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Project/Program Title	CNG Stations Upgrade
Work Plan Category	Operation Critical Repair
Project Manager	Bob Ceriello
Project Status	Preliminary
Estimated Service Date	December 2014

Work Description:

In order to align with current standards for the operation and fueling of natural gas vehicles (NGVs), station operating pressures at the Company's compressed natural gas (CNG) fueling stations must be increased from a 3000 psi to 3600 psi output. This project funds the design and construction required to increase the operating pressure and replace aging equipment at the Company's eight CNG stations (listed below). In order to accomplish this, the eight CNG fueling stations will receive new dispensers, storage vessels, piping and associated valving, control panels, electronic control units (ECUs), and card reader systems designed to operate at the higher pressure. The work scope at these stations will also have the slow-fill and fast-fill apparatus upgraded to 3600 psi. In addition, the Rye station will have a higher output compressor installed with the above associated system upgrades.

The stations are 20 years old, and the upgrades will extend the life of the capital assets, provide increased capacity, and lower operating and maintenance costs associated with outdated equipment that is at the end of its useful life. The CNG stations are located at:

Manhattan:	Queens:	Westchester:
East 16th Street	College Point	Eastview
28th Street	Astoria	Rye
Brooklyn:	Bronx:	
3rd Avenue	Van Nest	

Justification:

Current NGV technology requires 3600 psi to effectively achieve the manufacturer's mileage ratings. Currently, the CECONY CNG stations operate at 3000 psi. This project will provide the Company and outside customers with additional vehicle range and increased throughput at these stations. In addition, the higher pressure and current technology will allow for continued expansion of NGVs within the CECONY fleet. The Company currently has 145 NGVs in the fleet, and has plans to purchase approximately 120 additional NGVs over the next several years. The NGV purchases will help maintain the Company's Sustainability Strategy in the future by:

- Reducing petroleum consumption of the fleet, supporting compliance with the Department of Energy (DOE) Energy Policy Act (EPAct) of 1992

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- Reducing the Company's carbon footprint by 1540 metric tons yearly
- Realizing a fuel cost savings of an estimated $3.15 per equivalent gallon of petroleum

In addition, the DOE (in accordance with the EPAct), requires the Company to utilize alternate fuel vehicles (AFVs) for 90% of the replacements purchased annually. NGVs provide 25% of CECONY's long range EPAct strategy.

Furthermore, all of the stations have been in service for over 20 years and are becoming costly to maintain. Replacement parts are becoming obsolete and difficult to obtain, and should a major failure occur at a station, it is possible the station would be out of service for a considerable amount of time until repairs could be made. This would severely impact the ability to refuel Company vehicles at the site, as well as providing fueling capability for outside customers.

Alternatives:

1. Retire the Rye CNG station and shift the external customers to the Eastview facility and re-assign the limited number of company CNG vehicles to other operating areas for fueling purposes. This would reduce the total cost of the project $3.3M.

2. Using external CNG stations at a premium of $2.16 / Gasoline Gallon Equivalent (GGE) for the Company's 145 NGVs, the Company would incur approximately $171,000 per year of additional cost.

Risk of No Action:

The Company can continue to operate the facilities at 3000 psi, which reduces the range of the NGVs in the fleet, and is below manufacturer's mileage specifications. Also, due to the age of the equipment, the Company will incur increased operating costs to maintain the facilities along with the potential for stations to be out of service for extended periods of time. This will impact the ability to fuel the Company's fleet vehicles, requiring the Company to redirect its NGVs to an outside fueling vendor at a premium of $2.16 per equivalent gallon and cost productivity for the crews. The outside fueling vendors have limited fueling locations scattered throughout the Con Edison service territory, with limited fueling times. In addition, this would severely impact the ability of outside customers to access CNG fuel, which would negatively affect gas revenues. Some external account holders are:

- US Postal Service
- New York City Agencies
- Anhueuser Busch
- City College of New York
- Verizon
- NYC Yellow Taxi
- United Parcel Services
- New York State Agencies
- Port Authority of NY & NJ

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In addition, the Company has a regulatory commitment to use alternate fuels, such as CNG in its fleet. The use of CNG enhances our ability to meet DOE EPAct compliance. Failure to comply with this EPAct mandate could result in penalties being imposed on the Company.

Summary of Financial Benefits and Costs:

The estimated total cost of the project is $8.78 million. There are Federal tax credits potentially available, amounting to $50,000 per site, as well as New York State alternative fueling infrastructure tax credit programs that may also be available, amounting to 50% of the project cost. However, these tax credits are dependent upon legislative approval and project completion dates.

Con Edison currently has 145 NGVs in its fleet with a mix of 110 cars, 10 cargo vans, and 25 trucks and the Company's plan for the future is to replace 60 petroleum powered vehicles per year with NGVs over the next five years. By subtracting the Company's internal CNG rate ($0.55/GGE) from the projected price per gallon of diesel fuel ($3.934/gallon) and gasoline ($3.685/gallon), and then using the approximate average annual vehicle fuel consumption rate (diesel-powered trucks - 1,080 gallons, gasoline-powered cars - 375 gallons), we can estimate petroleum fuel savings in terms of gallons and cost. For Con Edison's current fleet of 145 NGVs, the estimated annual savings amounts to 79,000 gallons and $255,000. For the annual replacement of 60 petroleum powered vehicles with NGVs (over the next five years), the annual estimated savings amounts to an additional 47,000 gallons and $155,000.

In addition to vehicle fuel savings, Con Edison realizes annual gas revenues from the CNG stations.

Non-financial Benefits (if applicable):

Clean AFVs produce lower emissions and fewer toxic contaminants than gasoline and diesel powered vehicles. Evaporative and start-up emissions are also significantly lower. As a result, clean AFVs reduce impacts on the environment, air quality, global warming and public health. The use of clean AFVs in the fleet also reduces the Company's carbon footprint by 1540 metric tons yearly, which supports one of Con Edison's Sustainability Initiatives.

The upgrade to these stations will continue to help reduce petroleum consumption of the fleet while meeting the DOE EPAct compliance. Alternative fuels can be extracted and produced domestically, thus reducing the Company's dependence on imported oil, which is also subject to price and supply fluctuations. Furthermore, the development of domestic fuel sources and clean alternative fuel markets helps contribute to domestic economic growth.

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By marketing the Company's CNG stations and CNG fleet vehicles, and by providing outside fleets and private owners access to CNG stations, Con Edison will continue to enhance and promote its commitment to environmental excellence while maintaining its Sustainability Strategy (i.e. "green" image).

Estimated Completion Date:

Estimated completion date is 12 - 24 months once a contract is in place.

Status:

Preliminary Stage

Funding ($000):

Approved 2013	Forecast 2014	Forecast 2015	Forecast 2016	Forecast 2017	Approved/Forecast Total 2013-2017
$1,250.0	$7,530.0	-	-	-	$8,780.0

EOE	2013	2014	2015	2016	2017
Labor	$66	$295			
M&S					
A/P	$1,102	$6,837			
Indirects	$82	$398			
Contingency					
Total	**$1,250**	**$7,530**			

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Project/Program Title	Fuel Stations Upgrades
Work Plan Category	Operation Critical Repair
Project Manager	Bob Ceriello
Project Status	Preliminary
Estimated Service Date	December 2015

Work Description:

Transportation Operations operates and maintains the Company's twelve in-house vehicle fueling stations at a cost of approximately $160,000 per year. Most of the stations have undergone various improvements in the past, such as replacement of the underground storage tanks and the addition of vapor recovery and fire suppression systems. The work was completed to meet the latest regulatory requirement. However, these components are reaching the end of their life cycle and need to be replaced. This project funds the replacement of aging equipment at the Company's twelve fueling stations (listed below). The scope of the project includes the replacement of the fueling islands, gas and diesel dispensing equipment, several single wall tanks and associated hardware. In addition, the GasBoy card reader systems will be replaced with new state-of-the-art technology.

The equipment at these locations is over 20 years old and these upgrades will extend the life of the capital assets and lower operating and maintenance costs associated with outdated equipment that is at the end of its useful life. The fuel stations are located at the following operation centers:

Manhattan:	Queens:	Westchester:
East 16th Street	College Point	Rye
28th Street	Astoria	Eastview
		Yonkers
Brooklyn:	Bronx:	Staten Island:
3rd Ave.	Van Nest	Victory Blvd.
Neptune Ave.		Davis Ave.

The most extensive upgrades will occur at the Rye, Eastview and Yonkers locations. The single wall underground tanks will be replaced with double wall tanks, and all of the other component upgrades will be included in the construction project.

Justification:

The fuel stations provide fuel for the daily operation of the Company's fleet of cars, trucks and equipment. Replacement parts are becoming obsolete and difficult to obtain. If a major failure were to occur at a station, it is possible the station would be out of service for a considerable amount of time until repairs could be made. This would severely impact the ability to fuel

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Company vehicles at the site, resulting in the use of more costly vendor fueling sites. In addition, there are environmental concerns because of the potential for system leaks, which may be higher due to the age of the equipment.

- Alternatives:

  Utilize vendor fueling sites at a volatile fuel price. Vendor fuel cost (per gallon) can typically fluctuate more than internal costs. This could also impact productivity since Company crews would have to travel offsite to vendor fueling sites, which in some cases may not be nearby the work-out locations.

- Risk of No Action:

  If the upgrade to the fueling stations does not occur, the Company would continue to maintain the current stations at an increased cost, recognizing that the potential for system and component failure increases. In the event of a failure, redirecting fleet fueling to outside fueling stations decreases control of fuel tracking and reconciliation, and reduces the ability to utilize Bio-Diesel (B-20). The Company has a regulatory commitment to use alternate fuels, such as bio-diesel, in its medium/heavy duty fleet in accordance with the Department of Energy (DOE) Energy Policy Act (EPAct) of 1992. The use of Bio-Diesel (B-20) ensures the Company's ability to meet and maintain the EPAct alternative compliance. Failure to comply with this EPAct mandate could result in penalties being imposed on the Company. Furthermore, the potential for an environmental incident also increases due to fuel leaking from aged equipment.

- Summary of Financial Benefits and Costs:

  The estimated total cost of the project is $10.37 million. There are Federal tax credits potentially available, amounting to $50,000 per site and $25,000 per investment. In addition, New York State alternative fueling infrastructure tax credit programs may also be available amounting to 50% of the project cost for the diesel portion of each site. The diesel portion qualifies for these credits because Bio-Diesel (B-20) is considered a clean alternative fuel. However, these tax credits are dependent upon legislative approval and project completion dates. Furthermore, there is an approximate $80,000 cost savings in maintenance per year for the equipment replacement.

- Non-financial Benefits (if applicable):

  The upgrade to these stations will continue to help reduce petroleum consumption by using Bio-Diesel fuel to maintain the EPAct compliance. It provides 40% of CECONY's long range strategy. Alternative fuels, such as bio-diesel, can be extracted and produced domestically, reducing the Company's dependence on a finite supply of imported oil which can be subject to fluctuations in price and supply. Furthermore, the development of

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domestic fuel sources and clean alternative fuel markets helps contribute to domestic economic growth.

Continued use of bio-diesel will help to enhance and promote the Company's commitment to environmental excellence while maintaining the Company's Sustainability Strategy (i.e. "green" image).

Estimated Completion Date:

Estimated completion date is 12-36 months once a contract is in place.

Status:

Preliminary Stage

Funding ($000):

Approved 2013	Forecast 2014	Forecast 2015	Forecast 2016	Forecast 2017	Approved/Forecast Total 2013-2017
$1,750.0	$4,310.0	$4,310.0	-	-	$10,370.0

EOE	2013	2014	2015	2016	2017
Labor	$60	$145	$145		
M&S					
A/P	$1,601	$3,955	$3,970		
Indirects	$89	$210	$195		
Contingency					
Total	**$1,750**	**$4,310**	**$4,310**		