

# **NRG ENERGY, INC. ASTORIA REPOWERING PROJECT**



## **ENHANCED PUBLIC PARTICIPATION PLAN As Required By NYSDEC COMMISSIONER'S POLICY GUIDANCE CP-29**

**NRG Astoria Gas Turbine Power, LLC  
Queens County  
31-01 20<sup>th</sup> Avenue  
Long Island City, NY 11105**

**Prepared by:**

**Air Resources Group, LLC**



**6281 Johnston Road  
Albany, NY 12203**

**Approved by NYSDEC February 27, 2009  
Updated April 6, 2010**



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# **Public Participation Plan**

## **Introduction**

Astoria Gas Turbine Power LLC, a wholly-owned subsidiary of NRG Energy, Inc., (“NRG”) proposes to fully repower its site in Astoria, Queens County, NY (“NRG Facility”). The project (referred to as “Repowering Project” or “Repowered Facility”) will convert the current peaking facility to intermediate generation with quick start capability and, therefore, enhance the reliability of electricity supplied to New York City while significantly improving air quality. NRG seeks public input to its Repowering Project through this Public Participation Plan (“PPP”).

Since acquiring this site from ConEd in 1999, NRG has reached out to community leaders and interested parties to discuss the NRG Facility. In 2001, NRG received a permit from the New York State Department of Environmental Conservation (“NYSDEC”) for a proposed addition to the NRG Facility known as Berrians Unit 1 (“Berrians”). That small 79 MW unit has not been built as NRG has moved its efforts to a full repowering of the facility. During the permitting of Berrians, NRG initiated a broad community information program and prepared an Environmental Assessment Statement (“EAS”) of the project to provide all parties information of the Berrians proposal. The Berrians application and EAS information started the outreach that is now fully directed at this Repowering Project to replace all of the 40-year-old units at the NRG Facility with four new state-of-the-art units. Upon approval of this Repowering Project and the issuance of the necessary permits, NRG expects to relinquish the Berrian’s permit.

## **Project Description**

The NRG Facility is located on a 15-acre parcel within the larger 600-acre Astoria ConEd Complex and houses 31 simple cycle, 40-year-old peaking units with a total capacity of 600 MW. The Repowering Project will be completed in two phases: In Phase I, NRG will replace seven Westinghouse turbines with two 260 MW state-of-the-art combined cycle trains; then NRG will replace the 24 Pratt & Whitney turbines with two additional combined cycle trains in Phase II. The design for the new combined cycle units is based on a proprietary NRG design, known as CC-FAST. This design utilizes the proven General Electric PG7241FA turbines in its CC-FAST units. Phase I is expected to come on line in 2013 and Phase II is expected to follow in 2015. The Repowering Project will replace the old 600 MW of peaking-only capacity with 1040 MW of highly efficient, ultra-low emissions, generating capacity. Like the peaking units, the new units will still have quick-start capability for demand shifts and system reliability.

The new units will have state-of-the-art emissions control systems comprised of selective catalytic reduction (“SCR”), low NOx burner, turndown software, oxidation catalyst,



primary fuel – natural gas, and backup fuel – ultra-low sulfur fuel oil. The stacks will be at good engineering practice (GEP) stack height of approximately 250 feet, thereby improving emissions dispersion. Emissions from the Repowered Facility are expected to be significantly lower and the facility will experience a significant increase in available electric output. The Draft Environmental Impact Statement (“DEIS”) scoping document details the tasks necessary to provide the NYSDEC with sufficient information to complete the required reviews under the State Environmental Quality Review Act (“SEQRA”) and for issuing permits for construction and operation of the new equipment. The initial public meeting on the DEIS scope was held on Wednesday November 12, 2008 (see attached Appendix A for Public Meeting Notice). The comment period for the DEIS scope closed on Wednesday November 26, 2008. The NYSDEC issued its final work scope for the DEIS in the Environmental Notice Bulletin on Wednesday December 24, 2008.

The NRG Facility is located in an area of northwest Queens that has been mapped by NYSDEC as a Potential Environmental Justice Area. As such, in accordance with NYSDEC policy, i.e., *Commissioner Policy CP-29, Environmental Justice and Permitting* (“CP-29”), NRG is providing this Enhanced Public Participation Plan in order to inform the interested public with regard to the Repowering Project. Information and documents regarding the Repowering Project can be found at the local libraries, on the NRG website, and through the NYSDEC. The dissemination and availability of such information is further discussed in the sections *Project Information Sources and Repositories* and *Project Information Plan* below.

NRG Energy, Inc., the parent company for Astoria Gas Turbine Power LLC, is an international energy provider with a diversified energy portfolio. NRG has nearly 23,000 MW of generating capability in North America and has 44 generating facilities worldwide. In New York State, NRG operates major generating facilities at Astoria, Arthur Kill, Dunkirk, Huntley, and Oswego. The NRG portfolio of facilities is a diverse array of equipment and fuels with most capacity base loaded for day-to-day, full-time operations. The Repowering Project will provide dramatic benefits for the environment and for electric reliability.

## **Recent Public Outreach Activities**

- On October 10, 2008, NRG representatives provided Councilman Peter Vallone, Jr.’s office an update to the repowering project.
- On October 17, 2008, NRG representatives and its consultant met with members of Citizens Helping Organize a Kleaner Environment (“CHOKE”) to present the repowering project and discuss its impacts and benefits to the community.
- On October 17, 2008, NRG representatives met with the United Community Civic Association to present the project.
- On October 30, 2008, NRG representatives met with the Queens Chamber of Commerce. The purpose of the meeting was to update the Chamber regarding the repowering project.



- On October 30, 2008, NRG representatives met with Borough President Helen Marshall to provide an update of the repowering project.
- On October 30, 2008, NRG representatives and its consultant presented the repowering project to the Environmental Protection Committee for Community Board One. (*See attached Appendix B for the Community Board letter to Community Board members.*)
- Also on October 30, 2008, NRG representatives met with the Natural Resources Defense Council (“NRDC”) in New York City and discussed the repowering project among a range of environmentally beneficial issues.
- On November 3, 2008, NRG and its consultant met again with members of CHOKE to present the repowering project and discuss its impacts and benefits to the community. CHOKE subsequently voted to formally endorse the project and sent a letter stating its full endorsement to the NYSDEC. (*See attached Appendix C for CHOKE letter.*)
- On Wednesday, November 12, 2008, the NYSDEC held two public meetings for the purpose of eliciting comments on NRG’s DEIS work scope. A total of six speakers offered comment. None were in opposition and none were offering substantive comments on the DEIS work scope. The public comment period closed formally on November 26, 2008. A project factsheet was developed in conjunction with the NYSDEC and was provided to attendees at the public meeting. The factsheet was provided in English, Greek, and Spanish at the public meeting. A copy of the public meeting presentation and the factsheet is provided in Appendix D (attached) and can be found on the NRG Repowering Project website and at the library repositories for the project.
- On Tuesday, January 20, 2009, NRG representatives made another project status presentation to Community Board One.
- On February 6, 2009, NRG representatives separately provided Councilman Peter Vallone, Jr.’s office, Borough President Helen Marshall, Community Board One representatives and Assemblyman Gianaris’s office an update to the repowering project.
- On April 9, 2009, NRG representatives held a public update meeting at Ricardo’s Restaurant
- On February 17, 2009, Community Board One approved resolution to support the Repowering Project. *See attached Appendix B.*
- On April 22, 2009, NRG representatives provided New York State Department of Public Service staff an update on the project
- On May 13, 2009, NRG representatives provided a project update to Assemblyman Gianaris, Paul Decotis, Deputy Secretary of Energy for Governor Paterson, and Gary Brown, Public Service Commission Chairman
- On August 3, 2009, NRG representatives provided a project update to New York City Economic Development Corporation staff
- On September 22, 2009, NRG representatives provided a project update to New York State Department of Public Service staff
- On October 6, 2009, NRG representatives provided New York City Industrial Development Agency staff a project update



- On November 19, 2009, NRG representatives provided a project update to Tom Congdon, Deputy Secretary of Energy for Governor Paterson
- On January 19, 2010, NRG representatives provided a project update to New York State Department of Public Service staff

## **Project Information Sources and Repositories**

In order to provide the public useful information about the project and to meet its agreement with the NYSDEC regarding public participation, NRG has established several information repositories.

The Queens Public Library  
The Steinway Branch  
21-45 31<sup>st</sup> Street  
Long Island City, NY 11105  
and  
The Astoria Branch  
14-01 Astoria Boulevard  
Long Island City, NY 11102

New York State Department of Environmental Conservation  
Division of Environmental Permits, Region 2  
47-40 21<sup>st</sup> Street  
Long Island City, New York 11101

Stephen Tomasik, Project Manager  
Division of Environmental Permits  
New York State Department of Environmental Conservation  
625 Broadway - 4th Floor  
Albany, New York 12233-1750  
Ph: (518) 486-9955  
Fax: (518) 402-9168  
[smtomasi@gw.dec.state.ny.us](mailto:smtomasi@gw.dec.state.ny.us)

NRG also maintains the key project documents on a project website at: <http://www.nrgenergy.com/news-center/astoria/documents.htm>. This website will be a resource for all public documents, fact sheets, meeting notices, presentations, and progress reports. It will be updated as new documents become available.



## **Information Plan**

The initial draft of this Public Participation Plan was submitted in February 23, 2009, and approved by NYSDEC on February 27, 2009. It will continue to be updated as necessary.

NRG will continue its outreach to the community and to interested stakeholders in the community. During the development of the scoping document, NRG and NYSDEC worked together to develop a lengthy stakeholders list. That list was used for the initial mailings of the scoping announcement by the NYSDEC. The initial stakeholders list will continue to be refined so that the community stakeholders that want and need information will be aware of the project status. See attached Appendix E for the Stakeholders List.

As the repowering approval process involves a range of decisions including the SEQRA environmental impact assessment and issuance of permits, NRG will continue to outreach and provide information to the stakeholders. The website will be used to provide notice of newly scheduled public information meetings. Previous information submissions for the Berrians Project Environmental Assessment Statement will be added to the online information along with the DEIS and permit application for the Repowering Project. .

An important aspect of the Public Participation Plan is the role that local elected officials necessarily serve in providing key input to a large project of this nature. NRG has and will continue to maintain contact with local elected officials. Community Board One serves as the primary focus for these elected officials and will be an important continuing player in the Repowering Project. NRG has requested and Community Board One has provided a Board endorsement of the project in the form of a resolution passed by the Community Board One members (see attached Appendix E ).

NRG will prepare periodic progress reports typically on a quarterly basis to apprise the community of developments with respect to the permitting process and other regulatory matters. These progress reports will be made available to stakeholders on NRG's website, through mailings, and through the repositories. As a large scale provider of electricity in the New York marketplace, NRG is constantly in communication with elected officials at the local, state, and federal level with respect to its New York operations. To the extent that such communications may be specifically directed at the Repowering Project, NRG will include a brief summary of these contacts in the progress report following such contacts.

NRG is actively interested in the efforts of the Mayor of New York City to implement PlaNYC 2030. This planning effort encompasses a sweeping review of New York City's long-term energy needs and the quality of its environment. NRG believes that its Repowering Project meets the goals expressed in the city's plan. NRG has and will continue to communicate with the Mayor's office and city officials with regard to PlaNYC 2030.



Similarly, the Public Service Commission ("PSC"), the New York State Energy Research and Development Authority, the NYSDEC, and the New York Independent System Operator have enormous roles to play in the long-term efforts to provide affordable, reliable, and environmentally sound energy supplies to the residents and businesses of New York. NRG has always maintained an active role in these efforts in order to assure that its electric generating assets are able to meet the present and future needs of businesses and residents in New York. In fact, the Repowering Project is an essential step in moving NRG's New York generating capabilities into the future.

## **Report on Progress to Date**

As of December 31, 2008, NRG had submitted its proposed work scope for the DEIS and had held its required public meeting (two were actually held) to present the work scope in concert with the NYSDEC. No significant adverse comments were received at the public meetings. Six speakers asked to speak and offered statements. CHOKE provided a formal written endorsement of the project to the NYSDEC. Subsequent to the scoping meeting, NRG held follow-up meetings with the NYSDEC and the New York State Department of Health ("NYSDOH") regarding the analysis of relevant and available community health data ("Health Outcome Data Analysis") which was incorporated into the DEIS. The NYSDEC issued the final work scope for the DEIS on Wednesday, December 24, 2008. See the attached Appendix F for the NYSDEC Environmental Notice Bulletin, Notice of Final Work Scope, and the Final Work Scope.

NRG submitted an air permit application for this Repowering Project to the NYSDEC and a DEIS in support of the permit in February 2009. NYSDEC accepted the application and DEIS as complete for purposes of review on February 27, 2009. It is anticipated that NYSDEC will issue a draft permit and release the DEIS for public review and comment via notice in the ENB in March 2010. A formal public meeting, also to be noticed in the ENB, will be held as required by CP-29 to present the DEIS and permit applications to the public.

## **Future Community Outreach Efforts**

NRG plans to contact CHOKE and other community organizations and elected officials to provide a project update in advance of the public hearing on the DEIS and draft permit.

After the formal public hearing on the DEIS and draft permit, NRG may host public information meetings on the project, as necessary, throughout the Repowering Project. The meeting announcements will be displayed at the two Queens Library repositories, on the NRG website, at the local fire departments, or will be noticed in at least two local papers (such as, the local editions of *The Queens Chronicles* or *The Queens Gazette*). Meeting notices will also be mailed to stakeholders at least three weeks prior to each meeting. Any factsheets prepared will be included. An example notice of meeting to stakeholders is included in the attached Appendix A.



Filings with the PSC for a Certificate of Public Necessity and Convenience (CPCN) and additional approvals will be undertaken likely in April 2010. These documents will be provided on NRG's Repowering Project website, in the repositories and, as a matter of public record, on the PSC website.

Upon completion of the Public Participation Plan, NRG will submit a certification to the NYSDEC that it has completed the PPP and will submit a report detailing its PPP activities for incorporation in the Final Environmental Impact Statement.

As previously noted, public participation materials, factsheets, and meeting notices will be placed in the two Queens Library information repositories noted above and on NRG's website <http://www.nrgenergy.com/news-center/astoria/documents.htm>.



# **Appendix A**



# Community Meeting NRG Energy Repowering Project

## Opportunity to provide input into the preparation of the Draft Environmental Impact Statement

Hosted by the New York State Department of Environmental Conservation  
Wednesday, November 12, 2008 at 4:00 pm and at 7:00 pm  
Riccardo's Restaurant, 21-01 24<sup>th</sup> Avenue, Astoria, New York 11102

### The NRG Astoria Repowering Project will:

- Replace 31 turbines (all more than 35 years old) with 4 new turbines in two phases.
- Reduce overall emissions of most pollutants by improving electric generating efficiency and adding state-of-the-art emissions controls.
- Remove the existing 31 short stacks and replace with four (4) much taller stacks, which will improve air dispersion of emissions while meeting U.S. EPA good engineering practices. This will **significantly** reduce local air quality impacts.
- Dramatically reduce nitrogen oxide (NOx) emissions that occur during a high energy demand day by reducing operation of older high emissions peaking turbines.
- Provide highly reliable electricity to the local market.

### What Happens at a Scoping Meeting?

- You will hear a short overview of the project and why New York State Dept. of Environmental Conservation (DEC) has issued a Positive Declaration, an official statement that a project requires a more complete analysis of potential environmental impacts.
- You can make oral comments to the DEC on the Positive Declaration and the Scoping Document, which defines which issues will be studied in the preparation of the Draft Environmental Impact Statement (DEIS).
- You can present written comments to the DEC at the meeting or anytime before the close of the comment period on November 26, 2008.
- You can discuss the project informally with DEC and NRG representatives.

### Scoping Issues:

- DEC has determined that the applicant (NRG) must prepare a DEIS for this project, which will be based on work previously done by NRG for a project (Berrians) approved in 2001, but not built.
- The DEIS will present such things as:
  - A detailed air quality analysis.
  - An environmental justice and health data outcome analysis for any affected environmental justice communities.
  - Energy Impacts.
  - Socioeconomic Impacts.
  - Water quality impacts.
  - The full description of study issues is presented in the Scoping Document.

### Information and Contacts:

- Public Information Repositories, including the draft Scope are located at:
  - The Steinway Branch, NYS Library, 21-45 31<sup>st</sup> St., Long Island City, NY 11105
  - The Astoria Branch, NYS Library, 14-01 Astoria Blvd., Long Island City, NY 11102
  - <http://www.dec.ny.gov/permits/6061.html>
- The DEC contact is: Stephen Tomasik, Project Manager  
NYS Dept. of Environmental Conservation  
Division of Environmental Permits  
625 Broadway – 4<sup>th</sup> Floor  
Albany, NY 12233-1750  
PH: (518) 586-9955; FAX: (518) 402-9168
- NRG will maintain documents on its project website at <http://www.nrgenergy.com/news-center/astoria/documents.htm>



## **Appendix B**





**City of New York**  
**Community Board #1, Queens**  
American Museum of Moving Image  
36-01 35<sup>th</sup> Avenue  
Astoria, N.Y. 11106  
Tel: 718-786-3335, Fax: 718-786-3368

Helen Marshall,  
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*Deputy Borough President*  
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*Public Safety*  
Antonio Meloni  
*Transportation*  
Robert Piazza  
*Youth*  
Jose Batista  
*Zoning & Variance*  
John Carusone

MEMORANDUM

TO: All Members of the Environmental  
Committee and All other interested  
Board Members

FROM: Vinicio Donato and Joan Asselin

RE: New NRG Energy Plant

DATE: October 17, 2008

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An Environmental Committee meeting has been  
scheduled for, **Thursday October 30, 2008, 6PM** at the  
Long Island City Library located at 37-44 21 Street.

The NRG Power Plant located at 31-01 20 Avenue is  
seeking approval from the State to replace and upgrade  
the existing generators. The current capacity is 600 mw;  
the new capacity will be 1040 mw.

Please make every effort to attend.

**In order to provide sufficient space, we ask that you  
call the office if you will be present.**

Thank you.

cc: Hon. Joseph Crowley  
Hon. Carolyn Maloney  
Hon. George Onorato  
Hon. Michael Gianaris  
Hon. Catherine Nolan  
Hon. Margaret Markey  
Hon. Eric Gioia  
Hon Peter Vallone, Jr  
Mr. Glen Lennaud. NRG

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Robert Piazza  
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John Carusone

January 19, 2009

Mr. Lee Davis  
NRG, Inc.  
211 Carnegie Center  
Princeton, New Jersey 08540

Dear Mr. Davis:

RE: NRG Astoria Energy Plant

Community Board 1 voted, at our February 17, 2009 Board meeting, to support NRG's intent to provide improved air quality with state-of-the-art repowering technology at the Astoria site with the following stipulations:

- An EIS must be completed and submitted to Community Board 1 with an additional meeting of the Environmental Committee
- The increase in particulate matter, as shown by NRG, must be substantially reduced as advanced technology is available, to accommodate our valid concerns

Community Board 1 is challenged to protect the health and safety of residents. Our community has long suffered the abuses of stationary source emissions and call upon the NYS Department of Environmental Conservation (DEC) to carefully review the cumulative impacts stationary source emissions have within our community.

Sincerely,

Vinicio Donato

Chairperson

Joan Asselin

Chairperson, Environmental  
Committee

cc: Alexander Grannis, Comm., NYS DEC

Hon. George Onorato  
Hon. Michael Gianaris  
Hon. Michael Den Dekkar  
Hon. Margaret Markey  
Hon. Catherine Nolan  
Hon. Peter Vallone, Jr.  
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**Dutch Kills Civic Association**  
**Bob Wilson**

**Queensbridge Tenants Association**  
**Nina Adams**

**RMA - Non Profit Housing**  
**John Cameron**

**West Queens Greens**  
**Gordon Bastion**

**The West Queens Independent**  
**Democratic Club**  
**Kate Brennan**

**Astoria Civic Association**  
**John Pellitteri**

**Italian Americans For Better**  
**Government**  
**Mario D'elia**

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**Association**  
**Ann Cotton**

**NYC Friends of Clearwater**  
**Darby Townsend**

**Tamiment R.D.C.**  
**Gloria Aloise**

**Roosevelt Island Residents**  
**Association**  
**Diedre Breslin**

**Noble-Street Block Association**  
**Patti Choy**

**City Lights Association**  
**Friends of Gantry Park**  
**Don Donoidson**

**Sierra Club**  
**Claudia Shillingberg**

**C.H.O.K.E.**

**Coalition Helping Organize a Kleaner Environment**  
**33-60 21<sup>st</sup> Street, Long Island City, N.Y. 11106**  
**718-278-0919**      **e-mail - chokequeens@aol.com**

November 20, 2008

Stephen Tomasik, Project Manager  
NYS Dept. of Environmental Conservation  
Division of Environmental Permits  
625 Broadway - 4<sup>th</sup> Floor  
Albany, NY 12233-1750

RE: NRG Energy Repowering Project

Dear Mr. Tomasik:

I am writing on behalf of the members of the Coalition Helping Organize A Kleaner Environment (C.H.O.K.E), a grassroots coalition of residential and civic associations representing over 450,000 households in New York City.

The formation of our organization was precipitated by the onslaught of several new power plants that had been proposed to be built in and around Queens, significantly elevating the risks of greater air pollution burdens on what is already one of the most heavily polluted areas in the country. In addition to heavy vehicle traffic endemic to most dense urban areas, Queens currently provides over 80 percent of electricity for the City of New York, two of the largest airports in the country, and several congested highways crisscrossing the borough.

We have worked closely with NRDC, NYPIRG and others to raise public awareness of critical air pollution problems and to encourage policymakers to take steps that will improve, not diminish the quality of our air. We believe our organization has made a difference on these issues by bringing a strong, well-informed local voice to policy debates and the news media. Our successes have included the agreement with NYPA to close their old power plant by 2010 and an Air Study of Queens by Synapse Energy.

Our organization understands that New York City requires more electricity in the future and new power plants promise to be much cleaner than the older variety that are in operation. We are supporting NRG's Energy Repowering Project this



## **C.H.O.K.E.**

Coalition Helping Organize a Kleaner Environment  
33-60 21<sup>st</sup> Street, Long Island City, N.Y. 11106  
718-278-0919 e-mail - chokequeens@aol.com

### Board of Directors

**Anthony J. Gigantiello**  
President

**Peter F. Valfone**  
Honorary Chairman

**Ruth Langbert**  
Vice President

**Donna Arculfi**  
Treasurer

**Mario D'elia**  
Secretary

**Dorothy Wilner**  
Recording Secretary

### Member Organizations

Coordinating Council of  
Cooperatives  
Ruth Langbert

Federation of New York Housing  
Cooperatives  
Greg Carlson

North Queensview Homes, Inc.  
Anthony J. Gigantiello Jr.

Queensview Inc.  
Alexander Santora

HANAC  
Stavroula Joannidis

Astoria/Ditmars Homeowners  
& Tenants Association  
Rodolfo Sarchese

Hallet's Cove  
Michael Digilio

Ravenswood Residents  
Association  
Carol Wilkins

Dutch Kills Civic Association  
Bob Wilson

Queensbridge Tenants Association  
Nina Adams

RMA - Non Profit Housing  
John Cameron

West Queens Greens  
Gordon Bastion

The West Queens Independent  
Democratic Club  
Kate Brennan

Astoria Civic Association  
John Pellitteri

Italian Americans For Better  
Government  
Mario D'elia

Woodside Houses Resident  
Association  
Ann Cotton

NYC Friends of Clearwater  
Darby Townsend

Taminent R.D.C.  
Gloria Aloise

Roosevelt Island Residents  
Association  
Diedre Breslin

Noble-Street Block Association  
Patti Choy

City Lights Association  
Friends of Gantry Park  
Don Donoldson

Sierra Club  
Claudia Shillingberg

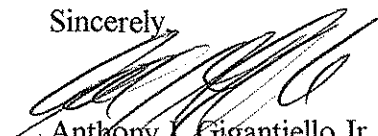
project fills our mission statement "No new power plants be built unless their operation is coupled with the elimination of existing pollutant generating plants and/or installation of other equipment that results in the reduction of current overall pollution levels."

NRG's Repowering Project will eliminate an older dirtier plant, double the generating capacity and significantly reduce pollution in Astoria Queens and the City of New York.

We believe that this project should not only be supported but supercede any other "NEW PLANT" and expedited if possible. It will make an immediate "Environmental Impact" and provide cleaner air and less pollution, which is a positive change for the residents of our community.

We hope that you consider our support of this project.

Sincerely



Anthony J. Gigantiello Jr.  
President  
C.H.O.K.E.



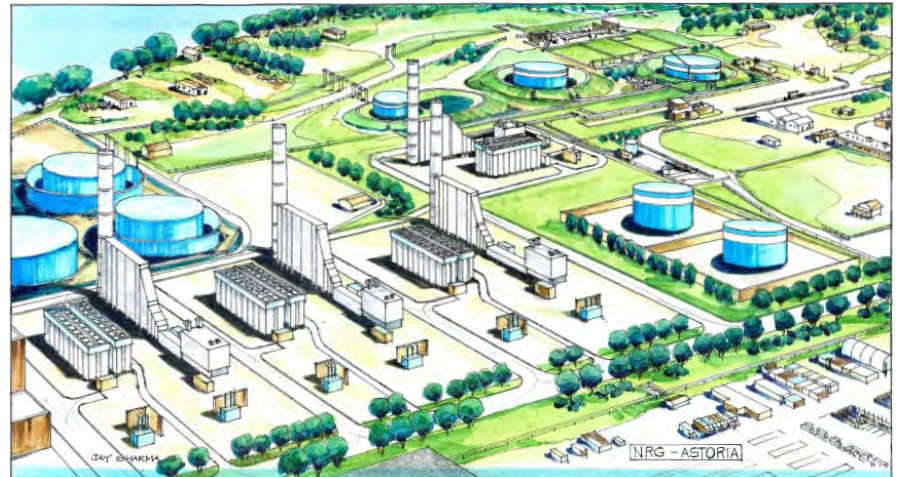
## **Appendix D**





# NRG Astoria In-City Repowering

November 2008





# NRG's Astoria Site

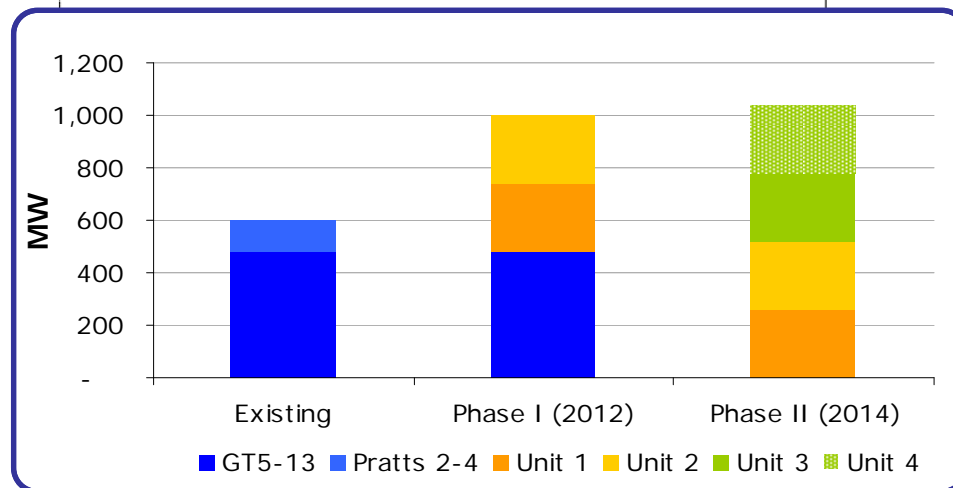
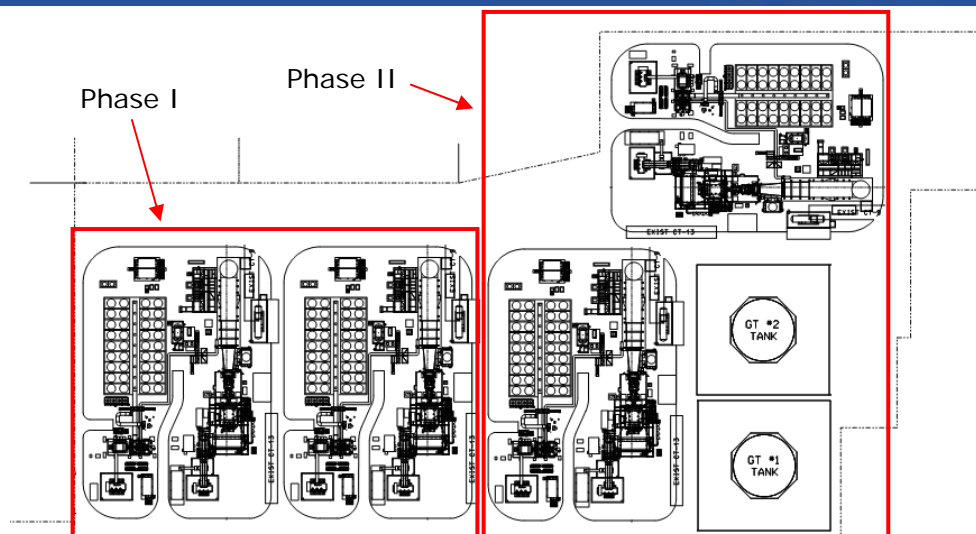




# Project Overview



- Adds **440 MW** net capacity (enough to power 35,000 homes)
  - Phase I – Retire 100 MW (2010)
    - Add 520 MW (2012)
  - Phase II – Retire 500 MW
    - Add 520 MW
- Replaces **1970's vintage** oil-fired generation with state-of-the-art power
  - Provides dual fuel, black start, voltage support and quick start reserves
- Reduces on-site peak-day air emissions by **98%**
- Fully compliant with PlaNYC
  - Displaces CO<sub>2</sub> equivalent of **185,000 cars each year**
  - Provides new modern capacity
  - Increases efficiency of NYC generation

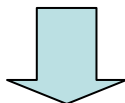


Adds needed power while improving New York City's environment

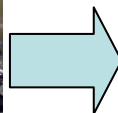


# The Transition

NRG's Astoria site today



NRG's Astoria site after Phase I



NRG's Astoria site after Phase II



Today	<ul style="list-style-type: none"><li>600 MW oil/gas</li><li>31 total units</li><li>14,500 to 18,667 Btu/kWh HR</li></ul>
Phase I	<ul style="list-style-type: none"><li>1020 MW gas/oil</li><li>Retires 100 MW Westinghouse</li><li>Two units (520 MW) commissioned</li><li>26 total units</li></ul>
Phase II	<ul style="list-style-type: none"><li>1040 MW gas/oil</li><li>Retires 500 MW Pratts</li><li>Two units (520 MW) commissioned</li><li>4 total units</li></ul>



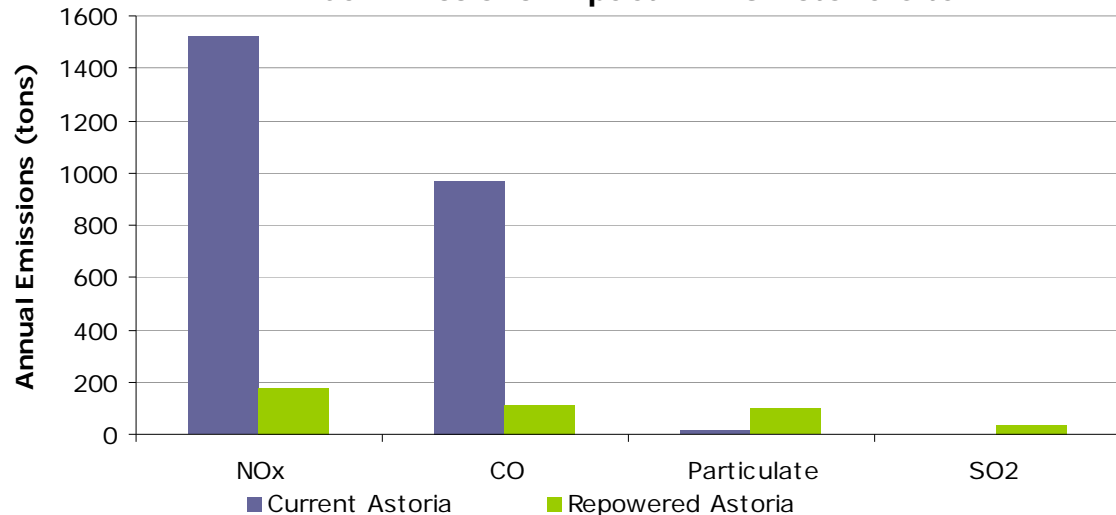
# On-Site Environmental Benefits



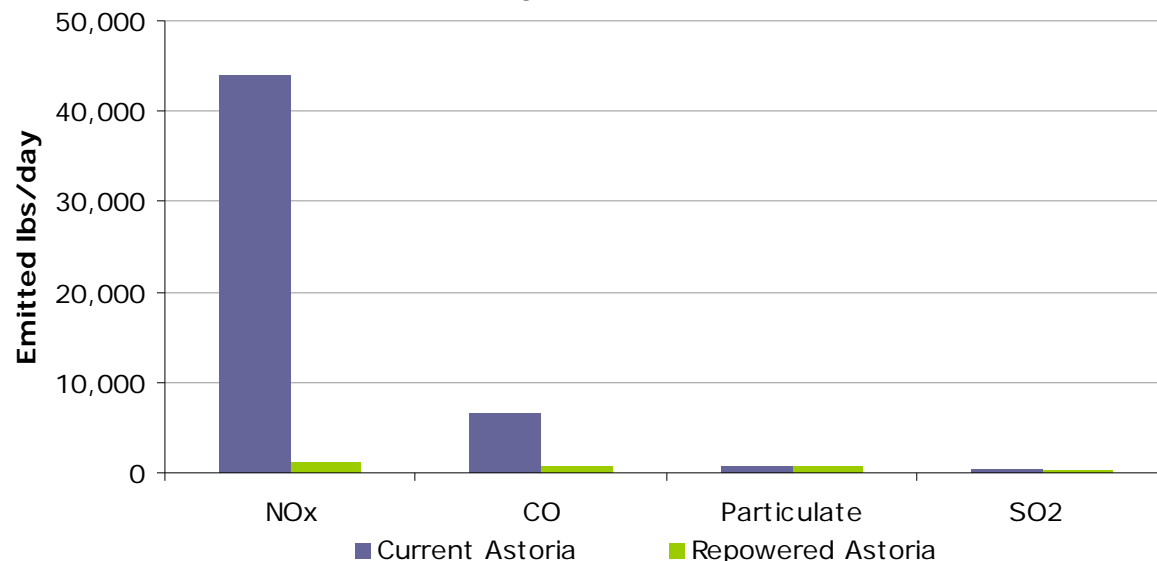
## Astoria Site Impacts

- Reduces peak-day on-site emissions by 98%
- Reduces NOx emissions by 1,300 tons per year
- Replaces oil with gas as primary fuel
- Uses less fuel to produce same amount of power

Annual Emissions Impact - NRG Astoria Site



Peak Demand Day Emissions - NRG Astoria Site





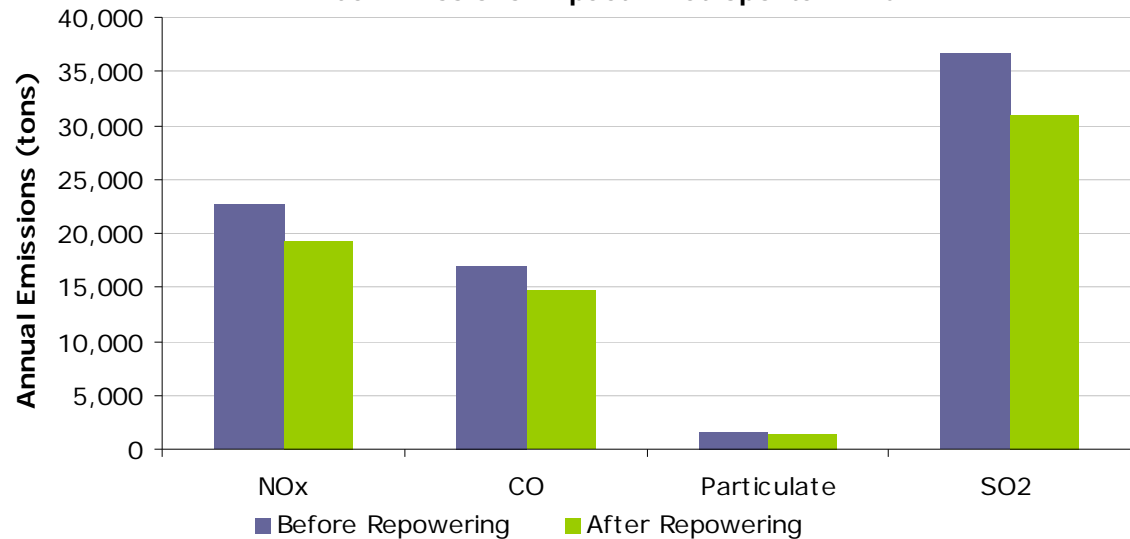
# Environmental Benefits to Metro NY



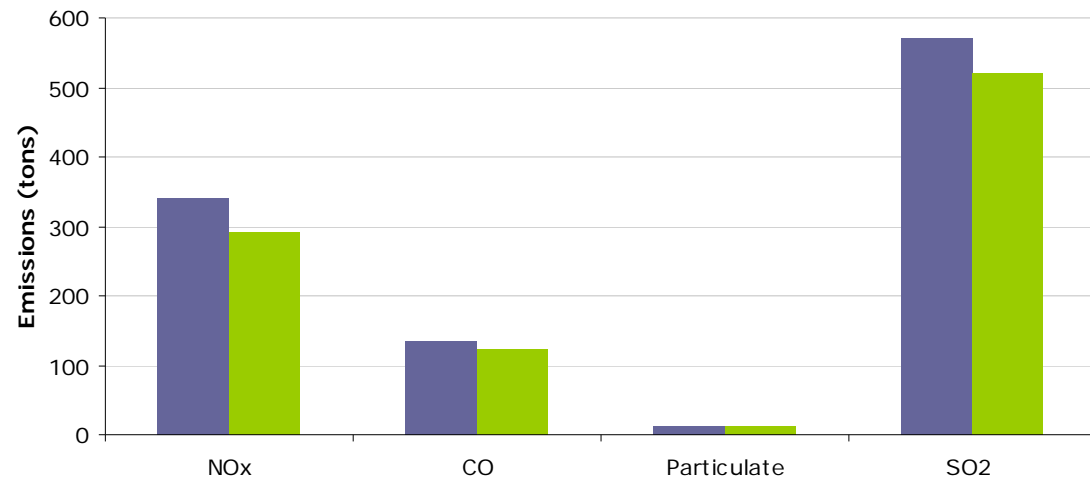
## In-City Impacts

- Displaces over **15%** emissions that cause acid rain and ozone pollution
- Reduces **3,300 tons** NO<sub>x</sub> each year
- Significant reductions to pollutants responsible for smog and global warming

Annual Emissions Impact - Metropolitan NYC



Peak Demand Day Emissions - Metropolitan NYC





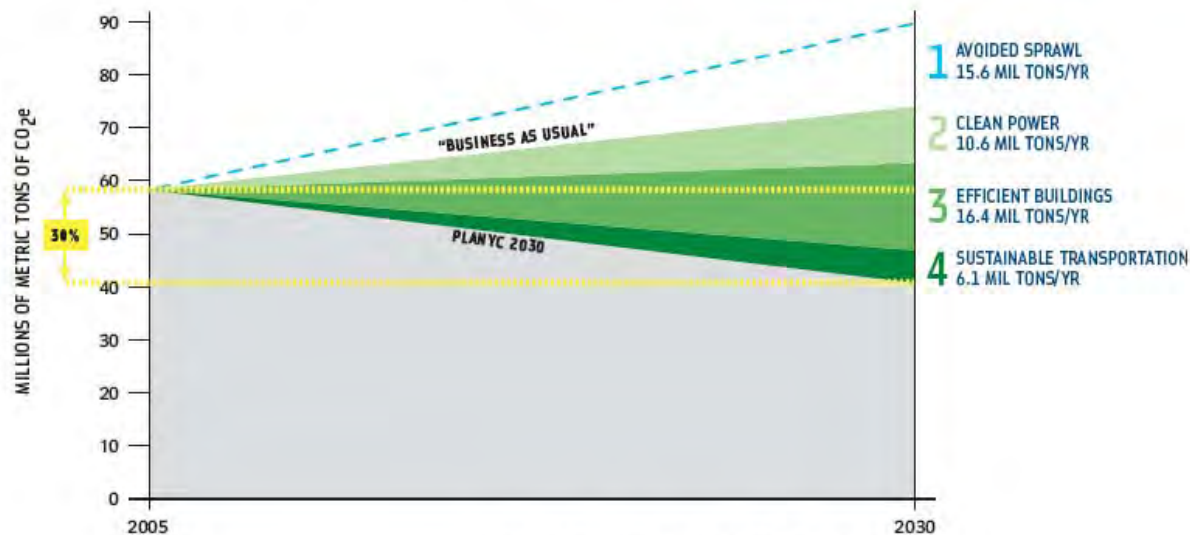
# Greenhouse Gas Reductions



	Avoided CO2 (On-Peak)	Avoided CO2 (Off-Peak)	Total: Avoided CO2
2012	327,232	39,747	366,979
2013	557,095	52,487	609,582
2014	928,564	99,376	1,027,941
2015	1,045,583	86,101	1,131,685
2016	912,029	-	912,029
2017	947,668	-	947,668
2018	1,089,299	22,857	1,112,156
2019	1,122,302	15,701	1,138,004
2020	970,895	4,062	974,957

- Displaces 1 million tons of carbon annually
- Achieves 14% of targeted PlaNYC 2015 reductions
- Equivalent to taking 185,000 cars off the road
- Displaces air emissions that cause acid rain and ozone pollution

Projected Impacts of Our Greenhouse Gas Reduction Strategies



Source: NYC Mayor's Office of Long-Term Planning and Sustainability



# ASTORIA REPOWERING PROJECT

## Powering New York with NRG

Powering New York City with Advanced Natural Gas Generation

### Planning for New York City of Tomorrow

In April 2007, New York City Mayor Michael Bloomberg announced an initiative—known as PlaNYC—to strengthen the city’s urban environment and create a “greener” New York.

The initiative—developed as a call to action to address the needs of a growing, vibrant city—focuses on improving air and water quality, and land use within the five boroughs while encouraging sensible, sustainable growth.

A large part of PlaNYC focuses on New York City’s energy challenges:

- The average NYC power plant was built in 1977<sup>1</sup>
- Annual energy growth in New York City is 130 megawatts (MW)<sup>2</sup>
- \$3 billion (23%) increase in annual energy bills expected by 2015<sup>3</sup>
- 4.6 million tons carbon dioxide (CO<sub>2</sub>) will be added to the environment by 2015 to meet growing energy demands<sup>4</sup>

### Improving our air— NRG’s response to PlaNYC’s challenge

NRG is proposing to repower its existing power generation units located in Astoria, New York (built in 1969) with modernized, clean and efficient natural gas units that produce more energy with dramatically fewer emissions.

The proposal is part of NRG’s *Repowering* NRG effort, which calls for major, environmentally responsible investment in new and revitalized power plants.

Repowered generation in Astoria helps provide energy reliability to New York City while substantially reducing environmental impact—aligning with PlaNYC’s goals. This plays an even greater role in helping keep the lights on in the city while significantly improving our air, particularly during the hottest and coldest days of the year.



NRG’s new Astoria units would utilize efficient “combined cycle” technology coupled with the ability to reach 75% of its total generating capacity in 10 minutes. While achieving this flexibility, the new Astoria site will also add roughly 400 MW of energy capacity (enough to power 320,000 homes) while reducing onsite peak-day air emissions by approximately 90%.

### NRG Astoria Site Quick Facts

#### TODAY

600 Megawatts

#### AFTER REPOWERING

1,040 Megawatts

“Repowering” Astoria will:

- Reduce onsite peak day emissions by 90%
- Displace less efficient units, thereby reducing greenhouse gas emissions by 1,000,000 tons each year (equivalent to removing 185,000 cars from America’s roadways).
- Improve efficiency by over 50%
- Retire 600 MW of 1970 vintage, oil & natural gas fired units

<sup>1</sup> The City of New York; PlaNYC: A Greener, Greater New York; April, 2007

<sup>2</sup> New York Independent System Operator; The Comprehensive Reliability Plan 2007; Sept 18, 2007

<sup>3</sup> The City of New York; PlaNYC: A Greener, Greater New York; April, 2007

<sup>4</sup> Ibid



- Replace the oldest units first in a two-phased approach
- Add 1,040 MW of higher efficiency, natural gas-fueled units

### Improving efficiency, keeping costs low

Consider the difference between a 1970's Chrysler and a new Toyota Prius. Over the years we have seen dramatic changes in automobile engine efficiency. The same is true of power plants.

The average power plant in New York City is 30 years old and is substantially less efficient than the newest power plant technology available today. Twenty-first century power plants operate at superior levels of efficiency and emissions rates compared to the average plant of yesterday.

The new site would be state-of-the-art and high efficiency, using less fuel to generate energy and producing fewer emissions—resulting in lower energy costs.

### Why Astoria?

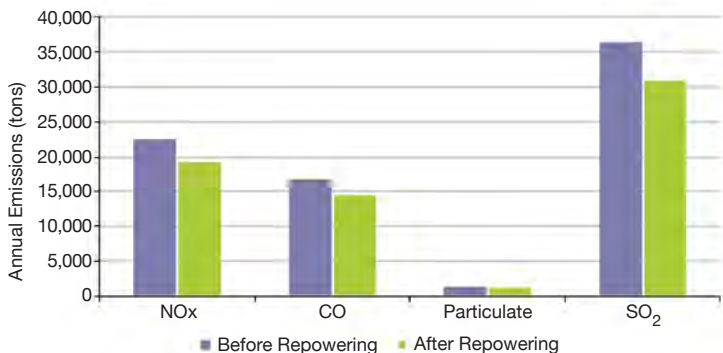
Finding the perfect place to build a power plant is challenging due to the need for key infrastructure nearby. Important considerations are: access to natural gas, water requirements, ability to transport power where it's needed, and other factors.

There are limited sites within New York City that can accommodate new power plants—and they are typically where power plants currently exist. NRG's Astoria facility is one such site.

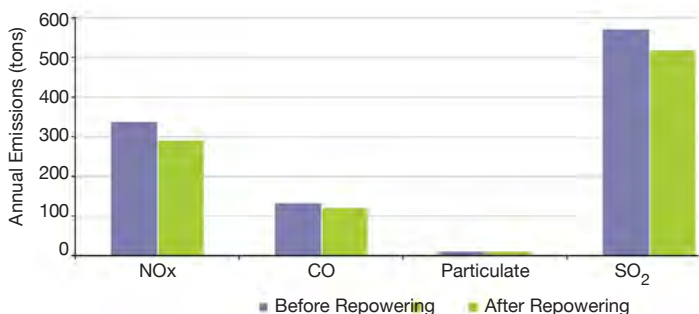
### Why repower Astoria?

- Emits 98% fewer peak-day air emissions than current Astoria facility
- Replaces older technology units with new, efficient technology
- Reduces key emissions
- Meets the needs of New York's growth
  - > Adds new capacity—enough to power 320,000 homes
  - > 56% more efficient production of electricity
- Fully compliant with New York City Mayor Michael Bloomberg's 2007 plan—known as PlaNYC—to displace greenhouse gas emissions and meet growing demand for energy

#### Annual emissions impact—Metropolitan NYC



#### Peak demand day emissions—Metropolitan NYC



For more information, contact:

211 Carnegie Center  
Princeton, NJ 08540  
609.524.4500

[www.nrgenergy.com](http://www.nrgenergy.com)



## **Appendix E**



**NRG Astoria Gas Turbine Power LLC**  
**Revised Stakeholders List**  
**April 6<sup>th</sup>, 2010**

Hon. Michael Bloomberg  
Mayor of the City of New York  
City Hall  
New York, NY 10007

Hon. John Liu  
NYC Comptroller  
One Centre Street  
New York, NY 10007

Hon. Bill de Blasio  
Public Advocate  
One Centre Street, 15<sup>th</sup> Floor  
New York, NY 10007

Queens County Clerk's Office  
Gloria D'Amico, County Clerk  
88-11 Sutphin Boulevard, 1st Floor  
Jamaica, NY 11439

Hon. Charles Schumer  
U.S. Senate  
757 Third Avenue, Room 1702  
New York, NY 10017

Hon. Kirsten Gillibrand  
U.S. Senate  
780 Third Avenue, Suite 2601  
New York, NY 10017

Hon. Carolyn B. Maloney  
US House of Representatives  
1651 Third Avenue, Ste. 311  
New York, NY 10128

Hon. Charles B. Rangel  
US House of Representatives  
163 West 125<sup>th</sup> Street, Room 737  
New York, NY 10027

Hon. George Onorato  
NYS Senator  
28-11 Astoria Blvd  
Long Island City, NY 11102

Hon. Toby Ann Stavisky  
NYS Senator  
144-36 Willets Point Blvd.  
Flushing, NY 11357

Hon. Michael Gianaris  
NYS Assemblymember  
21-77 31<sup>st</sup> Street, Ste. 107  
Astoria, NY 11105

Hon. Peter Vallone Jr.  
NYC Councilmember  
22-45 31<sup>st</sup> St.  
Astoria, NY 11105

Hon. Helen Marshall  
Queens Borough President  
120-55 Queens Blvd  
Kew Gardens, NY 11424

Amanda M. Burden, Director  
NYC Department of City Planning  
22 Reade Street  
New York, NY 10007

Dr. Robert Kulikowski, Director  
Mayor's Office of  
Environmental Coordination  
253 Broadway, 14<sup>th</sup> Floor  
New York, NY 10007

Caswell Holloway  
Commissioner  
NYC Department of  
Environmental Protection  
59-17 Junction Boulevard  
Flushing, NY 11373

John Wuthenow  
Office of Environmental Planning &  
Assessment  
NYC Department of  
Environmental Protection  
96-05 Horace Harding Expressway  
Flushing, NY 11373



Community Board 1 Queens  
36-01 35<sup>th</sup> Avenue  
Astoria, NY 11106  
Attn: Mr. Vincio Donato, Chairman

Community Board 1 Queens  
36-01 35<sup>th</sup> Avenue  
Astoria, NY 11106  
Attn: Ms. Lucille Hartman

St. Irene Chrysovalantou Nursery &  
Kindergarten  
36-07 23 Ave  
Astoria, NY 11105

Kid Krazy Early Childhood Development  
Center Annex  
21-35 21 Ave  
Astoria, NY 11105

BFFY Steinway Senior Center  
20-43 Steinway St  
Astoria, NY 11105

The Hellenic Link Inc.  
38-11 Ditmars Blvd Ste. 278  
Astoria, NY 11105

Kefalos Society of America Inc.  
2043 Steinway St.  
Astoria, NY 11105

Reserve Officers Association  
of the United States  
2139 38th St.  
Astoria, NY 11105

Project Pegasus International Inc  
3811 Ditmars Blvd  
Astoria, NY 11105

Sullogos Nomou Magnisias Argonayte Ltd.  
3811 Ditmars Blvd 119  
Astoria, NY 11105

National Coalition of Physicians for  
Healthcare Awareness Inc  
2202 Steinway St.  
Astoria, NY 11105

Polish Navy Veterans Association of  
America Inc.  
2208 Steinway St.  
Astoria, NY 11105

Northwestern Queens Community Action  
Center Inc  
2219 35th St.  
Astoria, NY 11105

Astoria Restoration Association  
3128 Ditmars Blvd.  
Astoria, NY 11105

Astoria Islamic Center Inc.  
2221 33rd St.  
Astoria, NY 11105

Syllogos Kreton Minos Inc.  
2227 33rd St.  
Astoria, NY 11105

Federation of Italian-American  
Organizations of Queens Inc.  
29-21 21st Ave  
Astoria, NY 11105

Federation of Hellenic Societies of  
Greater New York Inc.  
2251 29th St.  
Astoria, NY 11105

Queens Philharmonic  
2028 27<sup>th</sup> St.  
Astoria, NY 11105

Sons of Italy in America  
2037 28th St  
Astoria, NY 11105

Catholic War Veterans of the USA Inc  
1 Astoria Post  
21 43 29th St  
Astoria, NY 11105

Giannitsa Association Megas  
Alexandros Inc  
2226 23rd St.  
Astoria, NY 11105



Greek American Broadcasting Info &  
Cultural Activities Corporation  
20 12 20th St.  
Astoria, NY 11105

Kiwanis International  
2131 Shore Blvd  
Astoria, NY 11105

Bangladesh American Association for  
Rehabilitation in New York  
2363 Steinway St.  
Astoria, NY 11105

Pancyprian Association Inc  
2315 31st St.  
Astoria, NY 11105

Greek American Home Owners of New  
York Inc.  
2324 31st St.  
Astoria, NY 11105

Cephalonian Association Aenos Inc.  
23 17 29th St.  
Astoria, NY 11105

The Peoples Museum  
2227 Crescent St.  
Astoria, NY 11105

Zoodohos Pighi of Andros Society Inc  
2119 28th St.  
Astoria, NY 11105

Cypreco of America Inc  
2350 27th St.  
Astoria, NY 11105

Church of Christ Holy Spirit Science of  
Mind World Mission Inc.  
2106 35th St Apt. 5F  
Astoria, NY 11105

Grace Bible Church  
2257 37th St.  
Astoria, NY 11105

Peniel Baptist Church Inc.  
1954 38th St.  
Astoria, NY 11105

Sacred Patriarchal & Stavropegial  
Orothodox Monastery of St. Irene  
3607 23rd Avenue  
Astoria, NY 11105

Muslim American Society of Queens  
3513 23rd Avenue  
Astoria, NY 11105

Free Apostolic Church of Pentecost  
2047 Steinway St.  
Astoria, NY 11105

Islamic Congress Church  
2128 33rd St.  
Astoria, NY 11105

Astoria Homeowners, Tenants and Business  
Civic Association  
21-20 49<sup>th</sup> Street  
Astoria, NY 11105  
Tel: (718) 721-3690

Central Astoria Local Development Corp.  
28-27 Steinway Street  
Astoria, NY 11103  
Attn: Julian Wager, President

Greater Astoria Historical Society  
35-20 Broadway, 4<sup>th</sup> Floor  
Long Island City, NY 11106  
Tel: (718) 278-0700

ARROW (Astoria Residents Reclaiming  
Our World)  
39-45 49<sup>th</sup> Street  
Sunnyside, 11104  
Attn: Ms. Sandra Robishaw

Astoria/LIC Waterfront Parks  
C/O Karen Overton  
Astoria LIC Catalyst Coordinator  
35-30 35<sup>th</sup> Street  
Astoria, NY 11106  
Tel: (718) 706-8044  
Email: [karen.overton@parks.nyc.gov](mailto:karen.overton@parks.nyc.gov)



Green Shores  
C/O Katie Elman  
25-11 34<sup>th</sup> Street, Apt. 3F  
Astoria, NY 11103  
Tel: (917) 497-6273  
Email: [elmank@yahoo.com](mailto:elmank@yahoo.com)

UPROSE  
166A 22nd Street  
Brooklyn, NY 11232

El Diario La Prensa  
1 Metrotech Center, 18<sup>th</sup> Floor  
Brooklyn, NY 11201

LIC/Astoria Journal  
69-60 Grand Avenue  
Maspeth, NY 11378

NY 1 News  
75 Ninth Avenue  
New York, NY 10011

New York Daily News  
450 West 33<sup>rd</sup> Street  
New York, NY 10001

Western Queens Gazette  
42-16 34<sup>th</sup> Avenue  
Long Island City, NY 11101

Times Ledger Newspapers  
41-02 Bell Blvd, 2<sup>nd</sup> Floor  
Bayside, NY 11361  
Tel:(718) 229-0300

Queens Chronicle  
P.O. Box 74-7769  
Rego Park, NY 11374  
Tel:(718) 205-8000

Queens Tribune  
174-15 Horace Harding Expressway  
Fresh Meadows, N.Y. 11365

Queens Courier  
Schneps Publications Inc,  
38-15 Bell Blvd  
Bayside, NY 11361

International Brotherhood of Teamsters  
3609 21st Avenue  
Astoria, NY 11105

Excavators' 731 Property Corp (Excavators  
Union Local 731)  
3411 35<sup>th</sup> Avenue  
Astoria, NY 11106  
Tel: (718) 706-0720

Blasters, Drill Runners & Miners Local 29  
4302 Ditmars Blvd  
Astoria, NY 11105

United Contractors Alliance  
21-77 31<sup>st</sup> Street  
Astoria, NY 11105

Iron Workers Locals 40 & 36 Joint  
35-23 36<sup>th</sup> Street  
Astoria, NY 11106  
Tel: (718) 433-4195

Cement and Concrete Workers  
Union Local #20  
3636 33<sup>rd</sup> Street  
Astoria, NY 11106

Local 807 Labor-Management Health  
Pension Funds  
3243 49<sup>th</sup> Street  
Astoria, NY 11103

Utility Workers Union of America  
5 West 37<sup>th</sup> Street, 7<sup>th</sup> Floor  
New York, NY 10018  
Tel: (718) 575-4400  
Fax: (718) 575-3852

International Brotherhood of  
Electrical Workers (IBEW)  
158-11 Harry Van Arsdale Ave. 4<sup>th</sup> Floor  
Flushing, NY 11365  
Tel: (718) 591-4000  
Fax: (718) 380-8998

Communications Workers of  
America AFL-CIO (CWA)  
28 10 Astoria Boulevard  
Long Island City, NY 11102



Asbestos Workers Union Local 12  
2110 Newtown Avenue  
Astoria, NY 11102

Local 891  
3641 28<sup>th</sup> Street  
Long Island City, NY 11106

United Piano Workers Union Local 102  
2810 Astoria Blvd  
Long Island City, NY 11102

Joan Asselin  
33-50 10<sup>th</sup> Street  
Long Island City, New York 11106

Coalition Helping Organize a Kleaner  
Environment (CHOKe)  
33-60 21st Street  
Long Island City, NY 11106  
Phone: 718-274-4767  
Fax: 718-278-0919  
Attn: Ms. Donna Diglio-Arruffat  
E-mail: [chokequeens@aol.com](mailto:chokequeens@aol.com)

NYC Environmental Justice Alliance  
115 West 30th Street, Suite 1110B  
New York, NY 10001  
212.239.8882  
212.239.2838(Fax)  
[generalinfo@nyceja.org](mailto:generalinfo@nyceja.org)

Queens Chamber of Commerce  
75-20 Astoria Blvd, Suite 140  
Jackson Heights, NY 11370  
Attn: Jack Friedman, Executive VP  
Tel: (718) 898-8500  
Fax: (718) 898-8599  
Email: [jfriedman@queenschamber.org](mailto:jfriedman@queenschamber.org)

Natural Resources Defense Council  
40 West 20<sup>th</sup> Street  
New York, NY 10011  
Tel: (212) 727-2700  
Fax: (212) 727-1773  
E-mail: [jpowers@nrdc.org](mailto:jpowers@nrdc.org)  
Attn: Richard Kassel, Senior Attorney

Sierra Club Atlantic Chapter  
New York Field Office  
116 John St, Floor 31  
New York, NY 10038-3300  
Tel: (212) 791-3600  
Fax: (212) 791-0839  
Email: [david.veliz@sierraclub.org](mailto:david.veliz@sierraclub.org)

New York City Asthma Partnership  
Bonita Henry  
c/o New York City Department of Health  
and Mental Hygiene  
2 Lafayette Street, Box CN 36A  
New York, NY 10007  
Tel: 212-513-0528  
Fax: 212-676-2071  
[nycap@health.nyc.gov](mailto:nycap@health.nyc.gov)

Council on the Environment of NYC  
51 Chambers Street, Room 228  
New York NY 10007  
Phone: 212-788-7900  
FAX: 212-788-7913  
E-mail: [conyc@cenyc.org](mailto:conyc@cenyc.org)

Clean Air NY  
342 Broadway, Suite 404  
New York, NY 10013  
Tel: 1-877-458-8247  
Fax: NA  
E: [info@CleanAirNY.org](mailto:info@CleanAirNY.org)



## **Appendix F**



# ENB - Region 2 Notices 12/24/2008

## Notice of Availability

**New York County (Queens)** - The New York State Department of Environmental Conservation (NYS DEC), as lead agency, has issued a Final Scoping Document for the Draft Environmental Impact Statement to be prepared for the proposed Astoria Gas Turbine Power, LLC - Repowering Project. The Final Scoping Document is available for public review at the NYS DEC office listed below, and is also available online on the NYS DEC website: <http://www.dec.ny.gov/permits/6061.html>. It is also available for review locally at the NYS DEC - Region 2 Office, 47-40 21st Street, Long Island City, New York, the Queens Public Library - Steinway Branch, 21-45 31st Street, Long Island City, New York, and the Queens Public Library - Astoria Branch, 14-01 Astoria Boulevard, Long Island City, New York.

The action involves the proposal by NRG to repower the Astoria Gas Turbine Power LLC facility. The repowering project will be conducted in two phases. Phase 1 will consist of replacement of the seven operating 35 + year old Westinghouse peaking turbines (approximately 120 MW capacity) with two new state-of-the-art, intermediate operating systems (approximately 520 MW total) provided by either General Electric or Siemens. Phase 2 of the proposed project will consist of replacing the 24, more than 35 + year old, Pratt & Whitney turbines (approximately 480 MW capacity) with two additional state-of-the-art turbines. Thus, the repowering will result in the replacement of the 600 MW capability of the 35 + year old electric generating capacity with new state-of-the-art units capable of producing 1040 MW. The project is located at 31-01 20th Avenue in Queens, New York.

**Contact:** Stephen Tomasik, NYS DEC, Division of Environmental Permits, 625 Broadway, 4th Floor, Albany, NY 12233-1750, Phone: (518) 486-9955, E-mail: [smtomasi@gw.dec.state.ny.us](mailto:smtomasi@gw.dec.state.ny.us).



NRG Astoria Gas Turbine Power LLC -- Repowering Project  
State Environmental Quality Review (SEQR)  
Final Scoping Document for Draft Environmental Impact Statement  
December 24, 2008

The New York State Department of Environmental Conservation (DEC) has prepared this Final Scope for the Draft Environmental Impact Statement (DEIS) to be prepared for a site repowering project (the "Proposed Project") sponsored by NRG Astoria Gas Turbine Power LLC ("Astoria"), owner of the Astoria Generating Station (the "Station"). Phase I of the proposed action involves replacement of existing electrical generation units with two 260 MW Siemens SCC6-5000F combustion turbines, or functionally equivalent state-of-the-art quick start turbines. Phase II proposes to replace additional existing units with two additional combustion turbines (for a total of four units). Because the specific type of replacement turbine has not yet been identified, all analyses will assume the more conservative values of the potential choices.

### **Purpose of Scoping and the SEQR Process**

On December 17, 2007, the DEC received an Application for a Title V Air Permit from Astoria Gas Turbine Power LLC for development of the Proposed Action. DEC determined that the Project was a Type I Action under the New York State Environmental Quality Review Act ("SEQRA"). Accordingly [pursuant to 6 NYCRR §617.6(b)(3)] on April 8, 2008, DEC circulated a Lead Agency Coordination Letter and Environmental Assessment Statement form Part 1 to all other Involved Agencies. In this correspondence, DEC indicated its intention to act as Lead Agency for the purpose of a coordinated SEQRA review of the Proposed Action. No objections were made to DEC acting as Lead Agency by any of the Involved Agencies; therefore, DEC determined that it will be the Lead Agency for the SEQRA review of this action on October 8, 2008. The applicant will submit a modified application for a two-phase project.

On October 8, 2008, DEC, as Lead Agency, determined that the Proposed Project may have the potential for a significant adverse environmental impact on the environment and that a DEIS must be prepared. Also pursuant to 6 NYCRR §617.8, DEC required Public Scoping for the Proposed Action. Public Scoping under 6 NYCRR §617.8 is the process by which the Lead Agency, in cooperation with the public and involved or interested agencies, identifies potentially significant adverse impacts that should be considered in a DEIS.

DEC provided opportunity for written comments on the Draft Scope to be submitted until November 26, 2008. Additionally, a public scoping meeting was conducted on November 12, 2008, at Riccardo's Restaurant, 21-01 24th Avenue, Astoria, New York, to elicit comments from interested members of the community. Public scoping sessions were conducted at 4 PM and 7 PM. Three statements were made at the 4 PM meeting, generally in support of the re-powering project, with one commenter recommending that the project sponsor look for ways to help the community become more "green." This comment resulted in an addition to the Final Scope in Section 20. Two statements were made at the 7 PM meeting, generally in support of the re-powering project. In addition, two written statements were received by DEC, both generally in favor of the proposed re-powering.



As part of the Environmental Impact Statement (“EIS”) process and in accordance with 6 NYCRR §617.8, this Final Scoping document has been prepared under the review of DEC. It identifies and describes the range of environmental studies to be conducted to evaluate the potential environmental impacts of the proposed project. This document is being distributed by DEC to the public and all involved and interested agencies for review and comment.

Copies of this Final Scope of Work are available for review at the following locations:

New York State DEC Region 2 Office  
47-40 21<sup>st</sup> Street  
Long Island City, New York 11101

Queens Public Library  
The Steinway Branch  
21-45 31<sup>st</sup> Street  
Long Island City, New York 11105

Queens Public Library  
The Astoria Branch  
14-01 Astoria Boulevard  
Long Island City, New York 11102

This Final Scope of Work can be viewed and downloaded from the NRG Astoria Gas Turbine Power LLC website, <http://www.nrgenergy.com/news-center/astoria/documents.htm>, or the DEC Division of Environmental Permits website, <http://www.dec.ny.gov/permits/6061.html>.

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## **Executive Summary of Scoping Issues**

The Proposed Project, as outlined below, will incorporate a two-phase development process. In Phase I approximately 120 MW of 1970-vintage uncontrolled Westinghouse oil-fired peaking turbines will be retired and demolished. This capacity will be replaced with approximately 520 MW of new state-of-the-art combustion turbines. In Phase II approximately 480 MW of 1970-vintage Pratt & Whitney capacity will be retired. This Pratt & Whitney capacity will then be replaced with approximately 520 MW of new state-of-the-art combustion turbines. Thus, the two-phase project will result in the replacement of the existing approximately 600 MW of peaking only capacity with 1040 MW of state-of-the-art turbines with ultra low emissions and dual fuel firing capability. The units will be constructed within the boundaries of the existing Station. This project lies within the overall Astoria complex, which is the site of several existing power generation facilities and has been occupied by power generating plants since at least 1904.

The Proposed Project will result in more efficient electricity production (greater than 48% efficiency for the proposed units as compared to approximately 35% efficiency for the existing units) and dramatically reduced emissions at the Station. In addition, the project will provide greater electric generation capability in megawatts per hour and more available hours per year. Depending on dispatch and contract needs, the new units will be able to operate for more than 7000 hours per year per turbine, in comparison to just a few hundred hours per year per turbine for the existing units, thus providing a far more reliable electric supply to the grid. The new units will provide more reliable power output in an intermediate operating mode -- they can be used both as peaking units and as base loaded units. Additionally, the new units will provide 10-minute rapid start capability nearly equivalent to black start units. The new turbines included in the Proposed Project have high thermal efficiencies and ultra-low emissions potential. Unlike the existing turbines, the new turbines will be equipped with state-of-the-art emissions controls and continuous emissions monitoring equipment. The new units will substantially reduce emissions of nitrogen oxides ("NOx"), as compared to the current units, and overall significantly reduce emissions on High Energy Demand Days ("HEDD"). Other measurable operating and emissions parameters will be improved. Air quality impacts will be assessed using DEC approved air quality modeling protocols.

Stack height will be between 220 and 250 feet for each of the stacks based on a good engineering practice ("GEP") analysis and design criteria for the new equipment. These stacks will replace the shorter individual stacks being used for the existing turbines. The Federal Aviation Administration ("FAA") has reviewed and approved the stack height application.



An Environmental Justice Analysis consistent with Commissioner's Policy 29 and a Health Outcome Data Analysis consistent with the July 21, 2008, New York State Department of Health ("DOH") draft protocol will be performed to address community impacts. Construction and traffic impacts will be minimized by using barge delivery for some large equipment and reducing truck traffic consistent with the local Astoria traffic management plan.

Noise impacts for the new equipment profile and for construction will be analyzed and mitigated as necessary. Nearby facilities are large power plants and industrial operations. Residential properties lie more than 0.4 miles from the project site.

The Proposed Project will require approvals from the New York Public Service Commission ("PSC") including the issuance of a Certificate of Public Convenience and Necessity ("CPCN") under Article 68 of the Public Service Law. Other than building permits and various non-discretionary local approvals, the Proposed Project is not subject to New York City discretionary approvals and, thus, is subject to review under SEQRA. A Title V Air Permit modification to be issued by the DEC will be required. Other associated air permit approvals such as Acid Rain and NOx Budget will accompany the Title V Permit modification.

## Project Purpose and Public Need

The DEIS will describe the public need for the Proposed Project. The advanced age ( $\pm 35$  years) of the existing turbines at the Station necessitates repowering to improve the reliability of delivery of electric services to the New York Independent System Operator ("NYISO"). The DEIS will discuss in more detail the NYISO's estimates for future generating capacity needs and reliability and the manner in which the Proposed Project will address the NYISO's needs. The DEIS will also discuss the Proposed Project's consistency and fit within the New York City's Energy and Emissions Plan components of PlaNYC.

## Project Description

The Proposed Project will be conducted at the Station, which is located at 31-01 20th Ave., Long Island City, Queens County, New York 11105. Phase I of the Proposed Project consists of the replacement of seven Westinghouse turbines (rated at 239 mmBtu/hr or 345 mmBtu/hr each and totaling about 120 MW) with two state-of-the-art turbines capable of providing more than 520 MW of electricity and equipped with low NOx combustors, Selective Catalytic Reduction ("SCR"), carbon monoxide ("CO") oxidation catalysts, and continuous emissions monitors. The two new units (the "Phase I units") will be placed on the portion of the facility already paved and occupied by the Westinghouse turbines. Each Phase I turbine will provide considerably more energy output per unit of emissions than the old Westinghouse turbines and will have rapid ramp capability of approximately 140 MW output in 10 minutes. Although the Phase I units will operate primarily on natural gas, they will have a limited oil firing capability as required by the NYISO in the event of a natural gas curtailment. The Phase I units are expected to be operational no earlier than summer 2012.



Phase II will replace all 24 of the Pratt & Whitney turbines (rated at 255 mmBtu/hr each) with an additional two new units capable of producing a combined total of approximately 520 MW electric output (the “Phase II units”). Upon expected completion in 2014, the Station will consist of four new turbines with an aggregate rated output capacity of approximately 1040 MW. The Proposed Project description in the DEIS will include the existing site conditions, physical setting, and overview of the construction of the new equipment.

Since the Proposed Project will be completed in two separate phases, the existing turbines in the associated project phase will be removed prior to the construction of the new turbines for the applicable phase. The Pratt & Whitney turbines are expected to remain fully on-line and available during the Phase 1 construction. Construction will take approximately 24 months for each phase, with Phase I commencing no earlier than summer 2010 and Phase II commencing no earlier than summer 2012. General construction issues and equipment laydown will be addressed in the DEIS.

The technology selection is currently under review by the project sponsor. Two turbine technology options are currently being considered for deployment for the Proposed Project. The first, referred to as the Siemens Flex10™ configuration, would utilize the Siemens SCC6-5000F configured in a “1x1” combined cycle arrangement. The Flex10™ unit will have rapid ramp capability of approximately 140 MW output in as little as 10 minutes. The projected heat rate of the Flex10™ is expected to be 8,000 btu/kWh.

The second turbine technology being considered would be General Electric’s (“GE”) widely used 7FA technology, arranged in a “1x1” combined cycle setup. The GE technology is expected to also have rapid ramp capability of approximately 140 MW in as little as 10 minutes. The projected heat rate of the GE technology also is expected to be at or below 8,000 btu/kWh.

Both technology configurations will operate primarily on natural gas, but will have a limited oil firing capability to serve the critical hours and days when natural gas availability in New York City is at its lowest, up to 100 hours per year. The units would be equipped with low NOx combustors, SCR, and CO oxidation catalysts as well as emission monitors. NRG expects that the performance of both technologies will not materially differ, and that the final technology selection will be based on unit operating performance, availability, and key environmental factors. The high efficiency for either technology selection allows for more electric output per million Btus of fuel burned as opposed to the existing units.

## Regulatory Reviews and Approvals

The applicable regulatory approvals and reviews required for the Proposed Project are listed below. Briefly summarized, a Title V Air Permit modification is required, approvals are required from the PSC including CPCN approvals, and permits are required from New York City agencies for construction, demolition building permits, sewer and water use, and others. These permits/approvals will be identified and discussed in more detail in the DEIS with reference to the responsible agency.

- Title V Air Permit Modification, 6 NYCRR Part 201 and associated air permit elements (such as PSD BACT review, NSR LAER review, Acid Rain Permit, NOx Budget, etc.)



- New York City Certificate of Operation, 15 RCNY, Chapter 2
- Increase in water use and sewer discharge approval from New York City Department of Environmental Protection (NYCDEP)
- FAA stack height and Notice of Proposed Construction (issued by the FAA on 02/12/2008)
- CPCN to be issued by the PSC pursuant to Article 68 of the New York Public Service Law
- SPDES permit modification for storm water surface discharge from construction activity
- 6 NYCRR Part 750
- Triennial Air Certificate from NYCDEP
- Chemical Bulk storage registration for ammonia tanks, 6 NYCRR Part 596-599
- Fire Department of New York storage permit for aqueous ammonia
- Modifications to the existing Coast Guard Response Plan and MARSEC
- Waterfront Revitalization Program Consistency Review
- Retirement Notice to Public Service Commission

## Air Quality Impacts and Benefits of Repowering

The Phase I units, totaling approximately 520 MW, will replace seven existing Westinghouse turbines. The Westinghouse turbines are nearly 40 years old, operate as peaking turbines only, burn fuel oil only, and operate with no air pollution controls. The Westinghouse turbines have low thermal efficiencies as compared to the high efficiency of the new units. The new units have the capability to quick start and ramp to approximately 140 MW in 10 minutes assuring a reliable electric supply to the grid, if needed, in a fast reaction mode. Issues relating to the air quality review include:

- The new turbines have ultra-low NO<sub>x</sub> emissions capability and can meet a 9 ppm NO<sub>x</sub> level at the downstream side of the turbine before add-on controls.
- With add-on SCR the units can achieve 2 ppm NO<sub>x</sub> emissions rates when firing natural gas. SCR is widely recognized throughout the country as the Lowest Achievable Emission Rate (“LAER”) add-on technology for the new turbines.
- The project will dramatically reduce High Energy Demand Day (HEDD) emissions from the seven Westinghouse and 24 Pratt & Whitney units. The new turbines can reduce potential NO<sub>x</sub> emissions on a typical HEDD (e.g., 8/3/2006) from as much as 22 tons per day to less than one ton per day and still provide over four times as much power to the grid. Because high ozone concentrations in the Northeast Corridor often coincide with highest electricity demand, the use of new ultra-low NO<sub>x</sub>-emitting turbines can be used to displace electricity from higher NO<sub>x</sub> emitting facilities in the region, thus, meeting DEC’s HEDD commitments under the Ozone Transport Commission’s HEDD Memorandum of Understanding signed by New York State.
- The project will dramatically reduce the total NO<sub>x</sub> annual emissions as compared to the emissions from the seven Westinghouse and 24 Pratt & Whitney units and will dramatically reduce the Maximum Annual Potential (“MAP”) emissions for NO<sub>x</sub> as



compared to the permitted MAP for the existing turbines. The existing Westinghouse and Pratt & Whitney turbines have no emissions controls. Emissions reductions from the existing units will be used as offsets for the new units.

- The new units will allow for the migration of the facility to ultra low sulfur diesel oil for the limited potential hours on oil during natural gas curtailments. Thus, emissions of SO<sub>2</sub> and PM<sub>2.5</sub> will be reduced by combusting the natural gas and ultra low sulfur fuels instead of higher sulfur fuel oil.
- CO and volatile organic compounds (“VOCs”) emissions will be minimized and controlled better than with the current turbines by the more combustion efficient new turbines (in excess of 48% thermal efficiency for the new equipment as opposed to the existing equipment) and by destruction in the add-on oxidation catalyst.
- Startup and shutdown emissions will be significantly minimized due to the rapid startup ramp capability of the new turbines as compared to the existing units.
- The project will result in a small net increase or decrease in other pollutants as compared to the actual emissions from the existing turbines, which will be provided in the DEIS, and significantly lower emissions as compared to the MAP emissions for the existing turbines.
- The new units will result in avoided greenhouse gas emissions equivalent to more than 100,000 cars by 2012 and substantially more as Phase II equipment comes on line in 2014.
- The new turbines and emissions control devices will be equipped with continuous emission monitoring systems (“CEMS”).
- GEP stack heights will improve dispersion as opposed to the existing short stacks and will reduce localized air quality impacts attributable to contributions from the turbine emissions.
- Preliminary modeling of the project shows that no air quality impacts will exceed significance levels. Formal modeling is necessary to confirm the preliminary results. Proposed air modeling protocol has been submitted to DEC. The final agency approved protocol will be used to conduct the formal modeling.
- Extensive cumulative air quality impact analyses have been performed for recent projects in New York City including an analysis for the Berrians application. These previous air quality studies have demonstrated their project compliance with National Ambient Air Quality Standards for regulated pollutants (CO, SO<sub>2</sub>, NO<sub>x</sub>, and PM-10). These previous studies will be used to overview and compare the air quality impacts from the Astoria Proposed Project.
- Astoria will surrender the previously-approved Berrians Project Permit upon issuance of the permit approvals for the two-phase Proposed Project. Surrendering the Berrians Project permit removes additional approved emissions from the facility's maximum annual permitted potential to emit and, therefore, provides a future net air quality benefit through avoidance of the Berrian’s project emissions.

## Scope of Draft Environmental Impact Statement (DEIS)

The DEIS will provide an analysis of the significant adverse and beneficial impacts of the Proposed Project and an analysis of the alternatives to the Proposed Project. Where applicable, the DEIS will reference information included in an Environmental Assessment Statement (EAS)



prepared for a prior proposal at the site, the Berrians Unit 1 Project (the “Berrians Project”). The full text of the Berrians Project EAS will be included as an appendix to the DEIS. The DEIS will include the following elements:

- Unavoidable adverse impacts
- Alternatives
- Irreversible and irretrievable commitment of resources
- Cumulative impacts
- Growth inducing aspects
- Effects on the use and conservation of energy resources

The section of the DEIS addressing existing conditions, potential impacts, and mitigation measures will be structured to present the following:

- existing conditions of the Station and its operation,
- potential impacts of the Proposed Project, including benefits, and
- mitigation measures for significant adverse impacts.

This analysis will be supplemented with visual aids including maps, photos, charts, graphs, and figures. Appropriate references will be provided.

The scope of the DEIS is set forth below.

## 1. Geology, Soils and Topography

These resources were analyzed in the previously proposed Berrians Project. Station, The DEIS will include a summary of the prior EAS discussion of these resources, with the full EAS discussion incorporated by reference. To the extent that the Proposed Project’s impacts are substantially different from the Berrians Project’s impacts, those elements will be addressed in the DEIS.

## 2. Water Resources

The Station currently operates under State Pollutant Discharge Elimination System (“SPDES”) permits for storm water and an NYCDEP sewer use permit. The impacts of the Proposed Project will be addressed as to modification of the water use and discharge requirements. Estimates of water usage changes and anticipated discharges to surface waters and the city sewer system will be identified. As noted in the Berrians Project’s EAS, no wetlands or seasonal streams are in the immediate vicinity of the Station; therefore, these resources will not be discussed in this DEIS. Floodplains will be identified and an assessment of potential project related impacts, if any, will be provided.



### 3. Biological, Terrestrial and Aquatic Ecology

Because the Proposed Project is located at an existing developed and operating power plant property, it is anticipated that adverse ecological impacts will be avoided. An assessment of ecological impacts, if any, will be addressed in the DEIS.

### 4. Climate and Air Quality

Air quality remains one of the most significant issues for the community and permitting remains one of the most time consuming approval elements for power plant projects. This section will present the air permit application documents, the air quality impact analysis including modeling, and the measures undertaken by NRG to mitigate air quality impacts for this project. Key elements of this analysis have been previously noted in the Scoping Document, but include the following:

- The equipment will include ultra low NO<sub>x</sub> turbines with add-on controls.
- All old, uncontrolled turbines currently in operation at the site will be shutdown for this project.
- The shutdown of old equipment will be used in offsetting new turbine emissions.
- Primary fuel of the new turbines will be natural gas.
- The new equipment will allow the Station to switch to ultra low sulfur diesel for limited periods of oil firing during natural gas curtailments and shortages.
- The Proposed Project will result in LAER for non-attainment pollutants and Best Available Control Technology (BACT) for most attainment pollutants.
- The Proposed Project will result in a net decrease in the NO<sub>x</sub> MAP for each of the Proposed Project's phases.
- The new turbines will meet GEP stack height requirements to improve dispersion and eliminate short stack dispersion concerns.
- Substantial combustion efficiency improvements will result from the Proposed Project including improved production output and avoided greenhouse gas emissions.
- The Proposed Project's dramatically reduced emissions will provide benefits for DEC's HEDD Program by offsetting emissions from less efficient facilities.
- The emission reductions to be achieved through repowering the Station with the new equipment are consistent with New York City's PlaNYC goals.
- A discussion of PM<sub>2.5</sub> offsets will be included in the DEIS.
- A discussion of greenhouse gas emissions (implicated in climatic change) will be provided. This discussion will include emissions estimates and mitigation measures for carbon dioxide (CO<sub>2</sub>) where appropriate. A review of expected regulatory standards being developed by the DEC for electric generating unit efficiency will be included. In addition, implications of potential sea level rise at the NRG Astoria site due to climate change will be discussed and potential mitigation measures will be presented.



## 5. Aesthetic/Visual Resources

The Proposed Project will eliminate all of the Westinghouse and Pratt & Whitney stacks (31 total) and replace those with no more than four GEP stacks. Aesthetic/visual impacts for this project will be addressed by the DEIS.

## 6. Historic, Cultural and Archaeological Resources

The Berrians Project's EAS contained a detailed analysis of the archaeological and cultural resources of the area. As noted here and in the Berrians Project's EAS, the Proposed Project is to be located on the currently operational and paved portion of the Station. The New York State Office of Parks, Recreation, and Historic Preservation has confirmed in writing (by letter dated April 15, 2008) that the Proposed Project "...will have No Adverse Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places." Thus, no further analysis of this issue is necessary for the DEIS.

## 7. Noise

The applicant currently is performing a noise impact assessment and modeling using accepted protocols and methodologies. This review is consistent with the DEC Program Policy - Assessing and Mitigating Noise Impacts DEP-00-1. Information from the manufacturer, along with other noise information sources, such as the Power Plant Construction Noise Guide, EPA publications, and others, will be consulted. Noise impacts will be assessed for both the construction activities on site as well as permanent normal operations. The results of this analysis will be compared to local and city noise ordinances and regulations. Any significant noise impacts affecting the community requiring mitigation will be addressed with project design changes including, as necessary, equipment modifications, layout changes, and noise reduction measures.

## 8. Traffic/Transportation

The Proposed Project will require the removal of existing equipment and the installation of new equipment. Some of the larger equipment can be delivered by barge. However, truck delivery will also be necessary. These will be addressed in the DEIS. Astoria and its contractors will make use of existing local transportation plans to minimize impacts to the community during construction. With a 24-month construction period expected for each of Phase I and II, the construction impacts will cover an extended period and will be specifically noted and addressed. Traffic issues during normal operation following completion of construction and equipment startup will be no different than those impacts experienced historically for normal plant operations and, thus, only construction period impacts will be further evaluated.



## 9. Socioeconomics

A socioeconomic discussion was included in the EAS for the Berrians Project and will be updated for the Proposed Project. Job creation and labor impacts will be addressed along with estimates of impact to local businesses. Tax impacts and benefits will also be identified. Additionally, the benefits of a significantly more reliable and more efficient electric generating facility in place of 35+ year old equipment will be included, such as lower energy costs for consumers as well as the addition of more reliable generation capacity in New York City.

## 10. Environmental Justice

Consistent with the DEC Commissioner's Policy 29, Astoria must prepare an Environmental Justice ("EJ") Analysis and Public Information Program (the "EJ Plan"). Astoria will include in the EJ analysis a discussion of the health outcome data review using the July 21, 2008, draft protocol prepared by the DOH and the DEC and as reviewed with those agencies in a pre-application meeting of September 26, 2008. Astoria maintains effective communications with the community and has already initiated outreach with local public policy officials regarding this repowering project. The EJ Plan will be implemented in a timely manner to provide the community with information on the benefits and potential impacts of the Proposed Project. In addition, the EJ Plan will include a review of the Astoria, Queens Community surrounding the project area. Project information meetings and resource materials are being provided to the community.

## 11. Public Safety

The Station is located within the security restricted Astoria Complex. Additionally, the Station has its own security and access restrictions, including fencing, and is continuously monitored by cameras and security patrols. Since the Station's employee roster will be minimally different after repowering, the public safety impacts are expected to be minimal, if any. Public safety issues were addressed with the Berrians Project and, to the extent that those impacts are expected to change with this repowering, will be addressed further in the DEIS.

## 12. Community Facilities and Services

The impacts on community services and facilities will be addressed in the DEIS. For example, the plant's existing fire, spill, and emergency response procedures may require modification as a result of the repowering project. The existing facilities have been operational for more than 35 years with the current equipment configuration. Local community fire departments and emergency service providers will be consulted in assessing these impacts and in making appropriate adjustments to planning documents.



### 13. Communications Facilities

The current turbines are surrounded by large power generating facilities and other heavy industry. Tall stacks and large buildings and structures exist immediately adjacent and surrounding the project site. According to the FAA records, numerous buildings and stacks are present within one nautical mile of LaGuardia that are over 100 feet in height. To the extent that the repowering project equipment might adversely impact communications facilities uniquely, these impacts will be identified and discussed in the DEIS.

### 14. Land Use and Zoning

The current Station is fully developed with the old Westinghouse and Pratt & Whitney electric generating units. The repowering project will not impact the site land use or zoning, but will solely focus on upgrading the generating equipment. No changes in zoning are expected to be required. No further review of this issue is required.

### 15. Unavoidable Adverse Impacts

The DEIS will identify significant adverse impacts that may occur despite mitigation measures and will compare the benefits and consequences of these unavoidable adverse impacts.

### 16. Alternatives Analysis

6 NYCRR § 617.9(b)(5)(v) requires that the DEIS include an analysis of the range of reasonable alternatives to the Proposed Project. The alternatives to be evaluated include: an alternate project site, an alternate size and equipment profile, simple cycle peaking vs. intermittent combined cycle, and “the no action” alternative. Additionally, the alternatives analysis will include a discussion of a "Phase I only" alternative. The evaluation and comparison will include a quantitative and qualitative comparison of unavoidable impacts associated with each alternative.

### 17. Irreversible and Irretrievable Commitment of Resources

This section of the DEIS will discuss the commitment and consumption of human and natural resources as a consequence of the project.

### 18. Cumulative Impacts

The applicant’s proposal to replace existing equipment with new state-of-the-art low emissions equipment can be expected to provide some net air quality benefits. The DEIS will discuss the potential for cumulative impacts such as air quality benefits. The DEIS will identify and discuss both adverse and positive cumulative benefits. The potential for, and



impact of future electric generation projects, or expansion of the proposed project, will also be addressed. Based on information obtained from existing publicly available data, the DEIS will also discuss impacts from other major sources of air pollution in addition to electric generating facilities in the vicinity of the NRG Astoria facility.

## 19. Growth Inducing Aspects

The DEIS will discuss the potential for the Proposed Project to provide growth inducements in the project area. The DEIS will contain a discussion of current and projected energy demand and supply for the project area. Both the NYISO projects and PlaNYC 2030 will be discussed, as well as the State Energy Plan, if available at the time the DEIS is prepared.

## 20. Effects on the Use and Conservation of Energy Resources

As the Proposed Project is an energy project, it will clearly affect the use and conservation of energy resources. The Proposed Project is configured to provide increased electric output (as compared to the current operations) with natural gas as the primary fuel. Ultra low sulfur diesel fuel is proposed for a very limited time in the event of natural gas curtailments or shortages. The DEIS will discuss the Proposed Project's use of energy resources, its efficiency expectations, as well as its proposed outputs. In addition, the DEIS will discuss possible green building techniques, renewable/conservation energy strategies, and other potential opportunities to ways to help the community become more "green."

## Documents and References to Accompany the DEIS

- The Berrians Unit 1 Project Environmental Assessment Statement, December 2001.
- The new turbine project plan layout and description for Phase I and Phase II.
- Descriptions of the equipment to be used.
- The Title V Permit Modification Application covering both Phase I and Phase II.
- The Air Quality Modeling Protocol and results for both Phase I and Phase II.
- Prior cumulative impact air quality information relevant to this project. Air quality analysis may be referenced for other relevant projects in the NYC area.
- The Noise Assessment Results.
- The Environmental Justice Plan including the health outcome data analysis.
- Relevant Agency correspondence, such as:
  - FAA Notice of Proposed Construction 2/12/2008 including topographic map
  - New York State Office of Parks, Recreation and Historic Preservation letter dated March 10, 2008
  - NYPA letter dated May 13, 2008, requesting interested agency status.
  - PSC letter dated June 4, 2008, with initial comments and questions.
  - DEC letters to interested/affected agencies and responses.
- The list of firms and persons responsible for preparing the DEIS and accompanying project materials.



## **Appendix G**



NRG representatives and its consultant are actively involved in the Environmental Justice Advisory Group for the Public Service Commission (“PSC”) known as Working Group VIII (“WG VIII”) of the Energy Efficiency Portfolio Standard. WG VIII has been meeting regularly for several months with a charter from the PSC Administrative Law Judges to provide recommendations prior to a full report being submitted to the PSC. WG VIII is focused on the issues that affect peaking unit operation and electric system reliability and its impacts on minority and low-income communities. The WG VIII is comprised of generating facility owners, the NYSDEC, the PSC, NYSERDA, the New York Independent System Operator (NYISO), environmental justice and community action groups, and others.



# STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

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CASE 07-M-0548 - Proceeding on Motion of the Commission Regarding  
an Energy Efficiency Portfolio Standard

December 17, 2008

### TO ACTIVE PARTIES:

The purpose of this letter is to inform you of upcoming schedules and processes to elicit comments on the work and recommendations of Working Groups V, VII, and VIII. Although not all the dates are in place, we wanted to respond today to parties' inquiries concerning scheduling, with the upcoming holidays and the schedules concerning comments on energy efficiency program filings looming. We assure you that no additional deadlines in this docket will affect your holidays. We are well aware of the strains on resources posed by successive comment deadlines and we are attempting to avoid overlapping with the schedule established by the December 12, 2009 letter to parties from Paul Agresta concerning Fast Track programs.

We remind you that by its Notice Soliciting Comments (issued November 21, 2008), the Commission established a comment schedule for the NYSERDA *Strategy for Enhanced Energy Codes and Appliance Standards in New York*, filed and served on October 15, 2008. The Notice provides for parties to submit comments on the NYSERDA proposal no later than January 12, 2009, and reply comments no later than January 19, 2009. Because January 19, 2009 is a holiday (Martin Luther King, Jr. Day), comments may be submitted the following day.

We intend to issue a more detailed ruling at year's end, establishing a process and schedule for comments on the final reports of Working Groups V and VII, the demand reduction section of Working Group VIII's report, and the proposals for scope and schedule made by the environmental justice section of Working Group VIII's report and subsequent filings.

We appreciate parties' patience with these shifting schedules and wish you all a happy holiday.

Rudy Stegemoeller  
Eleanor Stein  
Administrative Law Judges



Case 07-M-0548  
Energy Efficiency Portfolio Standard

Working Group VIII – Demand Response and Peak Reduction

Technical Study Group and Advisory Committee

Proposed Scope of Work

December 3, 2008

Introduction

Certain low income neighborhoods in New York, and very often communities of color, are host to peak generation facilities that are among the higher emitting units in the state. These units are posited to have negative health impacts on the local population. Working Group VIII (WG VIII) was given two charges related to environmental justice (EJ) issues<sup>1</sup>. First, WG VIII was asked to consider the need for a study to assess health impacts on communities that host peak generation facilities to a disparate extent. Secondly, WG VIII was asked to evaluate whether the output from such units could be partially or fully replaced or displaced with clean demand response, load shifting technologies and energy efficiency (collectively ‘demand-side management’ (DSM) resources). Working Group VIII requires technical assistance to evaluate whether specific generators can be replaced or their operations reduced. Therefore, per the recommendation of WG VIII, this Technical Study Group (TSG) was established to investigate the practicality of the second charge and report the results to an advisory committee which will consist of members from WG VIII and other interested parties. The purpose of this Scope of Work is to describe the charge to the TSG and Advisory Committee, reference the list of criteria developed by Working Group VIII for use by the TSG in its initial assessment, summarize the data to be collected and evaluated by the TSG and provide a list of deliverables and schedule for this effort.

Overview of the Charge to the TSG

The TSG will consist of staff from the New York State Department of Public Service, New York State Department of Environmental Conservation (NYSDEC), New York Independent Operator (NYISO), Consolidated Edison Company (Con Ed), New York State Energy Research and Development Authority and Sustainable South Bronx. The TSG will conduct an initial assessment to determine whether output from any of the simple-cycle turbines<sup>2</sup> located within a half-mile of an EJ community could potentially

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<sup>1</sup> “Procedural Ruling concerning EEPs Design Issues”, July 3, 2008. Case Number: 07-M-0548. Page 4.

<sup>2</sup> In general, the simple-cycle turbines under review have a capacity factor less than 10 percent during the ozone season and do not have post-combustion controls.



impact air quality within the EJ community and be partially or fully replaced or displaced with clean DSM resources. The scope of the initial assessment by the TSG is limited to data collection, review, and analysis to gain an understanding of: 1) the role each facility plays for providing reliable operation of the electric delivery system; and 2) the environmental impacts from each facility. No system reliability modeling will be conducted by the TSG<sup>3</sup>. The analysis being conducted by the TSG has not been conducted before in any jurisdiction. Therefore, the TSG will detail their process and results of their work in a final report that will be delivered to the Advisory Committee. Also in the report, the TSG will indentify the simple-cycle turbines, if any, that could be partially or fully replaced or displaced with clean DSM resources without adversely impacting reliability<sup>4</sup>. The proposed due date for the report was December 1, 2008. The TSG is requesting an extension to April 3, 2009 to complete this assessment and prepare a report to the Advisory Committee.

#### Overview of the Charge to the Advisory Committee

The Advisory Committee will consist of members from Working Group VIII and other interested parties. Representatives of EJ organizations and generators will be invited to participate in the Advisory Committee. The Advisory Committee will be the governing body for this study and will: 1) further consider the two Working Group VIII charges relating to environmental justice (EJ) issues that are identified earlier in this document; 2) assist in securing and reviewing information provided by and to the TSG ; 3) evaluate a range of potential recommendations that may address the two charges, including those referenced by Working Group VIII in its report to the ALJs, dated October 17, 2008; and 4) provide a final recommendations report to the ALJs. The proposed due date for the recommendations report was December 1, 2008. The Advisory Committee is requesting an extension to May 15, 2009 to prepare the final recommendations report to the ALJs.

#### List of Criteria for use in the TSG's Initial Assessment

Working Group VIII developed a list of seven criteria for the TSG to use in the assessment:

1. emissions from the units (NO<sub>x</sub> and PM);
2. actual or modeled impacts of the emissions on ambient air quality to the identified EJ communities;
3. role of the facilities for providing the reliable operation of the transmission system;
4. electricity generated (MWh/year and MWh/ozone day);

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<sup>3</sup> System reliability modeling may be recommended as a future activity in the final report to the administrative law judges assigned to this case.

<sup>4</sup> The report is expected to provide a preliminary assessment of the characteristics (magnitude, location, time frame) of DSM resources that will be required. This assessment may include sensitivity analyses on the penetration of clean DSM resources.



5. number of residents within a half-mile of the facilities;
6. age of the units; and
7. future plans for the units.

The TSG will consider these and other criteria as necessary and appropriate to complete the assessment.

#### Data Needed to Conduct the Initial Assessment

The data to be collected for the assessment are summarized in Table 1. The members of the TSG may use all or subsets of the data presented in Table 1, or other data as necessary. To the maximum extent possible, three year data sets will be used. The data will be processed into spreadsheets and other formats requested by TSG members.

#### Deliverables and Schedule

In the October 17, 2008 WG VIII report, the proposed due date for submitting the final report and recommendations was December 1, 2008. However, such a due date does not allow sufficient time to conduct the assessment and develop the recommendations.

The following schedule is proposed for the TSG assessment and submission of the final report to the ALJs and Advisory Committee:

<u>Date</u>	<u>Deliverable</u>
November 21, 2008	Submittal of the Scope of Work to Advisory Committee and ALJs.
January 22, 2009	Completion of data collection tasks.
February 4, 2009	Completion of data processing tasks.
February 18, 2009	TSG Meeting
February 25, 2009	Initial draft of report to Advisory Committee (internal draft to TSG members).
March 4, 2009	Submit report to Advisory Committee
March 18, 2009	Advisory Committee Meeting
April 2, 2009	Finalize report to the Advisory Committee.



April 3, 2009                      Submit report to the Advisory Committee.

The TSG will meet periodically via teleconference on an as needed basis.

The following schedule is proposed for the Advisory Committee meetings and submission of the final recommendations report to the ALJs. Meetings will be held via teleconferences from 1:00 pm to 2:30 pm on the following dates:

December 10, 2008  
January 7, 2009  
January 21, 2009  
February 3, 2009  
February 17, 2009  
March 11, 2009  
March 25, 2009  
April 7, 2009  
April 22, 2009  
May 6, 2009

The final recommendations report will be submitted to the ALJs on May 15, 2009.



Table 1. Data to be Collected

Description	Level of Detail	Criterion	Source
Emissions Data	Annual, Facility, NO <sub>x</sub> , PM	1	NYSDEC
	Hourly for each unit, NO <sub>x</sub> , SO <sub>2</sub>	1, 2	EPA Clean Air Markets Division (CAMD)
	Annual, Facility, NO <sub>x</sub> , SO <sub>2</sub>	1, 2	EGRID
	Stack Parameters (height, flowrates)	2	Title V Permit Applications (NYSDEC)
Generation Data	Annual, Facility	3, 4	EGRID
	Hourly for each unit	3, 4	CAMD
Nameplate Rating and Age	Unit	4, 6	Ozone Transport Commission, Title V Permits
Reliability Role	Facility, Unit	3	NYISO, Con Ed
Demographic Data	Define EJ communities, number of people living within 0.5 miles of facility	5	U. S. Census Bureau, NYSDEC
Future Plans for Facilities	Facility, Unit	7	Facility Owners