and odorless (post conditioning) gas supply. For health and safety purposes, utilities must keep odorant levels at detectable levels to alert the public of gas leaks. To safely inject RNG, it must be odorized.

Sales Meter / Control Room
To safely and reliably provide gas to all of our customers at all times, the Companies' Gas Operations teams need real time data about production from any RNG facility. In the event of a failure of the biogas production/conditioning system or if gas that is delivered to the Companies does not comport with applicable quality specifications, RNG injection will stop and gas Operations will update the need in real time to ensure uninterrupted service via other natural gas supplies.

Piping & Valving
RNG interconnections connect a conditioning system to the Companies' natural gas distribution system.

Customer Benefits:
These projects are a vital part of the KEDNY-KEDLI Clean Energy Vision and the CLCPA. Locally sourcing renewable natural gas in lieu of geological natural gas is crucial towards reducing emissions and achieving the ambitious climate goals set by both the State and National Grid. This RNG Project would produce approximately **570 dth/day**, reducing carbon emissions by **48,501 MT of CO2 eq/year.**

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	**$ 1,081**	**$3,267**	**$ 896**	**$ 404**
OPEX				
TOTAL	**$ 1,081**	**$3,267**	**$ 896**	**$ 404**

Supplemental Information

Alternatives

Alternative 1: The company could opt to do nothing, accepting the business and reputational hit associated with continued 100% fossil gas supply. This project is taking unavoidable waste and beneficially using that waste to offset fossil gas. That's not a recommended approach and would go against all the goals established in the CLCPA.

Alternative 2: The Company could work with customers to electrify the heating system. Customers would be tasked with covering the costs for that transition.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: The injection of renewable natural gas reduces the need for remote interstate production of natural gas, gas transmission and delivery to the Jamaica, NY.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** The wastewater treatment plant is an existing facility. For practical purposes, the gas can only be utilized by the adjacent area. This is mostly an industrial area given its proximity to JFK, but it is considered a DAC community.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.**

RNG Interconnection 1 is expected to offset 219,000 MMBtu/year of natural gas use. This primary pathway for reducing emission stems from no longer needed to procure natural gas for that demand. Upstream emissions includes losses associated with the production, gathering, boosting, storage and transmission of the natural gas chain. According to the paper, Life Cycle Analysis of Natural Gas Extraction and Power Generation, the national average emissions associated with natural gas from collection through consumption is 30.9 g CO2e/MJ (20-year GWP). In the Joint Utilities Proposal for an Annual Greenhouse Gas Emissions Inventory Report, only 10% of the emissions are associated with distribution companies and consumer use, making upstream emissions 27.81 g CO2e/MJ.

For each MMBtu sourced locally, the project reduced emissions associated with upstream supply. Below is the math outlining the emissions benefits:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

219,000 (MMBtu/Year) x 1055.0559 (MJ/ MMBtu) x 27.81 (g CO2/MJ) x (1MT/1,000,000 g) = 6,103 MT CO2 avoided.

Additionally, this project qualified for the renewable fuel standard program. The environmental credits associated with this project are significant. Using the (20-year GWP) GREET model, a –0.1448 MTCO2e / MMBtu factor can be used for wastewater sludge only RNG projects. Coupled with offset natural gas use (-.08832 MT CO2e/MMBtu). The expected emissions reductions are 48,501 MT of CO2 eq/year.

In total, this project has the ability to offset over 54,600 MT of CO2 if the environmental credits can be purchased.

Studies/References That Support the Program:

Littlefield, S. Roman-White, D. Augustine, A. Pegallapati, G. G.
Zaimes, S. Rai, G. Cooney, T. J. Skone, "Life Cycle Analysis of Natural Gas Extraction
and Power Generation," National Energy Technology Laboratory, Pittsburgh, April 5,
2019.

Benefits

Reliability Benefits

☐ Supports growth forecast
☒ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

RNG Interconnection 2

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101809	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect** ☒ **FOH**		
Annual Program: ☐	**Estimated Start Date:** In-Progress	**Estimated In-Service Date: 3/31/2027**
Sponsor: Kileti, Pradheep	**Business Contact:** Barkwill, Brian	

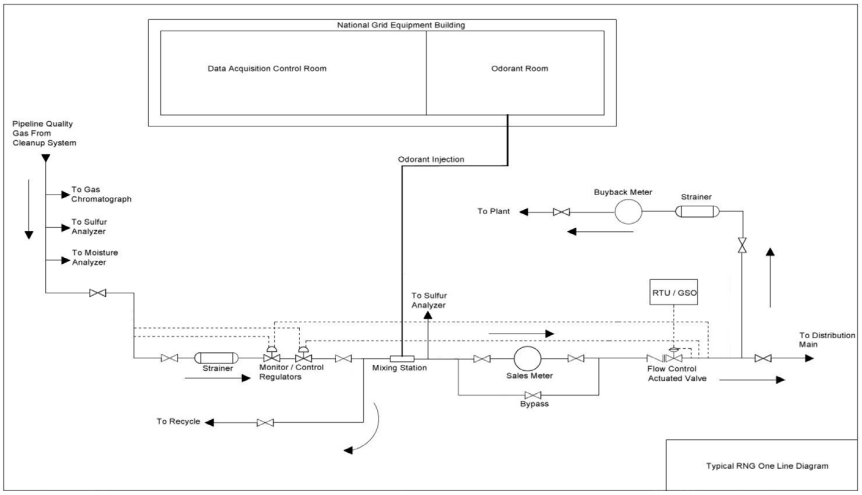
Work Description:

This project will support the interconnection of a renewable natural gas project in KEDNY. The project is expected to produce approximately 2,100 dth/day into our adjacent 350# system and is considered shovel ready. This would offset gas consumption and reduces carbon emissions associated with customer use in that area.

Justification Summary:

A planned industrial development to received green waste, mostly food waste with other easily digestible organics, to produce RNG in National Grid's NYC gas territory. The facility is expected to produce over 2,100 dth/day of RNG to be injected into KEDNY's distribution system. This would offset gas consumption and reduces carbon emissions associated with customer use in that area.

The projected cost of the interconnection is $4.27 million and the cost of piping is projected at $4.087 million for approximately 4,000 feet of pipe for a total estimated cost of $8.355 million.



The RNG Interconnection system ensures any renewable natural gas has been properly conditioned to meet pipeline quality. The following are the critical components and systems of the RNG Interconnect:

Gas Quality

The Companies require gas chromatographs and sulfur/moisture analyzers to monitor sales gas from an RNG conditioning system to ensure it always meets gas quality requirements. Any instance where out of specification gas is measured, an actuated flow control valve would be shut preventing injection.

Pressure Regulation
The Companies require pressure to be regulated from a higher pressure, down to the operating pressure of the gas network Equally important, a third layer of protection to avoid over pressurization of the gas network is included in the RNG Interconnect. This third layer of protection will help prevent high-profile gas accidents caused by human error with sensing lines.

Odorization
RNG is a colorless and odorless (post conditioning) gas supply. For health and safety purposes, utilities must keep odorant levels at detectable levels to alert the public of gas leaks. To safely inject RNG, it must be odorized.

Sales Meter / Control Room
To safely and reliably provide gas to all of our customers at all times, the Companies' Gas Operations teams need real time data about production from any RNG facility. In the event of a failure of the biogas production/conditioning system or if gas that is delivered to the Companies does not comport with applicable quality specifications, RNG injection will stop and gas Operations will update the need in real time to ensure uninterrupted service via other natural gas supplies.

Piping & Valving
RNG interconnections connect a conditioning system to the Companies' natural gas distribution system.

Customer Benefits:
These projects are a vital part of the KEDNY-KEDLI Clean Energy Vision and the CLCPA. Locally sourcing renewable natural gas in lieu of geological natural gas is crucial towards reducing emissions and achieving the ambitious climate goals set by both the State and National Grid. This facility will produce over **2,100 dth/day** reducing carbon emissions by **391,237 metric tons of CO2 eq/year**.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	**$ 1,081**	**$5,975**	**$ 896**	**$ 404**
OPEX				
TOTAL	**$ 1,081**	**$5,975**	**$ 896**	**$ 404**

Supplemental Information

Alternatives

Alternative 1: The company could opt to do nothing, accepting the business and reputational hit associated with continued 100% fossil gas supply. This project is taking unavoidable waste and beneficially using that waste to offset fossil gas. That's not a recommended approach and would go against all the goals established in the CLCPA.

Alternative 2: The Company could work with customers to electrify the heating system. Customers would be tasked with covering the costs for that transition.

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

If yes, please briefly explain the results: The injection of renewable natural gas reduces the need for remote interstate production of natural gas, gas transmission and delivery to the Staten Island, NY.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This area of Staten Island is considered a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.**

RNG Interconnection 2 is expected to offset 766,000 MMBtu/year of natural gas use. This primary pathway for reducing emission stems from no longer needed to procure natural gas for that demand. Upstream emissions includes losses associated with the production, gathering, boosting, storage and transmission of the natural gas chain. According to the paper, Life Cycle Analysis of Natural Gas Extraction and Power Generation, the national average emissions associated with natural gas from collection through consumption is 30.9 g CO2e/MJ (20-year GWP). In the Joint Utilities Proposal for an Annual Greenhouse Gas Emissions Inventory Report, only 10% of the emissions are associated with distribution companies and consumer use, making upstream emissions 27.81 g CO2e/MJ.

For each MMBtu sourced locally, the project reduced emissions associated with upstream supply. Below is the math outlining the emissions benefits:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

766,000 (MMBtu/Year) x 1055.0559 (MJ/ MMBtu) x 27.81 (g CO2/MJ) x (1MT/1,000,000 g) = 22,490 MT CO2 avoided.

Additionally, this project qualified for the renewable fuel standard program. The environmental credits associated with this project are significant. Using the (20-year GWP) GREET model, a – -0.4221 MTCO2e / MMBtu factor can be used for food waste only RNG projects. Coupled with offset natural gas use (-.08832 MT CO2e/MMBtu). The expected emissions reductions are 391,237 MT of CO2 eq/year.

In total, this project has the ability to offset over 413,727 MT of CO2 if the environmental credits can be purchased.

Studies/References That Support the Program: N/A

Littlefield, S. Roman-White, D. Augustine, A. Pegallapati, G. G.
Zaimes, S. Rai, G. Cooney, T. J. Skone, "Life Cycle Analysis of Natural Gas Extraction
and Power Generation," National Energy Technology Laboratory, Pittsburgh, April 5,
2019.

Benefits

Reliability Benefits

☐ Supports growth forecast
☒ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Service Replacement - Reactive – Leaks

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000295	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annul Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Agnone, Christopher	

Work Description:
The reactive service replacement program consists of non-discretionary work randomly generated through public leak reports, programmed leak surveys, mandated activities, and customer-generated requests.

Justification Summary:
The goal of this program is to reduce the risk associated with leaks on existing services to enhance the safety and reliability of the Company's system. The program provides funding for the reactive replacement of gas services to address work activities outside the normal scope of the integrity, reliability, public works, and growth programs. The proactive main and service replacement programs upgrade existing customer services prioritized in the main replacement program by risk based on pressure, material, vintage, location, and select other variables. The reactive service replacement program addresses leakage and other maintenance activities on the remaining services.

The program budget consists of costs to replace leaking services, damages, service abandonments due to inactivity or demolition requests, customer-driven relocations of existing services, and other substandard conditions.

Customer Benefits:
This program will reduce the risk associated with these services and reduce leaks and emissions.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 6,696	$ 6,830	$ 6,967	$ 7,106
OPEX				
TOTAL	$ 6,696	$ 6,830	$ 6,967	$ 7,106

Supplemental Information

Alternatives

Alternative 1: Do Nothing. These work activities are random, emergency driven, mandated and customer driven in nature. Therefore, there is not an alternative to completing these activities.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

If yes, please briefly explain the results: NPAs are not suitable for this program as it is reactive to address repairs for on-system assets currently serving customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** The program supports make-safe activities wherever existing leaks are found, which could be within DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. Reactive budgeting allows operations to ameliorate substandard or emergency conditions, which can include fugitive emissions from leaking connections, pipe damage, or faulty equipment. The ability to make timely repairs can also prevent further deterioration that would necessitate more complex repairs.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☒ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Service Replacement - Reactive - Non-Leaks – Other

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000296, 5220000437	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Agnone, Christopher	

Work Description:
The reactive non-leak service replacement program consists of non-discretionary work that is randomly generated through compliance needs and mandated activities.

Justification Summary:
The goal of this program is to enhance the safety and reliability of the Company's system by reducing the risks associated with damages, service abandonments due to inactivity or demolition requests, customer-driven relocations of existing services, and other substandard conditions. The program provides approved funding for the reactive replacement of gas services to address non-leak work activities outside the normal scope of the integrity, reliability, public works, and growth programs.

The proactive main and service replacement programs upgrade existing customer services prioritized in the main replacement program by risk based on pressure, material, vintage, location, and select other variables. The reactive service replacement program addresses deficiencies on remaining services.

The program budget consists of costs to replace due to damages, service abandonments due to inactivity or demolition requests, customer-driven relocation of existing services, and other substandard conditions.

Customer Benefits:
This program will reduce the risk associated with these services and reduce the field and outage impact on customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 6,275	$ 6,401	$ 6,529	$ 6,659
OPEX				
TOTAL	**$ 6,275**	**$ 6,401**	**$ 6,529**	**$ 6,659**

Supplemental Information

Alternatives

Alternative 1: Do Nothing. These work activities are random, emergency driven, mandated and customer driven in nature. Therefore, there is not an alternative to completing these activities.

Alternative 2: Non-Pipes Alternative ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: NPAs are not suitable for this program as it is reactive to address repairs for on-system assets currently serving customers.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** The program supports make-safe activities wherever existing conditions warrant, which could be within DACs.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Direct - Non-Quantifiable. Reactive budgeting allows operations to ameliorate substandard or emergency conditions, which can include fugitive emissions from leaking connections, pipe damage, or faulty equipment. The ability to make timely repairs can also prevent further deterioration that would necessitate more complex repairs.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☒ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☐ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

System Automation & Control

Type: ☐ **Project** ☒ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000323		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

This program will install Remote Terminal Units (RTUs) at multiple gate stations and regulator stations located throughout KEDNY's service territory. RTUs are installed locally at gate and regulator stations to provide temperature, pressure, and flow data back to the Gas Control Room. Where required, the RTUs can also monitor gas detectors, intrusion alarms and allow Gas Control to adjust flow and pressure set points at the regulator stations. Data is transmitted via phone lines or cellular networks. The automation projects include raise/lower controllers to remotely adjust pressure on the gas system. Gas analyzer projects are also included to provide gas composition and BTU content of the gas.

The objective of the program is to increase operational understanding of the system to identify abnormal operating conditions and taking a proactive approach to alarm management in support of recent PHMSA requirements (i.e., Control Room Management). Project delivery serves to standardize operations, maintain custody check metering, and increase control and monitoring at city gate stations and regulator stations. The program also adopts a best practice with respect to check metering and leak management.

Justification Summary:

The system automation program is necessary to enhance system reliability. Increasing the level of automation at pressure regulating stations enhances the ability of Gas Control to recognize abnormal operating conditions, pinpoint problems and take corrective action. Changes in federal regulations for Control Room Management focus on increasing system awareness and providing proactive response to abnormal operating conditions. The proposed program supports compliance with these regulations. This program also supports the standardization of telemetry across KEDNY's gas transmission and distribution system. Enhanced calibration of network models from automation and telemetry data improves the accuracy of network analysis and enhances the ability to forecast future capital investment in system reinforcements, which leads to more efficient capital investment. This program also enhances pressure management of the system within the maximum allowable operating pressure limits (MAOP).

Currently, the KEDNY gas system has a limited amount of system automation – 67 percent of the pressure regulating stations are equipped with some form of telemetry while 33 percent of the system relies on paper chart recorders. Some of this equipment, including modems and telescadas and metameters were installed many years ago and have become obsolete. Updating this obsolete equipment supports the standardization of telemetry across KEDNY's gas transmission and distribution system.

Also, due to the increased scrutiny placed on system automation in the aftermath of the San Bruno pipeline incident, it is anticipated that federal regulations will require additional levels of system automation on both transmission and distribution systems.

Customer Benefits:

More reliable system performance with fewer customer outages.

The advantages of system automation and telemetry are that the source and location of any system problem can be more readily and accurately identified from the Gas Control Center. Crews can be dispatched immediately to the location of the problem. This process saves valuable time and will reduce the need to wait for customers to call in and report a problem. In addition, the removal of paper chart recorders delivers a more accurate and timely record of station pressures and this information is also available for Gas Planning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 1,868	$ 1,906	$ 1,944	$ 1,983
OPEX				
TOTAL	$ 1,868	$ 1,906	$ 1,944	$ 1,983

Supplemental Information

Alternatives

Alternative 1: Do Nothing. Doing nothing does not meet the long-term company objective to actively manage system pressures and leak activity. This alternative will leave approximately 33% of this region without the ability to remotely manage operating pressures.

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ Yes ☒ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is dependent on existing asset location and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Telecomm - Reactive

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000381	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☒ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Backus, Katie	**Business Contact:** McCarthy, Kenneth	

Work Description:
This program funds capital repairs and replacements of telecom equipment and installations.

Justification Summary:
The DNY Telecom department operates and maintains radio and fiber equipment that support dispatch operations, power plants and liquified natural gas (LNG) facilities, SCADA communication / field telemetry, and automated meter reading (AMR).

Telecom reactive projects are unplanned capital work resulting from emergency situations, including ,but not limited to, third party damage and external events (weather, vehicle, power surges, etc.). The Telecom reactive program supports capital replacements that must be completed at or near the time of discovery to maintain safe and reliable communications across the gas business unit.

The Telecom Reactive funding request is primarily based on historic experience and funding levels (previously under the Telecom Damaged Failure line item), with inflation.

Customer Benefits:
Continued field crew efficiencies as the result of direct and reliable communication across National Grid's telecom network to facilitate Timely and reliable response to weather events, such as flood-driven automatic meter shutoffs.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 50	$ 50	$ 50	$ 50
OPEX				
TOTAL	$ 50	$ 50	$ 50	$ 50

Supplemental Information

Alternatives

Alternative 1: No Capital Funding. Without capital investment to repair of damaged equipment, the department will be unable to effectively support continued safe and reliable operations of the gas business unit. Repairs and replacements of damaged equipment will be delayed or not feasible, and field communication will be hindered (example, requiring phone communication for individuals on call instead of to radio-connected groups) or prevented (example, in power plants where phones are not permitted, or in loss of SCADA connections).

Alternative 2: Non-Pipes Alternative ("NPAs") - N/A

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NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal is a non-infrastructure investment.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** - This program is to ensure reliable functionality of existing telecom equipment.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** – Indirect Impact. Effective and reliable long distance communication services helps to ensure that field information can be obtained without personnel travel, reducing emissions associated with additional truck rolls.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☒ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☐ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Tetco Heater #3 Replacement

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101067		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2024	**Estimated In-Service Date:** 11/30/2024
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

Tetco Take Station reduces pressure from 795psig to 419psig. Tetco Take Station consists of (3) Waterbath Heaters. The heaters are labelled 3, 4, and 5. Heater #4 / #5 are ETI 12MM BTU heaters and Heater #3 is a Gas Tech 11MM BTU heater. Heater #3 is currently non-operational. Heater 3 is a 1996 manufactured heater and is approaching its 25 year service life and needs to be replaced.

Upon completion of the project, 2 new heaters which meet current National Grid Standards will be installed. The scope of work for the replacement will include:

- Demolition and removal of existing heater #3 and associated 60 psig fuel train
- Demolition and removal of existing heater #3 foundation structure
- Demolition and removal or existing Heater #3 inlet and outlet headers
- Installation of two new heater foundations
- Installation of new inlet and outlet headers, approximately 140’ of 30” pipe
- Installation of two new heaters
- Installation of new conduit

Justification Summary:

Tetco Heater #3 is at the end of its useful life and needs replacement. Heater #3 has been out of service for approximately 10 years due to its current condition and the load through Tetco Take Station has been serviced by Heater #4 and #5 during this outage.

Current condition of the station:

Heater #3 has been out of service for approximately 10 years now. The heater was heavily carbonized and had outdated electrical equipment. The process coil was left pressurized to avoid excess condensation and corrosion inside the heater. The heater inlet valve is open, and the outlet valve is closed.

Customer Benefits:

A new heater in place of the existing Heater #3 will greatly increase the reliability of Tetco Take Station and reduce the load on Heaters #4 and #5. Adding an extra layer of redundancy helps ensure consistent, uninterrupted service to customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 9,300	$ 12	$ -	$ -
OPEX				
TOTAL	$ 9,300	$ 12	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing/Deferral. The consequences of not completing the work could increase the load and demand on Heaters #4/5 and cause a failure that ultimately would have severe negative impacts on the system. (Not Recommended)

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☒ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Tools & Equipment

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101120, 5220000383	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☒ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Rodriguez, Philip	**Business Contact:** Auriemma, Mattia	

Work Description:

KEDNY's Purchase of Miscellaneous Capital Tools and Equipment budget is for purchases that are not used for specific projects. These items support the safety of our employees, our customers, and the general public. The items provide cost efficiencies across multiple mandated programs, commitments to customer needs and expectations, and will allow the potential increase of productivity for on-going day-to-day operations of the gas business unit.

This budget item is typically used to support process-related initiatives and assure subsequent goals are achieved within the entire Gas organization. These items relate to safety (*i.e.* mechanized maintenance of traffic devices, worker safety enhancements etc.), climate change (*i.e.* apparatus to minimize emissions through natural gas drawdown operations), support of new, emerging, and on-going technologies (*i.e.* capital spares and parts for trenchless and keyhole technologies), and the initiation of innovative applications that will lead to improved operations.

Justification Summary:

Current Company policy capitalizes general tool and/or equipment purchases subject to predetermined minimal dollar thresholds ($500 for KEDNY). Such general equipment includes tooling (hand, power, pneumatic, hydraulic, etc.), specialty equipment, PPE, office machines, electronic data processing equipment and software applications, shop and garage equipment and communications. The Purchase Miscellaneous Capital Tools and Equipment line item captures the above mentioned items that are not used for specific projects but rather support the safe, efficient, and on-going day-to-day operations of the gas business unit. Purchase of Miscellaneous Capital Tools and Equipment utilize project numbers that are budgeted based on historical funding due to the inability to associate this equipment with any one specific project.

Customer Benefits:

- Improved public safety due to mechanized maintenance of traffic devices and public safety enhancements.
- Noise reduction enhancements with new technology tooling.
- Productivity increases and potential unit cost reductions.
- Compliance with federal and state code requirements including new US Department of Transportation (USDOT).

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28

CAPEX – Field Ops Construction	$ 3,285	$ 3,351	$ 3,418	$ 3,486
CAPEX – Field Ops	$ 1,842	$ 1,879	$ 1,916	$ 1,955
OPEX				
TOTAL	$ 5,127	$ 5,230	$ 5,334	$ 5,441

Supplemental Information

Alternatives

Alternative 1: Reduce Request. Reducing the budget line item is not recommended because the tools purchased through this program drive process changes that support new initiatives and productivity improvements throughout the Gas distribution organization. Reduced funding for this program could drive a downturn in safety for the company, employees, customers, and general public.

Alternative 2: Do Nothing. Removal of this program would require spending for required tools to be allocated to specific projects and mandated programs resulting in inconsistent unit costs, excessive tool ordering (lack of controls) and could jeopardize safety for the company, employees, customers, and general public.

Alternative 3: Non-Pipes Alternatives ("NPAs") – N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☐ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ Yes ☒ No

Please briefly explain the results: NPA analysis is not applicable because the proposal is a non-infrastructure investment.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This is non-infrastructure tools and equipment budget and will not have an impact on GHG emissions.

Studies/References That Support the Program: N/A

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Tools & Equipment - Meter Testing Equipment

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000553	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☐ **Reliability** ☒ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Khan, Saadat	**Business Contact:** Muhammad Tambra	

Work Description:
This program includes purchasing equipment to support the testing of gas meters and replacing meter lab equipment to ensure safety, compliance, and meter testing accuracy. State regulations require random sampling of gas meter performance on an annual basis. Meters are classified based on manufacture/model, and the population size determines the number of meters tested. Accuracy and leak testing of KEDNY's gas meters are performed at the Company's meter lab. This program provides funding for the purchase of meter testing equipment to support the testing of gas meters for accuracy and potential leaks, in addition to replacing meter testing equipment that has reached its end of life.

Justification Summary:
The primary driver for meter testing equipment purchases is compliance with state regulations governing gas meter testing accuracy and the continued support of meter testing programs.

Customer Benefits:

- Metering and billing accuracy
- Ensure meters meet safety standards

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 205	$ 214	$ 224	$ 234
OPEX				
TOTAL	$ 205	$ 214	$ 224	$ 234

Supplemental Information

Alternatives

Alternative 1: Revise Project Scope and Size – Partial Deferral. This option is not viable as it would result in a partial violation of regulatory requirements, and result in our inability to support the testing of gas meters and replacement of meter lab equipment to ensure safety, compliance, and meter testing accuracy.

Alternative 2: Do Nothing. This option is not viable as it would result in a violation of regulatory requirements, or result in our inability to support the testing of gas meters and replacement of meter lab equipment to ensure safety, compliance, and meter testing accuracy.

Alternative 3: Non-Pipes Alternatives ("NPAs") – N/A

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☐ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☐ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☐ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☐ **Yes** ☒ **No**

Please briefly explain the results: NPA analysis is not applicable because the proposal is a non-infrastructure investment.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** N/A
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☐ Yes ☒ No
4. **Please explain the project's GHG impact.** No Material Impact. This is non-infrastructure tools and equipment budget and will not have an impact on GHG emissions.

Studies/References That Support the Program: N/A

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☐ Increases automation (reduces human error)
☒ Enhances Public Safety
☐ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☐ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☒ Other: Regulatory Compliance

Transmission Main - Greenpoint

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101196	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2024	**Estimated In-Service Date:** 11/30/2024
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:
The objective of this work is to remove the 16x12 tee and replace with a straight piece of pipe to avoid possible liquids from pooling in the spur. The spur is located between valve GP0197 and GP0204. Adjacent to the spur is a 6-inch line which goes to the LNG facilities. The spur utilizes valve GP0451 and GP0453. Removal of the tee requires a shutdown and outage impacting the 350-psi system and the LNG facilities. An outage would need to be planned during a limited window to avoid send out of the LNG facilities and of Maspeth Gate.

Justification Summary:
New CNG feed to CNG dryer has been installed to the west of the V-197 valve. 12” old CNG feed was cut and capped at V-200 valve, approximately 18 ft from the transmission tee. There is a potential that the remaining old CNG feed leg may collect liquid, leak it back to the main and adjacent feed line to the LNG jet compressor (V-451 valve), causing critical failure.

Customer Benefits:
Replacement of this portion of the main will increase the reliability of the system and avoid possible failures that could interrupt service to customers during critical times.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 5,806	$ 50	$ -	$ -
OPEX				
TOTAL	$ 5,806	$ 50	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Do Nothing/Deferral. The consequences of not completing the work could increase the possibility of a potential failure that would ultimately have severe negative impacts on the system. (Not Recommended)

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Transmission Service Integrity

Type: ☐ **Project** ☒ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: Transmission Customer Services	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☐ **Mandated** ☒ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☒	**Estimated Start Date:**	**Estimated In-Service Date:**
Sponsor: Leyble, Dennis	**Business Contact:** Risikat Adesina	

Work Description:

There are high volume customers that receive gas directly from National Grid transmission mains. This program will ensure the integrity of the transmission customer services by:

- Identify all transmission services
- Perform risk assessment of the pressure regulating assets
- Risk ranks the assets
- Develop work plan to overhaul services as needed
- Execute work plan

This program will also add a third layer of protection to each of these assets.

Justification Summary:

Ensuring integrity on all gas transmission assets is of paramount importance to National Grid. Individual transmission customer services are feed from company owned and operated piping, regulating stations and metering before the gas enters customer owned piping. These National Grid facilities must be operated, maintained, and overhauled to the company standards.

Currently these facilities are not risk assessed or scheduled for overhaul on an established schedule like the proactive regulator stations.

The process safety management system at National Grid is a risk management tool used to analyze and prevent the release of natural gas. An incident could lead to the loss of control in operation of an asset, resulting in significant loss of containment of a dangerous substance potentially leading to a danger to people or environment, onsite or offsite which could cause harm to people.

Customer Benefits:

The primary customer benefit is the continued safe, reliable, and efficient delivery of natural gas to our high-volume transmission customers.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 2,000	$ 3,000	$ 2,000	
OPEX				

TOTAL	$ 2,000	$ 3,000	$ 2,000	

Supplemental Information

Alternatives

Alternative 1: Do Nothing/Deferral. Doing nothing does not meet the long-term company objective to supply safe and reliable natural gas to our customers. (Not Recommended)

Alternative 2: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This program is dependent on existing asset location and may fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Transmission Station Integrity - PHMSA - Cambria Transfer

Type: ☒ **Project** ☐ **Program**	**Category:** ☐ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101580	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2028	**Estimated In-Service Date:** 11/30/2028
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

Cambria Transfer is a 1991 vintage station located in Cambria Heights, Queens NY. The inlet pressure of the station is 350 psig, and the outlet pressure is 15 psig. This station has a maximum flow of 2290.69 MCFH. There are currently two (2) Fisher 29H OPP valves installed as well as three (3) 6" Mooney Flowgrid safety regulators and three (3) 8" Fisher 667ED whisper trim district regulators. Current station condition call for a rebuild of the station, including:

- Replacement of all station piping
- Replacement of Safety and District vaults
- Installation of Roxtec seals at all through-wall penetrations
- Installation of new pipe supports with FRP protective pads
- Upgrade of electronic / RTU equipment
- Addition of strainer
- Any building repairs that need to be completed

Justification Summary:

Due to recent PHMSA rule changes, are record review was performed at all regulating stations that fall under the new guidelines. The record review was performed to ensure both material and hydrostatic test records were accurate and available for the station. When adequate records are not available, National Grid has decided it is most prudent to replace pipes and equipment that are missing required documentation.
Under the current PHMSA ruling, this work must be completed by July 1, 2035.

Current condition of the station:

- Station piping is missing DOT CMTR records and hydrostatic testing reports
- Through-wall penetrations embedded in concrete
- RTU equipment is outdated

Customer Benefits:

Cambria Transfer station currently has a maximum flow of 2290.69 MCFH, this project will bring the regulator/transfer station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ -	$ 100	$ 200
OPEX				
TOTAL	$ -	$ -	$ 100	$ 200

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Transmission Station Integrity - PHMSA - Clifton Gate Station

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101522		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2024	**Estimated In-Service Date:** 11/30/2024
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

Clifton Gate Station is a 1999 vintage station located at Willow Avenue & Bay Street in Queens, NY. The station has an inlet pressure of 350 psig and an outlet pressure of 60 psig. The current max flow through the station is 1298.85 MCFH and serves approximately 37,431 customers based on average residential usage. Clifton Gate station is a two-stage station consisting of one (1) FISHER EZR for the first stage, and one (1) 4"FISHER 1098H for the second stage. Additionally, there are two (2) boilers, and one (1) heater with a bypass. There is no third layer of Over Pressure Protection.

The station has two vaults and two buildings, the first vault contains the first regulator which cuts the pressure from 350psi to 110psi. The second vault contain the heat exchange pipes and valves. The first building houses the heater while the second building houses the station dual run regulators that cut the pressure from 110psi to 60psi and it also houses the station control panels. The two vaults have high water level present which is causing corrosion on equipment and piping. Both buildings have also experienced leaks through the roofs which over time has led to corrosion of equipment and has the potential to impact electrical equipment in the control room if a severe leak occurs.

Work Scope will include:

1. Replacement of all piping, including control lines missing DOT CMTR and hydrostatic test records
2. Addition of Over Pressurization Protection
3. Waterproof / relocate primary regulator vault
4. Removal of heater bypass vault and replacement with above grade system
5. Recoat all other piping within two station buildings
6. Replace roof of both buildings
7. Replace electrical conduit within buildings
8. Upgrade to emergency generator pedestal
9. Install Roxtec seals at all through wall penetrations
10. Re-wrap all ground penetrations
11. Fill in Pit inside room
12. Relocate station control room and upgrade all RTU equipment
13. Replace phone with explosion proof radio
14. Remove contaminated soil. (Environmental support will be needed during upgrade)

Justification Summary:
Due to recent PHMSA rule changes, are record review was performed at all regulating stations that fall under the new guidelines. The record review was performed to ensure both material and hydrostatic test records were accurate and available for the station. When adequate records are not available, National Grid has decided it is most prudent to replace pipes and equipment that are missing required documentation.
Under the current PHMSA ruling, this work must be completed by July 1, 2035.

Current condition of the station:

- New generator pedestal
- Transite / asbestos roof
- Corrosion on piping and equipment
- Cracked windows
- Water damage in buildings
- Outdated RTU equipment
- No OPP is installed

Customer Benefits:
The current max flow through the station is 1298.85 MCFH. This project will bring the gate station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 3,036	$ 70	$ -	$ -
OPEX				
TOTAL	$ 3,036	$ 70	$ -	$ -

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Transmission Station Integrity - PHMSA - Fort Hamilton Mini Gate

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101576	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2026	**Estimated In-Service Date:** 11/30/2026
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

Fort Hamilton Mini Gate Station is a 1988 vintage station located in Brooklyn, NY. The station has an inlet pressure of 350 psig and an outlet pressure of 15 psig. The outlet is set at 18 psig. The current max flow through the station is 880 MCFH. Fort Hamilton Mini Gate Station is a three-stage station consisting of two (2) 8" x 6" FISHER 1098 HEWGR in parallel for the first stage, two (2) 8" x 6" FISHER 1098 EWGR in parallel for the second stage, and one (1) 8" FISHER VEE BALL SLAM SHUT for the third layer of Over Pressure Protection.

Work Scope will include:

- Replacement of all piping, including control lines with missing DOT CMTR and hydrostatic test records
- Replacement of district and safety vaults
- Replacement of vent poles
- Replacement of regulators
- Installation of strainers
- Replace third layer of protection
- Install Roxtec seals at all through wall penetrations
- New vault lids
- New manholes
- Abrasive blast all pipe and apply epoxy coating
- Apply Xypex waterproof coating to all vault walls

Justification Summary:

Due to recent PHMSA rule changes, are record review was performed at all regulating stations that fall under the new guidelines. The record review was performed to ensure both material and hydrostatic test records were accurate and available for the station. When adequate records are not available, National Grid has decided it is most prudent to replace pipes and equipment that are missing required documentation.
Under the current PHMSA ruling, this work must be completed by July 1, 2035.

Current condition of the station:

- Current station piping missing DOT CMTR and hydrostatic test records
- All through wall pipe penetration in concrete
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:
The current max flow through the station is 880 MCFH. This project will bring the gate station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 100	$ 200	$ 13,000	$ 100
OPEX				
TOTAL	$ 100	$ 200	$ 13,000	$ 100

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Transmission Station Integrity - PHMSA - Grasmere Gate Station

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101310	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 05/30/2024	**Estimated In-Service Date:** 10/01/2025
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

Grasmere Gate Station is a 1974 vintage station located in Staten Island, NY. The station as an inlet pressure of 419 psig and an outlet pressure of 60 psig. The current max flow through the north and south line of the station combined is 2700 MCFH. There is a north run and a south run. Grasmere Gate Station is a three-stage station consisting of two (2) 6"FISHER 667 WHISPER 3 TRIM in parallel for the first stage, two (2) 6"FISHER 1098 HEGR in parallel for the second stage, and two (2) AXELSON HF 6" x 8" RELIEF VALVES in parallel for the third layer of Over Pressure Protection. The station has 2 National Grid owned buildings, one building houses the primary regulator runs and the station control room, and the second building houses the heating equipment and second stage regulators/meters/relief valves. Both buildings have experience leaks through the roofs which over time has led to corrosion of equipment and has the potential to impact electrical equipment in the control room if a severe leak occurs.

Work Scope will include:

1. Replacement of all station piping and control lines
2. Replacement of Inlet/outlet valves
3. Repair/Replace components of Primary building and control room
4. Repair/Replace components of Secondary building and control Room
5. Replace all heater room equipment
6. Install new emergency generator
7. Replace relief valves with alternative OPP
8. Install new station walkways
9. Repair Transco building
10. Uprate Transco Interstage Piping

Due to missing DOT pipe records, a full replacement of all DOT piping within the station is required. A full review for full station rebuilds should also be looked into.
Refurbish gate station including, recoating all piping and components, Roxtec seal installations, new pipe supports, install flange guards, etc. Project will also include replacement of both primary and secondary building roofs. Roofs contain Transite, they leak, and need replacement. Control room upgrades as needed.

Uprate interstage piping to enable the Grasmere Station to take Transco Gas or uprated gas from Clove Lakes. Requires additional overpressure protection due to single pressure cut by Transco that necessitates personnel to be on site whenever gas is taken from Transco because it operates at a different MAOP. By performing this work, the Grasmere Gate Station can take Transco gas without manning the station and whenever necessary. This greatly improves reliability and increases supply diversity.

Justification Summary:
Due to recent PHMSA rule changes, are record review was performed at all regulating stations that fall under the new guidelines. The record review was performed to ensure both material and hydrostatic test records were accurate and available for the station. When adequate records are not available, National Grid has decided it is most prudent to replace pipes and equipment that are missing required documentation.
Under the current PHMSA ruling, this work must be completed by July 1, 2035.

Current condition of the station:

- Old / outdated relief valves
- Old / outdated backup generator
- Transite / Asbestos Roof
- Asbestos control room tiles
- Corrosion on piping and components
- Unreliable heating equipment
- Cracked Windows

Customer Benefits:
The current max flow through the north and south line of the station combined is 2700 MCFH. This project will bring the gate station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 9,500	$ 9,170	$ 30	$ -
OPEX				
TOTAL	$ 9,500	$ 9,170	$ 30	$ -

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits
Reliability Benefits ☐ Supports growth forecast ☐ Addresses supply/capacity constraint or supply diversity needs ☐ Addresses storm/climate change resiliency **Other Customer Benefits:** ☐ Improves Customer Satisfaction ☐ Reflects efficiency savings of $___ ☐ Reduction in Billing Errors and Re-Bills ☐ Supports implementation of Gas Business Enablement **Safety Benefits:** ☐ Enhances response time to Emergency Gas Leaks ☒ Enhances employee safety ☒ Increases automation (reduces human error) ☒ Enhances Public Safety ☒ Reduces Damages potential *(i.e., in the case of mapping system)* ☐ Addresses specific safety initiative: _____ Societal Benefits/Externalities: ☒ Emissions Reduction ☐ Reduces use of Alt. Fuel ☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks) ☐ Other: _____

Transmission Station Integrity - PHMSA - Kings Plaza Mini Gate

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220000334	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2025	**Estimated In-Service Date:** 11/30/2025
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

Kings Plaza Mini Gate is a 1970 vintage station located in Brooklyn, NY consisting of an OPP, safety, and district regulator vaults. The inlet pressure to the station is 350 psig and the outlet pressure of the station is 15 psig. Max flow through the station is 158.2 MCFH. The station consists of 4" vee ball for OPP, two (2) 3" FISHER EZR primary regulators, and two (2) 3" FISHER EZR district regulators. Temperature restriction for this station is 20 degrees.

Work Scope will include:

- Removal/abandonment of existing station equipment
- Installation of new station piping/control lines from inlet to outlet valve
- Installation of new safety and district vaults
- Installation of new valves, regulators, OPP, and strainer
- Installation of new station piping including inlet/outlet piping for tie-ins
- Installation of new access doors, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through-wall penetrations
- Install upgraded mechanical RTU and telemetry equipment

Justification Summary:

The April 8, 2016, issuance of the Notice of Proposed Rulemaking (NPRM) by PHMSA addresses the 2011 Pipeline Safety Act mandates and proposes to implement several additional changes to the regulations for stations. Among the changes under consideration are the establishment of maximum allowable operating pressure (MAOP) and testing mandates for existing facilities. PHMSA is considering eliminating the exemption clause for establishing the MAOP of pre-1970 “grandfathered” pipe, which allows certain stations to operate at the highest actual operating pressure to which they were subjected during the five years prior to July 1, 1970, without having to perform a pressure test. PHMSA is also considering whether all stations not previously pressure tested at or above 1.1 times MAOP should be required to be pressure tested in accordance with current regulations. Another initiative under consideration is PHMSA’s IVP, which may require operators lacking certain records to conduct pressure tests to confirm MAOP, and require operators with missing records, inadequately validated or traceable material documentation (TVC) to design and implement a program to establish material properties by one or more of the following methods: (1) cutting out and testing pipe samples; (2) In situ non-destructive testing; (3) field verification of code stamp for components such as valves, flanges, and fabrications; or (4) other verifications.

A portion of stations will not meet the requirements set forth for being ‘Fit for Service’ and will be required to be retired or replaced. The proposed Transmission Station Integrity Program (TSIP) will address these stations through a variety of projects including the rehabilitation of existing stations, the partial replacement of station components, or the complete replacement

of entire stations, as determined on a case-by-case basis. As system performance and reliability allow, some stations may be retired rather than replaced.

Current condition of the station:

- Atmospheric corrosion was observed on all piping and regulator components.
- All through wall pipe penetrations are embedded in concrete causing potential wall loss.
- No adequate pipe supports are installed in the vaults.
- I-beam in the vault ceiling and vents are showing signs of corrosion.
- Based on the bulk/guided wave testing, coating failure with active corrosion was detected on the west outlet run in the monitor pit and at interface of the secondary stage east inlet main.
- Both mains and control lines are protected.

Customer Benefits:

The primary customer benefit is the continuous, safe, and reliable supply of natural gas without unplanned outages due to pressure regulating facility shutdowns. This project will bring the gate station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 200	$ 2,000	$ 15,000	$ -
OPEX				
TOTAL	$ 200	$ 2,000	$ 15,000	$ -

Supplemental Information

Alternatives

Alternative 1: Rebuild the station and add OPP. Complete rebuild of the station in place, install new vaults, access doors, replace/relocate telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option due to the inadequate existing location of the station that does not allow for a prolonged shutdown. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ **Yes** ☐ **No**
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ **Yes** ☒ **No**
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ **Yes** ☐ **No**

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ **Yes** ☐ **No**

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Benefits

Reliability Benefits

☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency

Other Customer Benefits:

☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement

Safety Benefits:

☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Transmission Station Integrity - PHMSA - Mariners Harbor

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220101579		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2027	**Estimated In-Service Date:** 11/30/2027
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

Mariners Harbor gate station is a 1976 vintage station in Staten Island, New York. Max flow based off current average residential usage is 1802.66 MCFH. The station currently has two (2) 8" Fisher 667 Whisper 3 trim safety regulators and two (2) Fisher 6" 298H district regulators as well as a one (1) 12" modulating vee-ball valve operating as a third layer of protection. The scope of work performed at this station will include:

- Replacement of all station piping that is missing DOT CMTR records or hydrostatic testing records
- Replacement of the 2 Fisher 298 district regulators
- Installation of strainer
- Upgrade of RTU equipment
- Installation of Roxtec seals at all through-wall penetrations
- Installation of Bilco doors and associated drainage system for each vault

Justification Summary:

Due to recent PHMSA rule changes, are record review was performed at all regulating stations that fall under the new guidelines. The record review was performed to ensure both material and hydrostatic test records were accurate and available for the station. When adequate records are not available, National Grid has decided it is most prudent to replace pipes and equipment that are missing required documentation.
Under the current PHMSA ruling, this work must be completed by July 1, 2035.

Current Conditions of Station:

- Current station piping is missing DOT CMTR and hydrostatic testing records
- All through wall penetrations are embedded in concrete
- RTU equipment is outdated

Customer Benefits:

The scope of work of this project will increase system reliability and allow Mariners Harbord gate station to continue to provide safe service to customers. This project will also bring the gate station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 100	$ 200	$ 13,000
OPEX				
TOTAL	$ -	$ 100	$ 200	$ 13,000

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Transmission Station Integrity - PHMSA - Van Wyck Gate Station

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220101578	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2027	**Estimated In-Service Date:** 11/30/2027
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

Van Wyck Gate Station is a 1974 vintage station located in Queens, NY. The station has an inlet pressure of 350 psig and an outlet pressure of 15 psig. The current max flow through each the north line and south line of the station is 1350 MCFH. Van Wyck Gate Station is a three-stage station with four runs in parallel consisting of four (4) 8"FISHER 1098 HEGR in parallel for the first stage, four (4) 8"FISHER 667ED in parallel for the second stage, and four (4) 6"GARRETT TYPE "E" RELIEF in parallel for the third layer of Over Pressure Protection.

Work Scope will include:

- Replacement of all piping, including control lines missing DOT CMTR and hydrostatic test records
- Replacement of district and safety vaults
- Replacement of vent poles
- New manholes
- Replacement of regulators
- Installation of strainers
- Replace third layer of protection (OPP)

Justification Summary:

Due to recent PHMSA rule changes, are record review was performed at all regulating stations that fall under the new guidelines. The record review was performed to ensure both material and hydrostatic test records were accurate and available for the station. When adequate records are not available, National Grid has decided it is most prudent to replace pipes and equipment that are missing required documentation.
Under the current PHMSA ruling, this work must be completed by July 1, 2035.

Current condition of the station:

- Current station piping missing DOT CMTR and hydrostatic test records
- All through wall pipe penetration in concrete
- Outdated Remote Terminal Unit (RTU) equipment

Customer Benefits:

The current max flow through each the north line and south line of the station is 1350 MCFH. This project will bring the gate station into compliance with the PHMSA ruling and improve system reliability.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ -	$ 100	$ 200	$ 16,100
OPEX				
TOTAL	$ -	$ 100	$ 200	$ 16,100

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No
2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?

☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____
Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

Transmission Station Integrity - PHMSA - Bush Terminal (IF-09)

Type: ☒ **Project** ☐ **Program**		**Category:** ☒ **Capital** ☐ **Both Capital & O&M**
Investment Code: 5220000335		**Region:** ☒ **KEDNY** ☐ **KEDLI**
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2025	**Estimated In-Service Date:** 11/30/2025
Sponsor: Leyble, Dennis		**Business Contact:** Adesina, Risikat

Work Description:

Bush Terminal (IF-09) is located at 3rd Avenue & 31st Street, Brooklyn, NY, and it is a 1980 vintage station. Bush Terminal is a three-stage station consisting of one (1) 4" FISHER 1098 HEGR for the first stage, two (2) 4" FISHER 1098 HEGR in parallel for the second stage, and one (1) 6" FISHER VEE BALL TYPE 1052V for the third layer of Over Pressure Protection. Inlet pressure to the station is 350 psig and outlet pressure of the station is 60 psig. Max flow through the station is 169.53 MCFH. The current observed conditions call for a relocation of the station consisting of:

- Removal/abandonment of existing station equipment
- Installation of all station piping from inlet to outlet valve
- Installation of new safety and district vaults
- Installation of new valves, regulators, OPP, and strainer
- Installation of new station piping including inlet/outlet piping for tie-ins
- Replacement of control lines
- Replacement of manholes, vent poles, ladders, pipe supports
- Installation of Roxtec seals at all through-wall penetrations
- Upgrade of all mechanical RTU equipment

Justification Summary:

The April 8, 2016, issuance of the Notice of Proposed Rulemaking (NPRM) by PHMSA addresses the 2011 Pipeline Safety Act mandates and proposes to implement several additional changes to the regulations for stations. Among the changes under consideration are the establishment of maximum allowable operating pressure (MAOP) and testing mandates for existing facilities. PHMSA is considering eliminating the exemption clause for establishing the MAOP of pre-1970 "grandfathered" pipe, which allows certain stations to operate at the highest actual operating pressure to which they were subjected during the five years prior to July 1, 1970, without having to perform a pressure test. PHMSA is also considering whether all stations not previously pressure tested at or above 1.1 times MAOP should be required to be pressure tested in accordance with current regulations. Another initiative under consideration is PHMSA's IVP, which may require operators lacking certain records to conduct pressure tests to confirm MAOP, and require operators with missing records, inadequately validated or traceable material documentation (TVC) to design and implement a program to establish material properties by one or more of the following methods: (1) cutting out and testing pipe samples; (2) In situ non-destructive testing; (3) field verification of code stamp for components such as valves, flanges, and fabrications; or (4) other verifications.

A portion of stations will not meet the requirements set forth for being 'Fit for Service' and will be required to be retired or replaced. The proposed Transmission Station Integrity Program (TSIP) will address these stations through a variety of projects

including the rehabilitation of existing stations, the partial replacement of station components, or the complete replacement of entire stations, as determined on a case-by-case basis. As system performance and reliability allow, some stations may be retired rather than replaced.

Current Station Conditions

- Corrosion on most of the station piping
- Safety and district vaults are outdated
- Overall poor conditions

Customer Benefits:

The relocation of the regulating station will improve the asset condition, bring the station into compliance with PHMSA requirements and address any open reliability concerns while also mitigating shutdown time. A third layer of over-pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 300	$ 10,000	$ 8,000	$ 200
OPEX				
TOTAL	$ 300	$ 10,000	$ 8,000	$ 200

Supplemental Information

Alternatives

Alternative 1: Rebuild the station and add OPP. Complete rebuild of the station in place, install new vaults, access doors, replace/relocate telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option due to the inadequate existing location of the station that does not allow for a prolonged shutdown. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**

☒ **Yes** ☐ **No**

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No
3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☒ Yes ☐ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and falls within a DAC should have minimal impact.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*
☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:
☒ Emissions Reduction
☐ Reduces use of Alt. Fuel
☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)
☐ Other: _____

Transmission Station Integrity - PHMSA – Kennedy Gate Station

Type: ☒ **Project** ☐ **Program**	**Category:** ☒ **Capital** ☐ **Both Capital & O&M**	
Investment Code: 5220020388	**Region:** ☒ **KEDNY** ☐ **KEDLI**	
Planning Portfolio: ☐ **Customer Connections** ☒ **Mandated** ☐ **Reliability** ☐ **Non-Infrastructure** ☐ **Indirect**		
Annual Program: ☐	**Estimated Start Date:** 01/01/2025	**Estimated In-Service Date:** 11/30/2025
Sponsor: Leyble, Dennis	**Business Contact:** Adesina, Risikat	

Work Description:

Kennedy Gate Station is a 1991 vintage station located in Queens, NY 11430. The station is a single feed inlet of 350 psig and a dual run outlet of 60 psig and 15 psig, respectively. The 60 psig run has a max flow of 597.54 MCFH and consists of two (2) 4" Fisher 1098 HEGR safety regulators, and two (2) 6" Fisher slam shut security valves. The 15 psig run has a max flow of 543.82 MCFH and consists of two (2) 4" Fisher 1098 HEGR safety regulators, two (2) 8" Fisher 1098 HEGR district regulators, and two (2) Fisher 29-Y641 safety valves. The current condition of the station calls for a full rebuild consisting of:

- Replacement of all station piping due to missing DOT CMTR and hydrostatic testing records
- Replacement of existing safety and district regulators
- Replacement of both safety and district vaults
- Installation of Over Pressurization Protection (OPP) and strainer
- Installation of new control lines
- Installation of upgraded RTU equipment
- Repair of glycol piping and glycol circulating pumps
- Replacement of house heat boiler
- Replacement of vault vent poles and access doors
- Replacement of filter in scrubber tank
- Installation of LED light fixtures around the property as well as inside the vaults

Justification Summary:

The April 8, 2016, issuance of the Notice of Proposed Rulemaking (NPRM) by PHMSA addresses the 2011 Pipeline Safety Act mandates and proposes to implement several additional changes to the regulations for stations. Among the changes under consideration are the establishment of maximum allowable operating pressure (MAOP) and testing mandates for existing facilities. PHMSA is considering eliminating the exemption clause for establishing the MAOP of pre-1970 "grandfathered" pipe, which allows certain stations to operate at the highest actual operating pressure to which they were subjected during the five years prior to July 1, 1970, without having to perform a pressure test. PHMSA is also considering whether all stations not previously pressure tested at or above 1.1 times MAOP should be required to be pressure tested in accordance with current regulations. Another initiative under consideration is PHMSA's IVP, which may require operators lacking certain records to conduct pressure tests to confirm MAOP, and require operators with missing records, inadequately validated or traceable material documentation (TVC) to design and implement a program to establish material properties by one or more of the following methods: (1) cutting out and testing pipe samples; (2) In situ non-destructive testing; (3) field verification of code stamp for components such as valves, flanges, and fabrications; or (4) other verifications.

A portion of stations will not meet the requirements set forth for being 'Fit for Service' and will be required to be retired or replaced. The proposed Transmission Station Integrity Program (TSIP) will address these stations through a variety of projects including the rehabilitation of existing stations, the partial replacement of station components, or the complete replacement of entire stations, as determined on a case-by-case basis. As system performance and reliability allow, some stations may be retired rather than replaced.

Customer Benefits:

The rebuild of the regulating station will bring the station piping into compliance with PHMSA's requirements for DOT pipelines as well as improve the assets condition and address any open reliability concerns. A third layer of over-pressure protection will be added to protect the station in an emergency. The investment is expected to result in savings associated with robust vetting of project details to meet Asset Management needs. Project Development creates a Risk Register to identify and quantify project risk. The output of development stage is a risk-assessed, detailed estimate used for individual project sanctioning.

Funding Detail

Cost Breakdown:

$000	FY25	FY26	FY27	FY28
CAPEX	$ 100	$ 13,000	$ 150	$ -
OPEX				
TOTAL				

Supplemental Information

Alternatives

Alternative 1: Build new station and retire old station. Complete rebuild of the station in a new location, install new station piping, install new vaults, access doors, install new telemetry cabinets, new vent poles, strainer and add OPP. This alternative was not selected as the primary option because the existing location of the station is adequate. (Not recommended)

Alternative 2: Do Nothing/Deferral. The consequences of not completing the work could ultimately result in the station being out of compliance with PHMSA regulations and lead to substantial fines. (Not Recommended)

Alternative 3: Non-Pipes Alternatives ("NPAs")

NPA Suitability Screening

1. **Is the project construction expected to commence and be completed within 24 months?**
   ☒ Yes ☐ No

2. **For KEDLI or NMPC, is the cost of the project less than $500k? For KEDNY, is the cost of the project less than $750k?**
   ☐ Yes ☒ No

3. **Does the pipes investment affect the critical reliability of the local or broader gas system or respond to a regulatory mandate?**
   ☒ Yes ☐ No

If questions are answered "yes," the project does not qualify for an NPA.

NPA Evaluation

Has this project been reviewed against the Company's NPA Screening and Suitability Criteria?
☒ Yes ☐ No

Please briefly explain the results: This project does not qualify for replacement with an NPA as it is projected to be completed within 24 months.

CLCPA/GHG Analysis

1. **Is the project/program located in an area designated as a disadvantaged community (DAC)[1]?** ☐ Yes ☒ No
2. **If so, explain how was the routing determined and how will the project impact the surrounding area?** This project is dependent on existing asset location and does not fall within a DAC.
3. **Will the project contribute to GHG emission reductions on the Company's gas network?** ☒ Yes ☐ No
4. **Please explain the project's GHG impact.** Indirect Impact. This project will indirectly reduce GHG emission by replacing old, antiquated equipment with new and more reliable equipment.

Studies/References That Support the Program:

Benefits
Reliability Benefits
☐ Supports growth forecast
☐ Addresses supply/capacity constraint or supply diversity needs
☐ Addresses storm/climate change resiliency
Other Customer Benefits:
☐ Improves Customer Satisfaction
☐ Reflects efficiency savings of $___
☐ Reduction in Billing Errors and Re-Bills
☐ Supports implementation of Gas Business Enablement
Safety Benefits:
☐ Enhances response time to Emergency Gas Leaks
☒ Enhances employee safety
☒ Increases automation (reduces human error)
☒ Enhances Public Safety
☒ Reduces Damages potential *(i.e., in the case of mapping system)*

[1] As defined in Environmental Conservation Law Section 75-0101(5), disadvantaged communities are "communities that bear burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households, as identified pursuant to section 75-0111 of the [Environmental Conservation Law]."

☐ Addresses specific safety initiative: _____

Societal Benefits/Externalities:

☒ Emissions Reduction

☐ Reduces use of Alt. Fuel

☐ Decreases Leak Prone Pipe \Leak Backlog (Type 3 leaks)

☐ Other: _____

Exhibit ___ (GIOP-6)

Charts Demonstrating Variability in City/State Construction ("CSC") Non-Reimbursable O&M and demonstrating the CSC Net Plant and Depreciation Tracker Mechanism

The Brooklyn Union Gas Company d/b/a National Grid NY Gas Safety and Gas Infrastructure and Operations Panels City/State Construction Expense Variability
($'s)

Variability in City/State Construction Non-Reimbursable O&M

City/State Construction KEDNY Opex Spend vs. DDC Budget

NYC DDC Budget

Line		Non Reimb	Reimb	Total
1				
2	FY20	$660,000,000	$600,000,000	$1,260,000,000
3	FY21	$598,000,000	$639,000,000	$1,237,000,000
4	FY22	$785,000,000	$551,000,000	$1,336,000,000
5				

National Grid CSC Opex Spend

6				
7	Year	S&P (Non Reimb)	EP-7 (Reimb)	Total
8	FY20	$3,912,799	$6,500,000	$10,412,799
9	FY21	$9,651,293	$1,200,000	$10,851,293
10	FY22	$6,348,716	$1,050,000	$7,398,716
11				
12				
13				

14 Variability: KEDNY CSC Operating Expense as a Percent of NYC DDC Budget

15

NG Opex % of DDC Spend

16				
17	Year	Non Reimb	Reimb	Total
18	FY20	0.59%	1.08%	0.83%
19	FY21	1.61%	0.19%	0.88%
20	FY22	0.81%	0.19%	0.55%
21				
22				
23				

NG Opex % of DDC Spend - Variation Year to Year

24				
25		Non Reimb	Reimb	Total
26	FY20-21	172.2%	-82.7%	6.1%
27	FY21-22	-49.9%	1.5%	-36.9%
28				
28				

Line Notes
19 Line 9 divided by Line 3
20 Line 10 divided by Line 4
21 Line 11 divided by Line 5
27 Line 20 divided by Line 19 minus 1
28 Line 21 divided by Line 20 minus 1

Exhibit ___ (GIOP-7)

Incremental O&M Non-Labor Expenditures for the Rate Year and Data Years

The Brooklyn Union Gas Company d/b/a National Grid NY
Incremental Operating Expenses
Gas Safety and Gas Infrastructure and Operations Panels
$000's

Program Description	Rate Year Ending March 31, 2025			Data Year Ending March 31, 2026			Data Year Ending March 31, 2027			Data Year Ending March 31, 2028		
	Non-labor	Labor	Total	Non-labor	Labor	Total	Non-labor	Labor	Total	Non-labor	Labor	Total
Gas Safety Programs												
Advanced Communications Infrastructure (AMI)	$ 1,000.0	$ 0.0	$ 1,000.0	$ 1,000.0	$ 0.0	$ 1,000.0	$ 434.0	$ 16.4	$ 450.4	$ 670.0	$ 16.9	$ 686.9
Advanced Communications Infrastructure (RMD)	759.2	16.7	775.9	1,485.6	17.2	1,502.8	2,087.8	17.6	2,105.4	2,390.2	36.1	2,426.3
Advanced Communications Infrastructure (Smart Meter Repl.	-	0.0	0.0	-	0.0	0.0	8.6	48.1	56.7	25.8	86.5	112.3
Advanced Leak Detection	2,502.8	486.7	2,989.5	2,551.1	496.8	3,047.9	2,597.2	507.0	3,104.1	2,643.0	517.0	3,160.1
Inside Service Line Inspections (Bus Dist)	-	-	-	(300.0)	-	(300.0)	(600.0)	-	(600.0)	(995.0)	-	(995.0)
Inside Service Line Inspections (Non-bus Dist)	1,321.0	-	1,321.0	(4,378.6)	-	(4,378.6)	(2,371.0)	-	(2,371.0)	(7,585.9)	-	(7,585.9)
Damage Prevention Program Enhancements	1,146.4	-	1,146.4	1,533.3	-	1,533.3	1,932.1	-	1,932.1	2,343.1	-	2,343.1
Operator Qualification Program	1,335.1	1,490.5	2,825.5	1,346.8	1,527.1	2,873.9	1,371.1	1,563.8	2,934.9	1,395.3	1,600.5	2,995.8
Gas Safety Public Awareness	288.2	-	288.2	293.7	-	293.7	299.0	-	299.0	304.3	-	304.3
I&R – Low Pressure Valve Inspection	-	152.8	152.8	-	326.0	326.0	-	585.1	585.1	-	619.2	619.2
Gas Pipeline Safety & Compliance	-	119.1	119.1	-	122.1	122.1	-	125.2	125.2	-	128.3	128.3
Gas Pipeline Safety and Control Testing	-	130.4	130.4	-	133.7	133.7	-	137.1	137.1	-	140.5	140.5
Gas Pipeline Safety Management	-	119.2	119.2	-	122.3	122.3	-	125.4	125.4	-	128.5	128.5
Gas Pipeline Safety Q&A	-	159.3	159.3	-	163.5	163.5	-	167.6	167.6	-	171.7	171.7
Meter Relocation Program	-	19.6	19.6	-	20.1	20.1	-	27.7	27.7	-	28.3	28.3
Voluntary Integrity Management Program	1,000.0	274.6	1,274.6	1,019.3	280.3	1,299.6	1,037.7	286.0	1,323.7	1,056.0	291.7	1,347.7
Sub-total	$ 9,352.6	$ 2,968.9	$ 12,321.5	$ 4,551.2	$ 3,209.1	$ 7,760.3	$ 6,796.5	$ 3,607.1	$ 10,403.5	$ 2,246.9	$ 3,765.1	$ 6,012.1
GIOP Programs												
Pipeline Integrity - IMP/ IVP	$ 601.0	$ -	$ 601.0	$ (26.6)	$ -	$ (26.6)	$ (2,249.7)	$ -	$ (2,249.7)	$ (1,394.6)	$ -	$ (1,394.6)
Disconnects & Reconnects	2,413.7	-	2,413.7	3,240.5	-	3,240.5	3,772.8	-	3,772.8	4,227.4	-	4,227.4
Tools & Equipment	550.0	-	550.0	590.0	-	590.0	685.0	-	685.0	780.0	-	780.0
Storm Hardening	-	-	-	-	-	-	-	-	-	899.5	-	899.5
City State Construction	-	49.8	49.8	-	76.7	76.7	-	89.4	89.4	-	96.2	96.2
Gas Control	-	290.2	290.2	-	297.7	297.7	-	305.2	305.2	-	312.7	312.7
Pressure Reg/LNG/CNG	-	13.1	13.1	-	13.5	13.5	-	13.8	13.8	-	14.1	14.1
Resource Coordination	-	100.5	100.5	-	123.8	123.8	-	127.0	127.0	-	130.1	130.1
Stakeholder Engagement	-	12.7	12.7	-	26.1	26.1	-	26.7	26.7	-	27.4	27.4
Storm Hardening	-	-	-	-	-	-	-	-	-	-	52.1	52.1
Transmission Engineering	-	17.0	17.0	-	17.4	17.4	-	17.8	17.8	-	18.3	18.3
Investment Planning	-	3.7	3.7	-	4.6	4.6	-	4.7	4.7	-	4.8	4.8
ERT Replacement Program	-	51.0	51.0	-	61.6	61.6	-	72.6	72.6	-	84.0	84.0
Collections - CMS	-	1,855.4	1,855.4	-	1,894.3	1,894.3	-	1,932.9	1,932.9	-	1,971.3	1,971.3
Sub-total	$ 3,564.7	$ 2,393.4	$ 5,958.2	$ 3,803.9	$ 2,515.5	$ 6,319.5	$ 2,208.0	$ 2,590.1	$ 4,798.1	$ 4,512.3	$ 2,710.9	$ 7,223.3

The Brooklyn Union Gas Company d/b/a National Grid NY
Incremental Operating Expenses
Gas Safety and Gas Infrastructure and Operations Panels
$000's

Program Description	Rate Year Ending March 31, 2025			Data Year Ending March 31, 2026			Data Year Ending March 31, 2027			Data Year Ending March 31, 2028		
	Non-labor	Labor	Total	Non-labor	Labor	Total	Non-labor	Labor	Total	Non-labor	Labor	Total
GIOP Future of Heat Programs												
Future of Heat - Hydrogen Blending	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 250.0	$ -	$ 250.0
Future of Heat - RNG	-	-	-	-	-	-	-	-	-	500.0	-	500.0
Hydrogen	-	52.1	52.1	-	53.5	53.5	-	54.8	54.8	-	56.2	56.2
Materials Lab	-	132.9	132.9	-	136.1	136.1	-	139.3	139.3	-	142.5	142.5
Research & Development	-	287.5	287.5	-	295.0	295.0	-	302.4	302.4	-	309.9	309.9
Gas Quality Lab	-	84.7	84.7	-	86.6	86.6	-	88.6	88.6	-	90.5	90.5
RNG	-	31.3	31.3	-	32.1	32.1	-	32.9	32.9	-	33.7	33.7
Geothermal	-	142.6	142.6	-	146.3	146.3	-	288.6	288.6	-	295.4	295.4
Newtown Creek Project	1,062.6	-	1,062.6	1,090.5	-	1,090.5	1,119.1	-	1,119.1	1,148.3	-	1,148.3
Sub-total	$ 1,062.6	$ 731.1	$ 1,793.7	$ 1,090.5	$ 749.5	$ 1,840.0	$ 1,119.1	$ 906.6	$ 2,025.7	$ 1,898.3	$ 928.2	$ 2,826.5
GIOP Fleet & Facilities												
Fleet Asset & Performance	$ 982.6	$ 12.2	$ 994.8	$ 282.6	$ 12.5	$ 295.2	$ 385.4	$ 12.9	$ 398.3	$ 518.6	$ 13.2	$ 531.8
Warehouse DNY	-	94.8	94.8	-	96.7	96.7	-	98.7	98.7	-	100.7	100.7
Facilities DNY	-	100.9	100.9	-	103.0	103.0	-	105.1	105.1	-	107.2	107.2
Sub-total	$ 982.6	$ 207.8	$ 1,190.4	$ 282.6	$ 212.3	$ 494.9	$ 385.4	$ 216.6	$ 602.1	$ 518.6	$ 221.0	$ 739.7
Grand Total	$ 14,962.5	$ 6,301.3	$ 21,263.8	$ 9,728.2	$ 6,686.4	$ 16,414.6	$ 10,509.1	$ 7,320.4	$ 17,829.4	$ 9,176.2	$ 7,625.3	$ 16,801.5

Exhibit ___ (GIOP-8)

Incremental FTE Positions by Function in the Rate Year and Data Years

The Brooklyn Union Gas Company d/b/a National Grid NY
Incremental FTE's
Gas Safety and Gas Infrastructure and Operations Panels

	Rate Year Ending March 31, 2025	Data Year Ending March 31, 2026	Data Year Ending March 31, 2027	Data Year Ending March 31, 2028
Gas Safety Programs				
Advanced Communications Infrastructure (AMI)	-	-	2.0	2.0
Advanced Communications Infrastructure (RMD)	1.0	1.0	1.0	2.0
Advanced Communications Infrastructure (Smart Meter Repl.)	-	-	8.0	15.0
Advanced Leak Detection	4.0	4.0	4.0	4.0
Operator Qualification Program	18.0	18.0	18.0	18.0
I&R – Low Pressure Valve Inspection	2.0	4.0	7.0	7.0
Gas Pipeline Safety & Compliance	1.0	1.0	1.0	1.0
Gas Pipeline Safety and Control Testing	2.0	2.0	2.0	2.0
Gas Pipeline Safety Management	1.5	1.5	1.5	1.5
Gas Pipeline Safety Q&A	2.0	2.0	2.0	2.0
Meter Relocation Program	3.0	3.0	4.0	4.0
Voluntary Integrity Management Program	2.0	2.0	2.0	2.0
Sub-total	36.5	38.5	52.5	60.5
GIOP Programs				
City State Construction	10.0	12.0	13.0	13.0
Gas Control	2.5	2.5	2.5	2.5
Pressure Reg/LNG/CNG	1.5	1.5	1.5	1.5
Resource Coordination	3.0	3.0	3.0	3.0
Stakeholder Engagement	1.0	2.0	2.0	2.0
Storm Hardening	-	-	-	8.0
Transmission Engineering	1.0	1.0	1.0	1.0
Investment Planning	0.5	0.5	0.5	0.5
ERT Replacement Program	14.0	17.0	20.0	23.0
Collections - CMS	30.0	30.0	30.0	30.0
Sub-total	63.5	69.5	73.5	84.5
GIOP Future of Heat Programs				
Hydrogen	0.5	0.5	0.5	0.5
Materials Lab	1.5	1.5	1.5	1.5
Research & Development	1.5	1.5	1.5	1.5
Gas Quality Lab	1.0	1.0	1.0	1.0
RNG	1.5	1.5	1.5	1.5
Geothermal	4.0	4.0	5.0	5.0
Sub-total	10.0	10.0	11.0	11.0
GIOP Fleet & Facilities				
Fleet Asset & Performance	0.3	0.3	0.3	0.3
Warehouse DNY	2.0	2.0	2.0	2.0
Facilities DNY	2.0	2.0	2.0	2.0
Sub-total	4.3	4.3	4.3	4.3
Grand Total	114.3	122.3	141.3	160.3

Exhibit ___ (GIOP-9)

Data Sheets for Fleet and Facilities Capital Programs

Business Contact: Steven Doben

Initiative Title: Maintenance and Repair Investments

Brief Description:

The Company's maintenance and repair investments in its facilities address break-fix and safety-related work required to ensure continued delivery of safe and reliable service to customers and a safe working environment for the Company's employees.

Investments seek to address roofing failures, arc flash signage, life safety/fire alarm systems, and other general building improvements. Roofing systems will be repaired or replaced where water penetration has been identified, arc flash signage installed where required, life safety and fire alarm systems will be upgraded or replaced to code, and bathrooms renovated for ADA compliance.

The following are sought as part of the Company's maintenance and repair investments:

Roof Replacements – Replace failed roofs across Company's facilities to prevent water seepage that can cause severe and potentially catastrophic deterioration of building infrastructure, and to maintain structural integrity for the safety of employees and contractors.

Bathroom Program – Upgrade Bathrooms for ADA compliance across the Company's facilities footprint to improve public, contractor, and employee morale and safety, as well as employee retention. The investment will address code and compliance violations, fines from NYC Department of Buildings (DOB), NYC Department of Environmental Protection (DEP), and other state or local code enforcement agencies.

Arc Flash – Spending to address electrical panel and service marking updates required by the implementation of a new national electrical code standard to ensure safer identification and awareness of higher voltage electrical connection and/or controls.

Life Safety and Fire Alarm Upgrades – Many of the Company's life safety and fire alarm systems are old, outdated, and at end of life. Systems across the DNY footprint must be upgraded to protect public and employee safety and to avoid violations from FDNY, DOB, DEP, and other state and local code enforcement agencies.

Rationale / Justification:

End-of-life or failing equipment replacement and other upgrades are required to ensure a safe working environment and to preserve the integrity of the Company's facilities. This will provide improved working conditions for employees, contractors, partners, and the public.

- Customer – Proposed investments will ensure continued ability to provide safe and reliable service, without impact to operations or field force initiatives;
- Economic – The proposed investments will address deferred maintenance and help address compliance with safety requirements and regulations, including the ADA.

Program / Investment Budget:

COST ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment KEDNY	$6.996	$6.319	$2.893	$2.974	$2.810
Capital Investment SERVCO*	$27.227	$6.247	$3.173	$2.225	$2.15

*Revenue Requirement impacts of these capital investments can be found in Exhibit (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13

Alternatives:

1. **Do Nothing** – Increases the risk of potential financial loss and safety to the public and Company employees. Break-fix costs and other investments proposed only increase as repairs and improvements are deffered.

2. **Defer the Project** – Delaying will cause continued deterioration of buildings and critical infrastructure equipment, resulting in potential work interruption and/or jeopardizing safety. Break-fix costs and other investments proposed only increase as repairs and improvements are deffered.

Business Contact: Steven Doben

Initiative Title: Asset Refurbishment

Brief Description:
Asset Refurbishment investments are proposed to repair, replace, or restore broken and deteriorating building structures, and to address critical building systems in need of repair at the Company's Staten Island, Jamaica, and Canarsie sites. It is targeting electrical equipment updates, window replacement, and facade repair or correction. Overall, asset refurbishment work seeks to address deferred maintenance and improve facilities that are essential to ensure the delivery of safe and reliable service to customers.

Building facades and windows have deteriorated beyond repair due to deferred maintenance. Repointing and brick replacement is required due to water seepage that has penetrated buildings, leading to rusting of interior steel columns. As a result of water seepage, surface solutions to temporarily repair building cracks are no longer a viable option. Elements of the facade must be removed to address issues with missing or severely damaged structural components.

Most window systems are almost 30 years old and infiltrated with moisture with compromised components that require replacement; many of these windows and components are no longer manufactured. Asbestos has been discovered in window caulking, requiring appropriate abatement and disposal. Interior integrity of structures will eventually fail if windows needing repair are not addressed.

Rationale / Justification:

The investments in asset refurbishment are based on independently prepared facility condition reports, break-fix analysis, infrastructure deficiencies discovered during in-flight work, and from internal and external inspections. End of life, failing equipment replacement, and system upgrades are required, as well as corrections to building structures, to ensure safety, integrity and continued viability of noted sites. This will provide improved and safe working conditions for employees, contractors, partners, and the public.

- Customer – Proposed investments will ensure continued ability to provide safe and reliable service to customers, without impact to operations or field force initiatives;
- Economic – Investment proposed will address deferred maintenance and avoid total building and/or building system failure, which exceed the cost of repairs

Program / Investment Budget:

COST ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment KEDNY	$3.24	$2.7	$2.7	$0	$0
Capital Investment SERVCO*	$3.272	$16.589	$1.934	$2.404	$4.004

*Revenue Requirement impacts of these capital investments can be found in Exhibit (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13

Alternatives:

1. **Do Nothing** – Critical building infrastructure and equipment will eventually fail, resulting in potential code violations and associated fines and/or forced building closures, employee safety, and/or the ability to serve customers.

2. **Defer the Project** – Delaying will exacerbate deterioration of buildings and critical infrastructure equipment, resulting in potential work interruption, risks to public safety, and increased costs.

Business Contact: Steven Doben

Initiative Title: Greenpoint Investments

Brief Description:

National Grid's Greenpoint campus is an 85-acre site in Brooklyn that has been in operation since 1892. It is a key strategic operating site in KEDNY's footprint that serves as a gas supply, storage, and distribution center and base for more than 500 employees.

The proposed Greenpoint investments represent an overarching initiative comprised of three separate areas / projects: (1) the Greenpoint Masterplan; (2) Greenpoint Infrastructure; and (3) Greenpoint Safety. Collectively, they seek to address significantly compromised structural and asset conditions at buildings across the campus with near and long-term solutions. Deferred maintenance, age, and heavy use necessitate investment in the Greenpoint site to ensure the continued ability to provide safe and reliable service to customers.

Greenpoint Master Plan
The Greenpoint Master Plan represents a long-term investment to address the Greenpoint site's deficiencies, while simultaneously adding value to the Company's ability to deliver safe and reliable service to customers and ensuring a safe and efficient working environment for employees.

Major categories of work under the Greenpoint Masterplan initiative include:

- Greenpoint Masterplan planning;
- Greenpoint Masterplan execution;
- Greenpoint Warehouse Demolition and Interim Solution;
    - The Greenpoint campus Shelving and Storage (S&S) building has been deemed structurally unsound and beyond repair. Abatement is required and will be performed as part of a planned demolition. A temporary warehouse solution will be erected to support existing operations and to allow for indoor storage and working conditions. Currently, commercial Conex storage boxes are being used and require employees to perform certain duties outdoors. This presents a safety and operational risk that the temporary warehouse solution will address in the near-term while a longer-term solution is identified;
- Guard Booth and Front Entrance Beautification

Greenpoint Infrastructure
The Greenpoint Infrastructure investment is focused on addressing structural deficiencies identified at several buildings on the Greenpoint campus, separate from the S&S building. It includes comprehensive engineering analysis and design to construction.

Major categories of work under the Greenpoint Infrastructure initiative include:

- Building Analysis;
- Re-design / engineering plans;
- Re-pointing and other construction projects needed to stabilize buildings, as identified

Greenpoint Safety

The Greenpoint Safety investment seeks to correct basic buildings systems essential for the day-to-day operations of the Company. Many have been deferred in the past several years, and as a result, investment is required.

Major categories of work under the Greenpoint Safety initiative include:

- Bathroom and locker renovation;
    - Temporary bathroom trailers are currently being utilized at the Greenpoint campus and are required until building deficiencies are corrected;
- Electrical upgrades;
- Fire and safety systems;
- Window replacements
    - In some buildings, windows have deteriorated such that water is penetrating building envelopes, further deteriorating their structural integrity.

Rationale / Justification:

In January 2023, the Company received an independent assessment and report on the condition of the Greenpoint campus. In it, five of its twelve buildings were found to be in either "serious" or "poor" condition. Identified issues include severe building deterioration in need of significant repair or replacement that, if left uncorrected, present compounding costs and risk to building integrity. At its longest, the assessment recommended a 2-year timeframe to prioritize corrections because of the significant risk to cost and safety. The remaining seven buildings at the Greenpoint campus were determined to be in "fair" condition, with a recommended prioritization timeline of 3-5 years to address "average or worse-than-average" conditions that indicate assets that may be nearing the end of their useful life.

Investment ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment – Greenpoint Masterplan	$7.532	$4.6	$10.3	$17.5	$10.0
Capital Investment – Greenpoint Infrastructure	$0	$12.125	$12.125	$12.125	$12.125
Capital Investment – Greenpoint Safety	$2.9	$1.0	$0	$0	$0
TOTAL	**$14.956**	**$17.725**	**$22.425**	**$29.625**	**$22.125**

Customer Benefit:

- Investments at Greenpoint will mitigate operational risk to ensure continued safe and reliable service;
- Improve long-term run rate costs only realized with coordinated and planned site investment;
- Improved energy efficiency and sustainable systems and materials;

- Greenpoint is in a Disadvantaged Community (DAC) and, once completed, will provide positive environmental impact to the immediate community;
- Improved community presence and environmental impact by redesigned guard booth; street-facing fencing, and other views to the public;
- Improved traffic congestion and flow.

Alternatives:

1. **Do Nothing** – Continued deterioration of grounds and buildings will result in an unsafe work environment as well as potential code violations from the NYC Department of Buildings (DOB), Department of Environmental Protection (DEP), and other State or Local code enforcement. As time passes, the risk of additional buildings becoming too hazardous to occupy or utilize increases.

2. **Defer the Project** – Grounds and buildings will continue to deteriorate and there will be a continued unsafe work environment, along with potential code violations from NYC DOB, DEP, and other State or Local municipalities. Costs to cure will increase over time and if the project is deferred.

Business Contact: Steven Doben

Initiative Title: Bay Ridge Facility

Brief Description:

The Bay Ridge Facility is an investment in a new building at the Company's existing Bay Ridge site that will replace a former Red Hook facility after that facility's lease expired. The operating costs at Red Hook were projected to increase over 300% per annum due to market changes in that neighborhood over the past 40 years, when the lease began. Instead of renewing it, the proposed investment at Bay Ridge is on Company-owned land and was determined to be a more economical, long-term solution. Until the new facility is built, employees are working out of trailers at the Bay Ridge site and from the Company's Greenpoint campus, resulting in longer response times.

Rationale / Justification:

- Customer – The site directly supports the local distribution and capital construction crews responsible for the Bay Ridge and Red Hook areas of Brooklyn. A new Bay Ridge facility will enable improved response times compared to personnel responding from the Greenpoint facility.
- Economic – The site is being developed on Company-owned property in a compatible zoning district, avoiding acquisition and zoning efforts that lead to increased overall development costs. The long-term operating costs at the new facility, as proposed, is more favorable in comparison to extending the former Red Hook facility lease.

Program / Investment Budget:

COST ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment	$1.958	$7.360	$0	$0	$0

Alternatives:

1. **Do Nothing** – Continuing to rely on the existing mix of temporary trailers and the Greenpoint facility for personnel may negatively impact response times and the Company's ability to provide safe and reliable service.

2. **Defer the Project** – Current conditions, continually escalating construction costs, and long-term strategy decisions make deferring the project undesirable. Additionally, the normal building development cycle is timely and costly – stopping and then restarting the project will increase costs and uncertainty.

Business Contact: Steven Doben

Initiative Title: Asset Refurbishment

Brief Description:
Asset Refurbishment investments are proposed to repair, replace, or restore broken and deteriorating building structures, and to address critical building systems in need of repair at the Company's Staten Island, Jamaica, and Canarsie sites. It is targeting electrical equipment updates, window replacement, and facade repair or correction. Overall, asset refurbishment work seeks to address deferred maintenance and improve facilities that are essential to ensure the delivery of safe and reliable service to customers.

Building facades and windows have deteriorated beyond repair due to deferred maintenance. Repointing and brick replacement is required due to water seepage that has penetrated buildings, leading to rusting of interior steel columns. As a result of water seepage, surface solutions to temporarily repair building cracks are no longer a viable option. Elements of the facade must be removed to address issues with missing or severely damaged structural components.

Most window systems are almost 30 years old and infiltrated with moisture with compromised components that require replacement; many of these windows and components are no longer manufactured. Asbestos has been discovered in window caulking, requiring appropriate abatement and disposal. Interior integrity of structures will eventually fail if windows needing repair are not addressed.

Rationale / Justification:

The investments in asset refurbishment are based on Facility Condition (FCI) Reports, Break-Fix analysis, infrastructure deficiencies discovered during in-flight work, and from internal and external inspections. End of life, failing equipment replacement and upgrades are required, as well as corrections to building structures, to ensure safety, integrity and continued viability of noted sites. This will provide improved and safe working conditions for employees, contractors, partners, and the public.

- Customer – Proposed investments will ensure continued ability to provide safe and reliable service to customers, without impact to operations or field force initiatives;
- Economic – Investment proposed will address deferred maintenance and avoid total building and/or building system failure, which exceed the cost of repairs

Program / Investment Budget:

COST ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment KEDNY	$3.24	$2.7	$2.7	$0	$0
Capital Investment SERVCO*	$3.272	$16.589	$1.934	$2.404	$4.004

*Revenue Requirement impacts of these capital investments can be found in Exhibit (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13

Alternatives:

3. **Do Nothing** – Critical building infrastructure and equipment will eventually fail, resulting in potential code violations and associated fines and/or forced building closures, employee safety, and/or the ability to serve customers.

4. **Defer the Project** – Delaying will exacerbate deterioration of buildings and critical infrastructure equipment, resulting in potential work interruption, risks to public safety, and increased costs.

Business Contact: Steven Doben

Initiative Title: Operator Qualification Training Facility

Brief Description:

The Operator Qualification Training Facility project is an investment in a new facility to support recently enacted regulatory requirements associated with gas facility operator qualifications. The site will be a mix of classroom and hands-on training space that will include necessary equipment, and associated parking and amenities.

Rationale / Justification:

Gas Safety regulations require Operator Qualification training for new and existing employees of the Company responsible for performing certain pipeline and other gas-related activities, as governed by both the PHMSA regulations (49 CFR § 192.805) and the Commission's gas safety regulations (16 NYCRR Part 255).

This investment will support the new training requirements, enacted by the Public Service Commission in 2022, and ensure that the Company is able to meet them in a timely manner.

Program / Investment Budget:

COST ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment	$0	$5.0	$2.5	$0	$0

Alternatives:

1. **Do Nothing** – Not recommended. Investing in a new facility will enable the Company to meet the recently enacted changes to the Operator Qualification gas safety regulations. Thus, relying on existing training sites is not recommended.

2. **Defer the Project** – Not recommended. In order to ensure that the Company's training facility is adequate to meet the expanded requirements as soon as possible, consistent with the Public Service Commission's recent changes to the gas safety regulations to meet regulatory obligation.

Business Contact: Steven Doben

Initiative Title: Facilities Investments and Associated Greenhouse Gas Emissions Impacts

Brief Description:

The following tables provide greenhouse gas emissions impacts from proposed investments in the Company's facilities, organized by project type. Cumulative emissions impacts associated with these investments are included in the Company's CLCPA Panel and accompanying exhibits.

Roof Projects

Company		Rate Year	Data Year 1	Data Year 2	Data Year 3
KEDNY	Roof Projects	0	1	0	1
	Energy Reduction (Electricity kwh)	0	493	0	985
	Energy Reduction (Natural Gas therms)	0	218	0	436
	Net Emissions Reduction (CO2 mt)	**0**	**1.35**	**0**	**2.70**

LED Lighting Conversion Projects*

Company		Rate Year	Data Year 1	Data Year 2	Data Year 3
KEDNY	LED Lighting Conversion Projects	2	3	1	1
	Energy Reduction (Electricity kwh)	36,388	92,965	14,191	14,191
	Net Emissions Reduction (CO2 mt)	**13.5**	**34.4**	**5.3**	**5.3**

*Savings calculations were calculated based on estimated square foot (sf) impacted by the project. The existing lighting systems were assumed to consume 1.0 watts/sf and the proposed LED lighting is assumed to consume 0.5 watts/sf. The resulting decrease in electric demand was multiplied by the assumed annual hours of operation for the facilities.

Business Contact: Therese Sullivan

Initiative Title: Fleet EV Chargers and Make-Ready Work

Brief Description:

As part of the Company's initiative to electrify its fleet, it is seeking investment in electric vehicle (EV) charging and associated make-ready work sufficient to meet its proposed fleet electrification schedule. This charger investment is two-pronged and includes: (1) the EV charging units and related facilities being installed at various Company locations as a capital investment, as needed; and (2) infrastructure improvements, or "make-ready" work, needed to bring electric service to required Company locations where EVs are being sought to meet charger electricity load requirements, as an operational expense[1].

Infrastructure improvements will be done in conjunction and coordination with electric utilities serving Company facilities. Those efforts are underway but require detailed design and load requirements to advance. EV chargers and associated facilities will be purchased by vendors at a pace that ensures EVs can continue to meet existing operational need without disruption to the implementation timeline.

By initiating make-ready work and EV charger installations before EVs replace internal combustion engine (ICE) vehicles reaching end of life, the Company expects that the benefits EVs add to meeting GHG emissions reduction targets under the CLCPA can occur without interrupting the Company's responsibility to maintain safe and reliable service to its customers.

Capital investment estimates, presented below, are based on vendor quotes for EV chargers. They are dependent on anticipated load requirements for the total proposed number of EVs at each Company site being met.

Rationale:

The EV Charger effort is part of a broader investment proposed by the Company to convert fleet ICE vehicles to EVs as the former come due for replacement. The broader investment calls for conversions beginning in FY25 and running through FY28. To meet that EV conversion timeline, which proposes EV adoption in line with the existing fleet replacement schedules, EV chargers and associated make-ready work must be completed at locations where ICE fleet vehicles are nearing end of life in advance of the replacement schedule. Without sufficient charging capability, fleet EVs will be unable to meet operational need and may impact the Company's ability to provide safe and reliable service.

[1] For a breakdown of the operational expense associated with the proposed Fleet EV Program, *see* Exhibit ___ (GIOP-11)

EV Charger and Make-Ready Work – Budget Breakdown:

Cost (M)	Rate Year (FY 25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment KEDNY	$6.22	$1.5	$6.01	$2.42
Capital Investment SERVCO*	$0	$3.09	$0	$0
TOTAL	**$6.22**	**$4.59**	**$6.01**	**$2.42**

*Revenue Requirement impacts of this capital investments can be found in Exhibit ___ (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13

Customer Benefit:

Because the largest portion of EVs being proposed in KEDNY's service territory are at Company facilities in Disadvantaged Communities (DACs), fleet EV adoption will bring immediate benefits of improved air quality and reductions in noise pollution to those communities. Specifically, Greenpoint and Brentwood will receive the biggest portion of EVs under the current fleet replacement schedule in comparison to other Company sites, and customers in those communities stand to directly benefit as a result. National Grid is prioritizing the replacement of its ICE fleet vehicles dispatched to work and operate in Disadvantaged Communities (DACs) with fleet EVs, even if parked and charged at National Grid facilities outside DAC boundaries, to enable DACs to realize the benefits of an EV fleet sooner.

Alternatives:

1. **Do Nothing** – Not investing in EV charger and make-ready work impacts fleet EV adoption, rendering the latter challenging to implement, if not impossible. As a result, the Company will be less able to support GHG emissions reduction targets under the CLCPA.

2. **Defer the Project** – As electrification efforts continue to increase in the communities that National Grid serves, increased load demand has the potential to trigger more costly make-ready upgrades that will correspondingly increase the Company's (and customer's) share of those costs. Being one of the "first in line" has the benefit of avoiding these potential cost increases and delivery delays. Deferring will also push the EV adoption timeline out of sync with the current replacement schedule, resulting in an added 5-7 years before the Company is able to begin electrifying its fleet in a meaningful way.

Business Contact: Therese Sullivan

Initiative Title: Mobile Charging Solution

Brief Description:

Mobile charging solutions are needed to support the Company's initiative to electrify its fleet without impacting operations or emergency response capabilities. Among other benefits, mobile charging solutions that can provide site backup generation are needed to keep fleet electric vehicles (EVs) charged and operational during a storm or emergency event involving widespread electric service outages. Having mobile charging solutions will enable the Company's field force to respond to customer outages/emergencies in a timely manner, even if electric outages at Company facilities are unable to provide charging for the Company's fleet. Vendors have presented an array of options, including battery storage, hydrogen, diesel, and natural gas charging solutions in a range of sizes and with varied charging capabilities. Options will be prioritized that are both fit for purpose and that present the lowest greenhouse gas (GHG) emissions impact.

The Company seeks to purchase mobile charging solutions, instead of leasing or renting them, to avoid supply-chain or market disruptions. The proposed investment of $1.5 million in Data Year 1 and $1.5 million in Data Year 2 is based on vendor estimates for solutions that will be adequate to provide charging needs to the portion of the fleet that the Company seeks to electrify by those years.

Rationale:

Electrifying the fleet supports CLCPA GHG emissions reduction targets, as well as supporting New York State's EV adopting targets. This requires adapting to the demands of EVs (*e.g.*, charging capabilities) without negatively impacting customers or the Company's mandate to provide safe and reliable service.

Mobile Charging Solution Budget Breakdown:

Investment cost ($m)	FY24	Rate Year (FY25)	Data Year 1 (FY26)	Data Year 2 (FY27)	Data Year 3 (FY28)
Capital Investment SERVCO*	$0	$1.5	$1.5	$0	$0

*Revenue Requirement impacts of this capital investments can be found in Exhibit ___ (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13

Customer Benefit:

Mobile charging solutions ensure that the Company can continue to electrify its fleet without risk of negatively effecting its ability to respond to customer outages during a major storm or emergency event. Additionally, local air quality will improve, and noise pollution will be reduced in communities served by an electric fleet.

Alternatives:

1. **Do Nothing** – The current replacement schedule for light-duty fleet vehicles is approximately 5-7 years. Replacing the existing fleet with new internal combustion (ICE) vehicles will result in the continued reliance on fossil fuels that generate GHG emissions. This course would be detrimental to the emissions reduction targets set out in the CLCPA for a minimum of 5-7 more years.

2. **Lease** – Because they are relatively new to the market**,** leasing mobile charging solutions subjects the Company to market uncertainty and cost volatility, and because of that, presents risk to the Company's ability to secure mobile charging solutions on schedule, and its fitness to respond to storm or other emergency events.

3. **Rent** – The risk of being unable to procure a short-term rental during a major storm or emergency event is significant because of increased demand, and as a result, a rental solution is not being prioritized.

Exhibit ___ (GIOP-10)

Facilities Service Company Capital Forecast

The Brooklyn Union Gas Company d/b/a National Grid NY
GIOP-10 - Facilities Service Company Capital Forecast

Program	*FY23 CAPEX	FY24 CAPEX	FY25 CAPEX	FY26 CAPEX	FY27 CAPEX	FY28 CAPEX
Asset Renewal - Replacement	$ 6,879,766	$ 3,272,000	$ 16,588,999	$ 1,933,500	$ 2,403,500	$ 4,003,500
Base	$ 11,542,532	$ 13,115,401	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
EV Charging	$ -	$ -	$ 1,500,000	$ 4,590,000	$ -	$ -
**LI Warehouse	$ -	$ -	$ 4,000,000	$ -	$ -	$ -
**RE Strategy	$ 1,009,953	$ 500,000	$ 5,000,000	$ -	$ -	$ -
Safety	$ 3,870,010	$ 14,112,058	$ 5,247,230	$ 2,172,653	$ 1,225,000	$ 1,150,000
Grand Total	$ 23,302,261	$ 30,999,459	$ 33,336,229	$ 9,696,153	$ 4,628,500	$ 6,153,500

*FY23 = CWIP balance through December 31 + 3 months Forecast

**LI Warehouse and RE- Strategy (FY24-25) investments impact KEDLI primarily

***Revenue Requirement impacts of these programs capital investments can be found in Exhibit ___ (RRP-11), Workpapers to RRP-3, Schedule 9, Workpapers 4, 7, 10 and 13

Exhibit ___ (GIOP-11)

Fleet Electrification Costs

The Brooklyn Union Gas Company d/b/a National Grid NY
Fleet Electrification Costs
($000's)

Type Of Spend	Rate Year Ending March 31, 2025	Data Year Ending March 31, 2026	Data Year Ending March 31, 2027	Data Year Ending March 31, 2028	Source Exhibit/Workpaper
Direct Capital Spend					
Fixed EV Chargers	$ 6,220.0	$ 1,500.0	$ 6,010.0	$ 2,420.0	GIOP-1
Total Direct Capital Spend	$ 6,220.0	$ 1,500.0	$ 6,010.0	$ 2,420.0	
Incremental Operating Expense					
EV Incremental Lease Expense	$ 233.7	$ 525.3	$ 741.6	$ 967.0	RRP-3, Schedule 24
Battery EV Charger Lease Expense	$ 78.8	$ 118.3	$ 120.3	$ 108.6	RRP-3, Schedule 24
Electricity Consumption	$ 182.6	$ 274.4	$ 385.4	$ 518.6	RRP-3, Schedule 40
Electric Infrastructure Make Ready	$ 800.0	$ 8.2	$ -	$ -	RRP-3, Schedule 40
Service Company Rent Expense - Fixed EV Chargers [1]	$ -	$ 18.7	$ 90.8	$ 84.2	RRP-3, Schedule 9
Service Company Rent Expense - Site Backup Generation [2]	$ -	$ 213.1	$ 408.6	$ 378.3	RRP-3, Schedule 9
Sub-total	$ 1,295.2	$ 1,158.0	$ 1,746.7	$ 2,056.7	
Reduced Operating Expense					
Reduced Fuel Consumption	$ (166.5)	$ (293.5)	$ (380.2)	$ (528.8)	RRP-3, Schedule 24
Sub-total	$ (166.5)	$ (293.5)	$ (380.2)	$ (528.8)	
Total Operating Expense	$ 1,128.7	$ 864.6	$ 1,366.5	$ 1,527.8	

Notes:
1 - Rent expense resulting from ServCo investment in Fixed EV Chargers of $3.1MM in FY27
2 - Rent expense resulting from ServCo investment in mobile charging solution of $1.5MM in FY25 and $1.5MM in FY26