

January 21, 2021



- Introductions
- Public Meeting Webcast Process
- Astoria Replacement Project Overview
- Status of Environmental Review and Opportunities for Public Participation
- Project Benefits
- Questions and Comments

This presentation is available at www.cleanerpowerforastoria.com



- Need for Virtual Public Meeting
- Live Presentation followed by interactive questions and comments:
  - For those on the phone, press \*1 on your phone and the moderator will add you to the queue
  - For those on the webcast, click the "Ask a Question" tab at the top right of your computer screen. Enter your question in the box and then hit submit.
  - Participants will be required to provide name and residential address
- Comments may be sent:
  - By Email: astoria.project@nrg.com
  - By Phone: (718) 274-5180 and leave a message



### Kandi S. Terry – NRG, Director of Government Affairs

Leads government affairs for NRG's retail and generation businesses in the East Region. Mrs. Terry earned a Masters of Science degree from Rensselaer Polytechnic Institute and has almost 25-years of government experience.

### Tom Atkins – NRG, Vice President of Development

Responsible for North American electric generation and energy storage development projects. Mr. Atkins earned a Bachelor of Science in Mechanical Engineering degree from Cornell University and is a licensed professional engineer in the State of New York with over 35 years of experience in the power industry.

### Shawn Konary – NRG, Senior Director, Environmental

Responsible for environmental permitting, policy, and regulatory matters. Mr. Konary earned a Bachelor of Science degree from the University of Massachusetts at Amherst, a Master of Business Administration from Boston University and has over 30 years of experience in the environmental and energy industry.

## Brian McCabe – NRG, Senior Director, Development

Responsible for generation development projects in the northeast, including energy storage. Mr. McCabe earned Bachelor of Science and Master of Business Administration degrees from Vanderbilt University and has over 20 years of experience in the energy industry.

## Peter Valberg, Ph.D, ATS – Gradient, Principal

Dr. Valberg is responsible for human health risk assessment and inhalation toxicology. Dr. Valberg has a Ph.D. in Physics and an M.S. in human physiology from Harvard University. He has over 30 years of experience providing air quality expertise, and is the author of more than 100 scientific articles on biological effects of environmental exposures.

# NRG Astoria Facility Today



- The Astoria Con Ed Complex has hosted major energy infrastructure for over 100 years
- NRG purchased the 15 acre Astoria Gas Turbines site from Con Edison in 1999
- The site currently consists of:
  - 500 MW of 1970 vintage Pratt & Whitney FT4 units and
  - 144 MW of retired Westinghouse units (recently removed from site)
- The Facility provides essential reliability service to NYC (dual fuel peaking, contingency support and system restoration)

### **Astoria Con Ed Complex**

### **NRG Astoria Gas Turbines**



# Replacement Project (2010)



As approved in 2010, the Project consisted of replacing the existing generation at the site with four combined cycle units capable of generating 1,040 MW

Due to changing market conditions, the Project was never built



# Modified Replacement Project (2020)



- As proposed in 2020, the Project consists of replacing the existing generation at the site with a single peaking unit capable of generating 437 MW featuring:
  - State of the art technology offering the greatest efficiency available in its class
  - Dual fuel, fast ramping unit which can start in under ten minutes, with highly flexible operating characteristics
  - Latest emission controls (DLN 2.6e, Hot SCR and Oxidation Catalyst)
  - Black start capability



# Project Comparison (2010 vs 2020)



	Original Permitted Project	Proposed Modified Project
Project Size	1,040 MW	437 MW
Technology	Combined Cycle (Intermediate Duty)	Simple Cycle (Peaking Duty)
Incorporates Battery Energy Storage?	No	Yes
Capable of System Restoration?	No	Yes

### **The Proposed Project Modification:**

- Decreases the project size by 58%
- Modernizes the project technology
- Further reduces air emissions
- Resolves identified reliability shortfalls in NYC in a timely manner
- Incorporates Battery Energy Storage into the project design
- Minimizes the footprint of the project, allowing for future stand alone energy storage installations
- Provides system restoration capability
- Capable of being converted to green hydrogen fuel by 2040



# NYSDEC Permit Modification Package submitted – April 27, 2020

- Title V Air Permit
- SPDES Water Discharge Permit
- SEPPP Public Participation Plan
- Full Environmental Assessment Form
- Certificate of Public Convenience and Necessity Amendment filed with NYPSC – September 3, 2020
- Final Scope for Supplemental Environmental Impact Statement (SEIS) approved – September 18, 2020
- Next Step: Notice of Complete Application from NYSDEC followed by Public Comment Period



# Maximizes Greenhouse Gas Reductions at the Minimum Cost

- Project incorporates the most advanced and efficient equipment available in the marketplace at no cost to NYC electricity customers
- Project will result in nearly 5M tons<sup>1</sup> of cumulative GHG reductions through 2035
  - Equivalent of taking 84,500 cars off the road (or 12% of all registered cars in Queens County)
- Project displaces less efficient generating units, reducing region-wide natural gas demand
- Improves air quality by reducing onsite emission rates up to 99% per hour

## Facilitates the Interconnection of Additional Renewable Resources (9,000 MW Offshore Wind, 6,000 MW Solar PV Goals)

• "To balance lower capacity factor, intermittent resources, and shorter-duration resources like energy storage, bulk power system operators will require a full portfolio of resources that can be dispatched in response to any change in real-time operating conditions to maintain bulk power system reliability."

- NYISO Power Trends 2019

## Contributes to New York's energy storage goals (3,000 MW by 2030)

## Capable of generating Zero Carbon Electricity by 2040

• Project technology is capable of conversion to green hydrogen fuel



# Economic Benefit

- Creates more than 500 local jobs and \$156 million in economic benefits to the State of New York during the construction period
- Creates more than 70 local jobs and \$170 million in economic benefits to the State of New York from operations and maintenance spending through 2040
- Near term investment of over \$350 million of private capital in New York state

## Lowers Electricity Rates for NYC Ratepayers

- The Project will reduce the cost of electricity for New York consumers by over \$1.3 billion in the first 5 years of operation
- Project does not require any subsidy from NY ratepayers or taxpayers

# Astoria Replacement Project Polling Results Role of Natural Gas







There will be an additional opportunity for public comment when NYSDEC issues the Notice of Complete Application

Questions or comments may be provided to the Project Applicant via phone, email or regular mail

- Phone: (718) 274-5180
- Email: astoria.project@nrg.com
- Mail: Astoria Replacement Project, PO Box 7, Albany, NY 12201-0007

Questions or comments may also be provided to the NYSDEC via the phone, email or regular mail

- Phone: (518) 402-9151
- Email: comment.nrgastoriagas@dec.ny.gov
- Mail: Chris Hogan, NYS DEC Division of Environmental Permits, 625 Broadway, 4<sup>th</sup> Floor, Albany, NY 12233-1750

*More information can be found at:* www.cleanerpowerforastoria.com



# Cleaner air. Good jobs. Reliable electricity. **Now.**

#### NRG has a win-win plan for Astoria.

You and your family depend on the Astoria Generating Station to keep the lights on when you need them most. NRG wants to modernize the facility, so it runs more efficiently on natural gas improving reliability while dramatically reducing air pollution. And when 100% renewable technology is available, we'll be ready to make the switch. NRG's Astoria Replacement Project will bring jobs and cleaner air to Astoria now at no cost to taxpayers. The project will:

- · Immediately reduce onsite air pollution rates by up to 99%.
- Create more than 500 local jobs.
- · Support New York State's aggressive climate goals by lowering greenhouse gases.
- · Be able to convert to a zero-carbon fuel in the future.

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# End of Presentation

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