

CASE 01-F-1276

TGE'S PROPOSED STIPULATIONS, Revised Draft: March 12, 2002

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Note: page numbers correspond to the 3/12/02 no-redlines version of the stipulations.

NEW YORK STATE
BOARD ON ELECTRIC GENERATION
SITING AND THE ENVIRONMENT

IN THE MATTER

of the

Case 01-F-1276

Application by TransGas Energy Systems LLC
for a Certificate of Environmental Compatibility
and Public Need to construct and operate
a nominal 1100-megawatt natural gas-fired
combined-cycle combustion turbine electric
generating plant in the City of New York, Borough
of Brooklyn (Kings County), New York

THE PARTIES HERETO stipulate and agree as follows:

1. The TransGas Energy Facility (Project) is discussed in an Article X Preliminary Scoping Statement submitted to the Chairman of the New York State Board on Electric Generation Siting and the Environment in September 2001 by TransGas Energy Systems LLC (Applicant). The term "Project" as used herein includes the energy facility and all improvements, including buildings, structures, fixtures and other improvements associated with the energy facility, as well as the interconnections, subject to the Siting Board's jurisdiction. The Article X Application will describe off-site facilities, associated with the energy facility, not subject to Siting Board jurisdiction. The term "interconnections" as used herein is understood to have the following specific meaning:

Any area to be disturbed for roadway infrastructure dedicated to the Project, any area to be disturbed for structures or conduits dedicated to conveying water to and wastewater from the Project, any area to be disturbed for structures or conduits dedicated to conveying natural gas to the Project, any area to be disturbed for structures or conduits dedicated to conveying the electrical output of the Project; or any area to be disturbed for structures or conduits dedicated to conveying the thermal output of the Project.

2. Parties hereto may limit their concurrence to one or more of the specific subject area stipulations by so indicating in a notation next to their signature. A signature without any such notation shall indicate concurrence in all of the specific subject area stipulations.
3. Those signing these stipulations agree that, as of the date hereof, the studies outlined herein constitute all the necessary studies concerning the subject matter of these stipulations that Applicant must provide to satisfy Section 164 of the Public Service Law. Except as provided herein, the signatories agree not to request the Applicant directly, or

- by motion to the Presiding Examiner, Chairman of the Siting Board, or the Siting Board, to provide additional studies concerning the subject matter of these stipulations in connection with the Article X proceeding.
4. Under any of the following circumstances, the Applicant agrees to ~~consult with the signatories about~~ performing any additional studies, evaluations or analyses:
 - (a) A new statute, regulation or final, non-reviewable judicial or federal administrative regulation, ruling or order is adopted subsequent to the date of these stipulations which necessitates such additional studies, evaluations, or analyses;
 - (b) The Applicant proposes a change in the Project or other inputs to the stipulated studies, evaluations or analyses that would reasonably be expected to materially affect the results of the studies, evaluations or analyses;
 - (c) New information is discovered during the conduct, or as a result of the stipulated studies, evaluations or analyses that materially affect the results of the studies;
 - (d) The Chairman of the Siting Board, the Siting Board or Presiding Examiner, requires an additional study, evaluation, or analysis; or
 - (e) The Department of Environmental Conservation determines that the Prevention of Significant Deterioration (PSD), Subpart 201-6 preconstruction permit and certificate to operate, and/or, if required, individual State Pollution Discharge Elimination System (SPDES) permit application has been submitted and found to be incomplete pursuant to Uniform Procedures Regulations (6 NYCRR Part 621).
 5. After the Chairman of the Siting Board determines that the application complies with Section 164 of the Public Service Law, if the signatories, in any of the circumstances listed above, reach agreement as to the implementation of any additional studies, evaluations or analyses, such agreement shall be set forth in a new stipulation, which shall include the agreement of Applicant to extend the statutory deadline, if necessary, for completion of the certification proceeding, but only if and only to the extent necessary to provide sufficient time to permit any such studies, evaluations or analyses to be conducted and reviewed. Any of the signatories, in the circumstances listed in paragraph 4, who do not reach such agreement, shall be free to submit the matter to the presiding examiner for resolution and shall not be restricted from pleading that Applicant must provide additional studies, evaluations or analyses related thereto during the Article X proceeding regarding the subject matter of these stipulations. If the Chairman of the Siting Board, the Siting Board, or the Presiding Examiner requires an additional study, evaluation, or analysis, the statutory deadline for completion of the certification proceeding will be extended to provide sufficient time as specified in such decision to permit such study, evaluation, or analysis to be conducted and reviewed, unless (in the case of a ruling by the Presiding Examiner) Applicant seeks interlocutory review.
 6. In the Article X Application, Applicant will set forth proposed terms and conditions that it believes to be appropriate for imposition in any Certificate granted by the Siting Board.

- 7. Nothing herein shall constitute a waiver by DEC of its authority to make a determination of completeness, pursuant to ECL Article 70 and 6 NYCRR Part 621, in connection with the Applicant's application for any federally delegated permit for the Project.

_____ Date	_____ TransGas Energy Systems LLC
_____ Date	_____ NYS Department of Public Service
_____ Date	_____ NYS Department of Environmental Conservation
_____ Date	_____ NYS Department of Health
_____ Date	_____ City of New York
_____ Date	_____ [other parties]

PROPOSED STIPULATION NO. 1: AIR QUALITY AND METEOROLOGY

The Application will examine the impacts of criteria pollutants and other NYSDEC regulated pollutants (Study) and non-criteria pollutants (Non-Criteria Pollutant Study) from the Project on air quality. The components of the Study will include identification of climate and air quality conditions, an inventory of the Project's proposed emission sources, and an assessment of Project technology and design, emissions, impacts, and certain cumulative impacts. The components of the Non-Criteria Pollutant Study will include identification of emissions constituents, an assessment of Project impacts, and an assessment of certain cumulative impacts for criteria pollutants. If required pursuant to paragraphs 3(e) and 3(f) below and subsequent evaluations, the Non-Criteria Pollutant Study also will include a cumulative impact assessment and a multipathway risk assessment consistent with approaches acceptable to NYSDOH# ~~necessary, the Non-Criteria Pollutant Study also will include a multipathway risk assessment.~~

1. To the extent consistent with the following paragraphs contained in this stipulation, the methodologies, standards, and definitions for assessing air quality will follow procedures outlined, and use data contained, in the following documents:

For performing air quality dispersion modeling:

New York State Department of Environmental Conservation (NYSDEC), Air Guide-26, NYSDEC Guidelines on Modeling Procedures for Source Impact Analyses (December 1996).

NYSDEC, Air Guide-36, Emission Inventory Development for Cumulative Air Quality Impacts Analysis (June 1995), if necessary.

Air Modeling Protocol to be established to the satisfaction of NYSDEC and DPS Staff specifically for this case (hereinafter Air Modeling Protocol), and once approved, to be appended hereto as Attachment I.

~~NYSDEC, Air Guide 12, Review of Major Sources (for PSD and increment consumption only).~~

USEPA, Guidelines on Air Quality Models, EPA450/12-78-027R USEPA, Appendix W of 40 CFR Part 51.

New York City, Mayor's Office of Environmental Coordination, City Environmental Quality Review Technical Manual (~~December 1993~~2001).

For determining stack height:

USEPA, Guidelines for Determination of Good Engineering Practice Stack Height (EPA Technical Support Document for the Stack Height Regulations), Document Number EPA-450/4-80-023R (June 1995).

NYSDEC Air Guide 26 (referenced above)

For impacts on soils and vegetation:

USEPA, A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals, Document Number EPA-450/2-81-078 (1981).

For quantification and assessment of the Project's contribution to the New York State total deposition of sulfates and nitrates, in accordance with the State Acid Deposition Control Act:

Source Specific Acidic Deposition Impacts for Permit Applications - Memorandum from Leon Sedefian to IAM Staff (March 4, 1993).

For performing visibility degradation modeling per Prevention of Significant Determination (PSD) regulations:

USEPA, Workbook for Plume Visual Impact Screening and Analysis. Document Number EPA-454/R-92-023 (October 1992).

[For performing visible water vapor dispersion modeling:](#)

[VISPLUME: An ISCST3 Post-processor to Calculate Visible Steam Plume Frequency: User's Manual and Technical Documentation, Prepared by TRC Corporation, May 2001.](#)

For any required control technology evaluations:

US EPA 40CFR Part 60, Subpart GG;
US EPA 40CFR Section 52.21;
NYSDEC 6 NYCRR Subpart 231-2;
US EPA BACT/LAER Clearinghouse, [including recently issued permits for other combined cycle facilities](#);
US EPA, Draft New Source Review (NSR) Workshop Manual (October 1990);
and
US EPA 40CFR Part 63, Subchapter B.

For non-criteria pollutant ambient air [limitations-guidelines](#) and benchmarks:

NYSDEC.DAR-1.AGC/SGC Tables. Division of Air Resources, Bureau of Stationary Sources, July 12, 2000.

USEPA's On- Line Integrated Risk Information System (IRIS) Database.

USEPA's Annual Health Effects Assessment Summary Tables (HEAST).

USEPA's National Center for Environmental Assessment (NCEA).

US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR).

Risk-based ambient air criteria developed by the New York State Department of Health (DOH) or other recognized organizations, such as the World Health Organization.

CRITERIA AND OTHER REGULATED POLLUTANTS

2. The air quality Study will include:

- (a) An assessment of existing climate data for the Project area. Data will be obtained from climate summaries prepared by the National Oceanographic and Atmospheric Administration for LaGuardia Airport as described in the Air Modeling Protocol, the average and extreme of wind direction speed, temperature, and precipitation for the Project site. Upper air data from Atlantic City, NJ, and Brookhaven, NY, will be used as further described in the Air Modeling Protocol.
- (b) An assessment of existing air quality levels and air quality trends for criteria pollutants in the region surrounding the Project, including air quality levels and trends taken from NY, New Jersey and Connecticut air quality summaries and air quality trend reports as described in the Air Modeling Protocol. For its PSD Application to the Department of Environmental Conservation, the Applicant shall submit a request for a waiver approval for PSD pre-construction monitoring, which will be issued by EPA. The PSD application shall be submitted upon waiver approval.
- (c) An assessment of the impacts from quantifiable criteria pollutant emissions, including those generated during construction of the Project.
- (d) A control technology assessment for pollutants subject to Prevention of Significant Deterioration (PSD) review and Nonattainment New Source Review (NNSR) promulgated under 40 CFR 52.21 and 6 NYCRR 231, respectively, to determine the best available control technology (BACT) and lowest achievable emission rate (LAER) for the applicable pollutants. NO_x BACT/LAER determination will include an analysis of Selective Catalytic Reduction (SCR) and SCONO_x and XONON.
- (e) An alternative sites, sizes and control techniques analysis per Section 231-2.4(a)(2)(ii) will be provided in support of the proposed project. New stationary combustion turbines are subject to 40 CFR part 63 Subpart B – Requirements for the Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections 112(g) and 112(j). If the Project's Hazardous Air Pollutant (HAP) emissions exceed the regulatory thresholds, a case-by case determination of the Maximum Achievable Control Technology (MACT) for major sources will be conducted to determine an emission limit or control technology. ~~New stationary combustion turbines are subject to 40 CFR part 63 Subpart B – Requirements for the Control Technology Determinations for Major~~

~~Sources in Accordance with Clean Air Act Sections 112(g) and 112(j). This regulation requires a case by case determination of the Maximum Achievable Control Technology (MACT) for major sources, which exceed the annual emission thresholds of 10 tons per year for an individual Hazardous Air Pollutant (HAP) or 25 tons per year for total HAP emissions. If the Project HAP emissions exceed the regulatory thresholds, an analysis will be conducted to determine an emission limit or control technology associated with the best controlled similar source. The Applicant will also provide estimated HAP emission rates with and without an oxidation catalyst. The analyses required per Part 231-2 in addition to the "top-down" BACT per PSD rule will be provided.~~

- (ef) Pursuant to Air Guide 26, an assessment of an optimal stack height taking into consideration Good Engineering Practice (GEP) stack height for the Project and air quality related values, visual impacts, and other considerations such as aesthetics and proximity of LaGuardia Airport.
- (fg) An assessment of stack emissions of criteria pollutants and other regulated air pollutants, stack emissions being provided in hourly and annual estimates based on manufacturer's data, available emission factors, control equipment efficiencies, and other data or regulatory specifications related to the design of the Project and the regulatory guidance in Paragraph No. 1.
- (gh) A calculation of the number of NO_x and VOC emission offsets to be obtained at a 1.3 to 1.0 ratio; a calculation of the number of CO emission offsets (if any) to be obtained; and how those offsets will be obtained in accordance with 6 NYCRR 231. Also, a discussion of the applicability and requirements of the "cap and trade" program pursuant to the proposed 6 NYCRR 204 and/or 227-3 and the federal Title IV acid rain program. An acid rain permit application will be submitted to NYSDEC ~~and will be provided.~~
- (hi) An assessment of the potential impacts to ambient air quality that may result from criteria pollutant emissions from the Project, the modeling to be done in accordance with the Air Modeling Protocol, and a computer input (including meteorological data) and output files ~~output~~ of the dispersion modeling results shall to be provided to NYSDEC and DPS Staff. The maximum pollutant specific impacts of the facility will be displayed in graphical format on a map of the surrounding community. A wind rose of the meteorological data will be provided.
- (ij) An assessment of visibility impacts from stationary combustion turbine emissions of NO_x and PM₁₀ from the Project, as described in the Air Modeling Protocol.
- (jk) An assessment of the impacts to soils and vegetation that may result from criteria pollutant emissions of the Project using EPA screening criteria.
- (kl) An assessment of the impacts of any economic growth that may result from development of the Project in accordance with the Air Modeling Protocol.
- (lm) An assessment of the predicted air quality impacts from the dispersion modeling analyses to the Significant Impact Levels and Prevention of Significant Deterioration (PSD) increments and air quality standards. The PSD application will address the Brigantine Class I area in the assessment of impacts on Class 1 areas.

- (~~mn~~) In accordance with the State Acid Deposition Control Act, an assessment of the Project's contribution to the New York State total deposition of sulfates and nitrates at defined sensitive receptors as identified in the Air Modeling Protocol.
- (~~no~~) A cumulative source impact analysis for any criteria pollutant for which the Project has impacts above Significant Impact Levels.
- (~~p~~) The additional sources to be analyzed to determine whether the Project, in conjunction with existing and proposed major sources, will cause or contribute to exceedances of applicable national or state ambient air quality standards (NAAQS and NYAQS) or PSD increments, will include those identified as "nearby" existing sources, as defined in the EPA Modeling Guidelines and NSR Workshop Manual, and by the Air Guide 26 procedures. The proposed inventory sources also will include all other proposed major electric generating facilities in New York State for which applications have been filed with the Siting Board, ~~and which applications have received a compliance determination from the Siting Board Chairman~~, and will be limited to those located within a circular area defined by the Significant Impact Area (SIA) of the proposed Project, plus 50 kilometers, at the time of NYSDEC approval of the Project's cumulative source inventory per Air Guide 36 requirements. The inventory of existing major sources shall be developed using data obtained from the NYSDEC and New Jersey and Connecticut. The inventory, if necessary, shall be included as an appendix to the PSD application and verified by the source state or per Air Guide 36 requirements and the Air Modeling Protocol. The PSD application will be submitted only after the inventory is approved by NYSDEC. All information submitted in support of the inventory of nearby sources, including verification worksheets per Air Guide 36 requirements will become public information. ~~Following approval of the major source inventory, no further sources subsequently proposed or modified shall be added.~~
- (q) Startup and shutdown conditions will be addressed. Ancillary emission sources and accidental release scenarios will be included and specified in the air modeling protocol.
- ~~(o) If applicable under section 112 (r) of the Clean Air Act, an analysis of an accidental release scenario for ammonia performed to meet the requirements of USEPA's regulations implementing section 112 (r).~~
- (~~pr~~) An Environmental Justice (EJ) Analysis will be performed as part of the PSD application. The EJ analysis will be based on requirements of Presidential Order 12898 and on guidelines described in ~~an April 3, 2000 letter from Mr. Steven Riva of the USEPA Region II Interim Environmental Justice Policy, dated December 2000 to Mr. Leon Sedefian of NYSDEC, per the methodology presented in Air Modeling Protocol.~~
- ~~(r) A discussion of the: regulatory status and steps to be taken to implement the PM-2.5 standards; approved, publicly available NYSDEC data and analytical tools to evaluate PM-2.5; and the Project's ability to control emissions and formation of PM-2.5.~~

NON-CRITERIA POLLUTANTS

3. The Non-Criteria Pollutant Study will include:

- (a) A review of pertinent available data on non-criteria pollutants that ~~are~~ may be emitted by combustion sources at the Project, and identification of emission factors for these pollutants, such as those published by USEPA, including formaldehyde, ammonia, and any other non-criteria pollutants with emission factors such as those published by USEPA that may be identified after review of available emissions data. The specific source, including publication date, of each emission factor will be clearly identified and referenced in the Application.
- (b) An evaluation of the potential for emissions of non-criteria pollutants from the makeup water to the Project, including those that might be associated with on-site evaporative or drift losses from the steam cycle, the combustion turbine inlet air-cooling water, and compressor wash water.
- (c) An assessment of the emission rates for non-criteria pollutants that may be emitted from sources at the Project, including a detailed description of all emissions calculation methodologies with appropriate equations and examples accompanying or specifically cited in any corresponding tabulated emissions data presented in the application.
- (d) An estimation of the maximum potential ground level and elevated receptor air concentrations (short-term and annual averages) of non-criteria pollutants ~~for due to~~ the Project, quantified using the models and approach as discussed in the Air Modeling Protocol. A computer output file of the dispersion modeling results will be provided to NYSDOH staff.
- (e) A comparison of the maximum predicted ground level and elevated receptor air concentrations to benchmark air concentrations for both short-term and long-term exposures. These benchmark air concentrations will include the most recent: 1) NYSDEC Short-term and Annual Guideline Concentrations (SGCs and AGCs); and 2) Health risk-based criteria, to include Reference Concentrations (RfCs) for noncancer effects and air concentrations associated with an incremental lifetime risk of one-in-one million for cancer, obtained or derived from USEPA or other well-recognized organizations as summarized in item 1 of this stipulation.
- (f) If the maximum modeled air concentration of a non-criteria pollutant from the Project exceeds 10% of the corresponding health risk-based benchmark air concentration for non-cancer effects or is equal to or exceeds the corresponding benchmark air concentration for cancer risk, the Applicant will consult with the NYSDOH to determine if a cumulative air quality analysis is needed in the Application. If such an analysis is required, the Applicant will perform the analysis according to an approach developed in consultation with ~~consult with the NYSDOH and NYSDEC to develop an acceptable approach for performing the analysis.~~
- (g) The Application will include an evaluation of the need for a multipathway risk assessment if (1) the maximum modeled air concentration for any non-criteria pollutant from the Project exceeds 10% of the corresponding health risk-based benchmark air concentration, or (2) the maximum modeled air concentration for any persistent, bioaccumulative and toxic non-criteria pollutant exceeds 1% of the corresponding health risk-based benchmark air concentration, and the modeled

plume could impact beef or dairy farms, or an area that could reasonably support such farms. The Application will include a multipathway risk assessment for any pollutant that meets either of the above criteria, is persistent in the environment, has the potential to accumulate in soil, water, fish, homegrown vegetables, or beef and dairy products, and, based on the information available in the source identified above in this stipulation, is of significant toxicological concern via the ingestion pathway relative to the inhalation pathway of exposure. If the analysis described above demonstrates that an evaluation of the need for a multi-pathway risk assessment is necessary, the Applicant will consult with-, the Applicant will perform that evaluation consistent with an approach acceptable to NYSDOH.

OTHER ANALYSES

4. The Application will provide a stack plume visibility analysis to assess the predicted extent and frequency of any visible water vapor plumes created by the Project in accordance with procedures set forth in the Air Modeling Protocol. The results of this analysis will be used for the visibility assessment discussed in the stipulation entitled "Aesthetics and Visual Resources." The visibility analysis shall consider the effects of both operating modes and weather on stack plume visibility.
5. The Application will include an assessment based on publicly available information of the global warming (global climate change) issue associated with the emission of carbon dioxide and other global warming gases. The assessment will include: 1) a summary of the emission reduction goals of the Kyoto Protocols; 2) an estimate of the proposed facility's annual and life cycle emissions of carbon dioxide and/or other significant global warming gases; 3) a comparison of the Project's emissions with New York State, national and/or global emissions; and 4) a conclusory statement as to the probable importance of the proposed facility's emissions relevant to parts 1-4³ above.
6. If aqueous ammonia is stored on-site for use in an SCR system, irrespective of applicability under section 112 (r) of the Clean Air Act, an analysis of an accidental release scenario for ammonia performed for the Article X application following EPA's procedures for off-site consequence analysis. If ammonia-on-demand is proposed, no such analysis is required. However, such ammonia-on-demand system will be described in the Article X application.
7. A discussion of:
 - (a) The sources of PM-2.5, the nature of PM-2.5 emissions, and the chemical compositions of PM-2.5;
 - (b) The regional transport component of PM-2.5 and its significance, if any;
 - (c) The state of the science regarding PM-2.5 and its health effects, including general health impacts and health risks associated with PM-2.5;
 - (d) The normal and expected concentration for PM-2.5 in the areas surrounding the proposed Project, on the basis of approved, publicly available NYSDEC

monitoring data, and how the contribution of one source will likely affect those concentrations;

- (e) Memorandum regarding Interim Implementation of New Source Review Requirements for PM-2.5, from John S. Seitz, Director of Air Quality Planning and Standards (1997), and whether, and to what extent, the state of the art in measuring ambient PM-2.5 levels and PM-2.5 emissions from stationary sources has changed since problems were identified in the EPA 1997 guidance memorandum;
- (f) Available and practicable mitigation strategies and control technologies for PM-2.5 emissions from the Project;
- (g) Regulatory status and steps to be taken to implement the PM-2.5 standards.

PROPOSED STIPULATION NO. 2: CULTURAL RESOURCES

The Application will include a study of the construction and operation of the Project on cultural resources. To the extent consistent with and applicable to, the substantive terms of the paragraphs set forth in this stipulation, the cultural resources study for this Project shall be implemented in accordance with the Guidance and Regulatory Documents listed below:

New York State Archaeological Council Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State (1994).

Section 14.09 of the New York Parks, Recreation, and Historic Preservation Law.

Office of Parks, Recreation, and Historic Preservation (OPRHP), 9 NYCRR Part 428.

The Application will include a summary of the nature of the probable environmental impact on any historic and cultural resources identified and address how those impacts are avoided or minimized. The OPRHP Project Coordinator will be consulted throughout the investigation and DPS Staff, and interested parties will be informed of the status and results of the investigations.

ARCHAEOLOGICAL RESOURCES

1. The Study will include:
 - (a) a review of historical Sanborn maps to document the extent of prior disturbance at the Project site and off-site interconnections, and the potential for any archaeological resources of significance, including submarine artifacts; and
 - (b) consultation with the OPRHP and DPS Staff regarding the appropriateness of the proposed scope of studies and the need for any archaeological investigations at the Project site.
2. All archaeological materials recovered during the Project cultural resources investigation will be cleaned, catalogued, inventoried and curated according to New York Archaeological Council standards. To the extent possible, recovered artifacts will be identified as to material, temporal or cultural/chronological associations, style and function. The Project archaeologists will provide temporary storage for artifacts until a permanent curatorial facility is identified.
3. The Application will include an Unanticipated Discovery Plan that will identify the actions to be taken in the unexpected event that resources of cultural, historical, or archaeological importance are encountered during the excavation process. This plan will include a provision for work stoppage upon the discovery of possible archaeological or human remains. In addition, the plan will specify that the methodology used to assess

any discoveries will follow the most recent Standards for Cultural Resource Investigations and Curation of Archaeological Collections in New York State. Such an assessment, if warranted, will be conducted by a professional archaeologist, qualified according to the standards of the New York State Archaeological Council and the National Park Service [36 CFR 61].

HISTORIC RESOURCES

4. The analysis of potential impacts to Historic Resources shall include:
- (a) identification and, if requested by OPRHP or NYC Landmarks Preservation Commission, field inspection of site or structures listed or determined eligible for listing on the State or National Register of Historic Places within one mile of the Project site;
 - (b) consultation with appropriate state and local agencies, including DPS Staff, DEC Staff, OPRHP and New York City Landmarks Preservation Commission regarding the appropriateness of the scope of work for the architectural/visual survey prior to the commencement of the survey, so as to identify designated landmarks and National Register listed or eligible properties within the Area of Potential Effect, based on a viewshed map within one mile of the Project site;
 - (c) an analysis of impacts due to construction and operation of the Project on properties identified in paragraph 4(b) above ~~listed sites, as well as on the "Monitor Site" [Monitor site subject to Task Force signature]~~, including photographs depicting the potential views toward the Project site from the identified historic resources;
 - (d) an analysis of mitigation needs for potential visual effects of facility construction and operation on historic resources. A summary statement addressing the potential impact on historic resources will be included.

PROPOSED STIPULATION NO. 3: ELECTRIC TRANSMISSION FACILITIES

1. The methodology of the studies made to support the application, which are discussed herein, requires that they either be performed by, or under the auspices of, the New York Independent System Operator (NYISO), or be approved by the NYISO Staff.
2. The application will include an Interconnection Study (Interconnection Study), consisting generally of a design study and system reliability impact study. The Interconnection Study will include the necessary technical analyses (Thermal, Voltage, Short Circuit and Stability) to evaluate the impact of the interconnection of the Project on the system being connected to the NYISO system and the New England Independent System Operator (NE-ISO) system and Pennsylvania-Jersey-Maryland (PJM-ISO) systems. Both peak (summer and winter) and off-peak load conditions will be investigated, and extreme contingency scenarios will be evaluated at various load levels in accordance with the "NPCC Basic Criteria for the Design and Operation of Interconnected Power System," the NYISO Transmission Expansion and Interconnection Manual and the interconnection criteria and planning criteria of the Transmission Owner (TO) with whose system the project will interconnect. The analysis will include the currently available data regarding the requirements of these systems, and the study will be done in consultation with Central Hudson Gas & Electric Corporation (CHG&E), Consolidated Edison Company of New York, Inc. (ConEd), Long Island Power Authority (LIPA), New York Power Authority (NYPA), New York State Electric and Gas Corporation (NYSEG), Niagara Mohawk Power Corporation (NMPC), Orange and Rockland Utilities, Inc. (O&R), Rochester Gas & Electric Corporation (RG&E), NE-ISO, and PJM-ISO. The Interconnection Study will also include: the new Facilities to be installed as part of the Project providing circuit connection between the Project site and feeders # 61, 62 and 63 (three existing 345kV underground cables from Rainey to Farragut)~~[facilities to be identified by Con Edison]~~, as well as any other system upgrades required. The application will include a tabulation showing compliance/non-compliance with criteria of the following entities that are affected: CHG&E, ConEd, LIPA, NMPC, NYPA, NYSEG, O&R, RG&E, NYISO, PJM-ISO, NE-ISO, the Northeast Power Coordinating Council(NPCC), and the North American Electric Reliability Council (NERC).
3. Thermal Analysis: The applicant will calculate transfer limits for the base year 2006 system for the following interfaces: LIPA, Con Ed cable system, UPNY-Con Ed, Central East, Total East, PJM-NY, and NE-NY. The applicant will evaluate the thermal performance of all pertinent system components affected by the Project, such as transmission cables, transmission lines, and transformers during normal and emergency conditions established in accordance with the criteria listed in paragraph 2 above, to ensure that these components operate within their rated load capabilities.
4. Voltage Analysis: The applicant will evaluate the voltage performance of the system during normal and emergency conditions to ensure that established voltage limits are maintained at all pertinent system buses. Winter and summer peak and off-peak system load conditions will be analyzed. Emergency conditions examined will include the most severe contingencies established in accordance with the criteria listed in paragraph 2

above. The voltage conditions will be evaluated prior to and following those contingencies.

5. Stability Analysis: The applicant will evaluate the transient stability performance of the Project with the interconnected system during and after the most severe system disturbances established in accordance with the criteria listed in paragraph 2 above. Summer and winter peak and off-peak system load conditions will be demonstrated for the following contingencies including but not limited to:
 - (a) a permanent three phase fault on any generator, transmission circuit, or bus section, with normal clearing;
 - (b) a permanent phase to ground fault on any generator, transmission circuit, transformer or bus section, with delayed fault clearing;
 - (c) loss of any element without a fault;
 - (d) a permanent phase to ground fault on a circuit breaker, with normal fault clearing; and
 - (e) loss of a double circuit tower.

In addition, system stability during and after the following extreme contingencies (which exceed in severity the contingencies (a) through (e) above) will be analyzed to determine that there are no effects that may cause widespread system disturbance including but not limited to:

- (f) loss of the entire capability of a generating station;
 - (g) loss of all lines emanating from a generating station, switching station or substation;
 - (h) a permanent three phase fault on any generator, transmission circuit, transformer or bus section, with delayed fault clearing; and
 - (i) the sudden loss of a large load or major load center.
6. Short Circuit Analysis: The applicant will evaluate the effect of interconnecting the Project on the fault duty levels of individual breakers at all 34.5kV, 46kV, 69kV, 115kv, 138kV, 230kv and 345kV substations for CHG&E, ConEd, LIPA, NYPA, NMPC, NYSEG, O&R, RG&E, PJM-ISO and NE-ISO. The analysis will be performed in accordance with the criteria listed in paragraph 2 above. Fault duties will be expressed in symmetrical interrupting values, and will include simulations for three types of faults:
 - (a) three phase-to-ground fault;
 - (b) two phase-to-ground fault; and
 - (c) single phase-to-ground fault.

Where the ratings of the existing breakers are not adequate to interrupt the fault duties determined, alternate measures will be determined or those breakers will be designated to be upgraded to adequate interrupting ratings.

7. Evaluation of Protective Relays: The applicant will evaluate any protective relay changes that may be necessary and provide such proposed changes to CHG&E, ConEd, LIPA, NYPA, NMPC, NYSEG, O&R, RG&E, NYISO, PJM-ISO, and NE-ISO, or provide a document reflecting the agreement with the affected TO's that such a document is not necessary at this time, and state when it will be provided.
8. Auto-Reclosing: If auto-reclosing is applicable to the proposed facility and the interconnection to the transmission system, the applicant shall demonstrate that the machines to be used will withstand high speed auto-reclosing and submit a report demonstrating the ability.
9. Based on the aforementioned Interconnection Study, the application will include:
 - (a) an evaluation of the potential significant impacts of the Project and its interconnection to the New York State transmission system reliability at a level of detail that reflects the magnitude of the impacts. This evaluation shall include transmission systems under the control of the NYISO, PJM-ISO, NE-ISO and transmission systems under the control of the local utility;
 - (b) an analysis of the impacts of the Project and associated Interconnection facilities on voltage stability, thermal limitations, short circuit and transmission interface capabilities as prescribed in the NYISO or the New York State Reliability Council (NYSRC) and NPCC (as applicable) planning and operating standards;
 - (c) a discussion of the benefits and detriments of the Project on ancillary services and the electric transmission system, including impacts associated with reinforcements and new construction necessary as a result of the Project;
 - (d) an analysis of any reasonable alternatives that would mitigate adverse reliability impacts, if any, of the Project on the New York State transmission system; and maintain voltage, stability, thermal limitations, and short circuit capability at levels consistent with standards promulgated by NERC, NYISO, PJM-ISO and NE- ISO, or the NYSRC, as applicable; and
 - (e) an estimate of the increase or decrease in the total transfer capacity across each affected interface. If a forecasted reduction in transfer capability across affected interfaces violates reliability requirements, an evaluation of reasonable corrective measures that could be employed to mitigate or eliminate said reduction will be included.

PRE-APPLICATION PROCESS

10. The draft scope of the Interconnection Study will be provided to system protection and system planning engineers of DPS Staff, NYISO Staff, CHG&E, ConEd, LIPA, NYPA, NYSEG, NMPC, O&R, RG&E, PJM-ISO and NE-ISO for comments and review. Comments received within four weeks of the provision of the draft scope will be incorporated into the scope and a copy of the comments will be provided to DPS staff.

11. Upon finalization, the scope of Interconnection Study will be provided to DPS Staff, NYISO Staff, CHG&E, ConEd, LIPA, NYPA, NYSEG, NMPC, O&R, RG&E, PJM-ISO and NE-ISO. A copy of the transmittal will be provided to Staff.
12. The applicant will keep DPS Staff, NYISO Staff, PJM-ISO, NE- ISO, ConEd, CHG&E, LIPA, NYPA, NYSEG, NMPC, O&R and RG&E advised of the Interconnection Study as it progresses.
13. DPS Staff may request technical conferences with the NYISO or its designee and the applicant, together, from time to time to discuss the Interconnection Study as it progresses.
14. All updates and draft reports will be provided concurrently to DPS Staff, New York TO's, and NYISO Staff (including computer input data and output cases that are used in performing the analysis).
15. Upon completion, the draft Interconnection Study will be provided to system protection and system planning engineers of DPS Staff, NYISO Staff, CHG&E, ConEd, LIPA, NYPA, NYSEG, NMPC, O&R, RG&E, PJM-ISO, and NE-ISO for comments and review; the applicant will arrange a technical conference to explain the scope, inputs, assumptions, change cases and other relevant parameters of the Interconnection Study. Comments received within six weeks of the provision of the draft study will be incorporated into the study and a copy of all the comments will be provided to DPS Staff.

CONSULTATION PROCESS

16. Upon receipt, the applicant will immediately provide to DPS Staff any response to the Interconnection Study.
17. The applicant agrees to provide documentation demonstrating that the project meets the New York TO's requirements and is proceeding through the NYISO Staff approval process, the project has consulted with the NE-ISO and the PJM-ISO and that all the necessary studies (addressing comments received on the draft studies) have been completed and are attached to the Article X application.
18. The applicant agrees to immediately notify, or have NYISO notify, the PJM-ISO and NE-ISO about the Project and work cooperatively with those ISO's on any joint studies that are required.
19. The applicant agrees to provide concurrently to DPS Staff copies of any draft or final studies submitted to those ISO's as well as any computer input data and output data. Comments provided by those ISO's will be provided to DPS Staff as they are received by the applicant.

CONFIDENTIALITY

20. If trade secret protection is requested, DPS Staff will have access to the allegedly confidential information either by receiving possession pursuant to 16 NYCRR Section 6-1.3(c) (2) or pursuant to a protective order made by the Presiding Examiner. The applicant agrees to co-operate in seeking any necessary protective order so that DPS Staff may have such information without delay.

ELECTRIC AND MAGNETIC FIELDS

21. The application to be submitted will include an engineering electric and magnetic field analysis performed by a Professional Engineer licensed and registered in New York State. The analysis, to be certified by the Professional Engineer's signature affixed over an official seal, will include all input and output data showing that operation of the proposed interconnection to the electric grid under summer normal, winter normal, and short term emergency (STE) loading conditions will comply with the (a) Public Service Commission's applicable electric field strength standards, as set forth in Opinion 78-13, and (b) with the applicable provisions of the Commission's Interim Policy Statement on Magnetic Fields, dated September 11, 1990. "Input data" means a tabular listing of all the input parameters necessary to model the EMF levels in computer simulations. "Output data" means all the printed graphs and tabular data produced as a result of performing computer simulations in support of the application.

PROPOSED STIPULATION NO. 4: PROJECT AND FUEL RELIABILITY AND MITIGATION ALTERNATIVES

1. The Application to be submitted will include an analysis of the reliability of fuel supply for both natural gas and No. 2 distillate fuel oil, and facility fuel needs including capacity and system impacts:
 - (a) A detailed description of all natural gas interconnection facilities including pipeline route, diameter, length, operating pressure and the need for on-site compression facilities;
 - (b) An analysis demonstrating that there will be sufficient natural gas supply and gas transmission capacity both interstate and intrastate capacity to support the requirements of the Project;
 - (c) An estimate of the peak hour, peak day, seasonal and annual natural gas requirements of the Project;
 - (d) An identification of the nature and extent of the natural gas capacity and transportation service as firm, interruptible, or both; and
 - (e) An evaluation of the potential impacts of the Project on the gas distribution system of the Local Distribution Company (LDC), including description of any upgrades to the LDC pipeline system that may be necessary to meet the requirements of the Project.

FUEL OIL

2. The Application will contain an evaluation of fuel oil pertaining to the following:
 - (a) An estimate of the fuel oil requirements of the Project, and a description of the fuel oil supply and infrastructure that supports the Project's oil requirements;
 - (b) A description of any fuel oil storage tank(s), including the storage capacity of the tank(s) and a description of any proposed secondary containment structures proposed to be constructed around the tank and off loading areas and any other facilities or measures proposed to prevent, contain or clean up oil spills;
 - (c) A copy of the existing Spill Prevention, Countermeasures and Control (SPCC) Plan, per 40CFR 112, for the existing on-site oil storage facility;
 - (d) If the Project is proposed to store more than 400,000 gallons of fuel oil the Application will contain a discussion of the following regulations and describe how the Project will comply with them: Major Petroleum Facility License pursuant to Article 12 of the Navigation Law, section 174 (licenses), 17 NYCRR part 30 (Oil Spill Prevention and Control- Licensing of Major Facilities), 6

NYCRR Part 610 (Certification of Onshore Major Facilities), and 6 NYCRR Parts 612 through 614 (Petroleum Bulk Storage Regulations); and

- (e) The status of present oil storage permits will be documented and applications for transfer or new licenses/approvals, as applicable, will be made as part of the Article X application ~~or in separate applications to DEC.~~

3. ~~The Application will include the following analyses, which will be developed using MAPS, PROMOD or a similar modeling tool:~~
- a) ~~Estimated statewide levels of SO₂, NO_x and CO₂ emissions, both with, and without the TGE Facility;~~
 - b) ~~Estimated minimum, maximum, and average annual spot prices representative of Areas "A", "F", and "J", of the New York Control Area, both with and without the Project; and~~
 - c) ~~Estimated capacity factor for the Project.~~
4. ~~The analysis will assume the following plants are in service: all existing electric generating facilities, and those electric generating facilities that (a) have been proposed in Article X applications and (b) have received a notification from the Chairman of the Siting Board 60 days prior to the filing of the Project's Article X Application that their application is in compliance with Article X.~~
5. ~~The Applicant will consult with the DPS Staff with the goal of agreeing to a mutually acceptable input data set, including modeling for the Applicant's proposed facility, to be used in the above discussed Simulation analyses.~~

RELIABILITY OF PREFERRED POWER SOURCE

63. The Application will explain the basis for the selection of the power block. As part of this explanation, the Application will contain an assessment, with supporting details, of the reliability and feasibility of the Applicant's preferred generation equipment. As part of the supporting details, reliability data for the major generation components including the gas turbine, heat recovery steam generator, and steam turbine, and collectively for the entire power block will be provided. Data are to be unit specific to the Applicant's facility and not averaged with other makes and models of equipment. The reliability data to be included is as follows: capacity factor; availability; equivalent availability; forced outage rate; equivalent forced outage rate; and starting reliability, if available. Data for the last five years, year-by-year and cumulative, will be provided. If the equipment does not have an operating history, estimates of operating reliability with the rationale including back-up information from tests and experience with individual equipment components will be provided.

PROJECT MITIGATION ALTERNATIVES

74. The Application will address the use of the following alternatives:
- (a) The “no-action” alternative will compare the potential environmental impacts of the Project to the adverse or beneficial site changes that are likely to occur in the reasonably foreseeable future, in the absence of the Project. No action alternative: The no-action alternative shall include the uses allowed as of right on the Project site in the absence of the Project as well as two alternate buildout scenarios, one with light industrial use and one with residential and open space use on the site, including the likelihood, costs and benefits of each option.; **[note: change subject to Task Force signature]**
 - (b) Cooling systems: the application will include an evaluation of alternative cooling systems and will provide sufficient information about the reasonableness of the preferred cooling system and why other options are not considered reasonable alternatives. Additionally, the application will provide an analysis to evaluate qualitatively the preferred system with respect to noise, ~~operations/economics~~ and aesthetic impact, and quantitatively, where appropriate, with respect to operations/economics.-
 - (c) Fuel selection – a comparative evaluation of firing natural gas exclusively and using backup oil during periods of curtailment, giving qualitative consideration to project technology and viability, reliability, air quality, water use, and resource protection;
 - (d) Peaking capability, giving qualitative consideration to project technology and viability, reliability, ~~air quality, water use~~, noise and resource protection, as well as quantitative consideration, where appropriate, to air quality and water use;
 - (e) Air pollution control technologies, by providing the BACT and LAER analyses required for NYSDEC permit applications; and
 - (f) The construction of a facility with less capacity. The analysis will include noise, visual and community character issues. This section will include an assessment of whether additional potential waterfront amenities could be provided with a plant of smaller capacity, and the resulting advantages and disadvantages.
 - (g) Alternative architectural design, including exhaust stack arrangements and heights.

PROPOSED STIPULATION NO. 5: LAND USES AND LOCAL LAWS

1. To the extent consistent with and applicable to the substantive terms of the paragraphs set forth in this Stipulation, the land uses and local laws evaluation for this Project will utilize, as applicable, the documents listed below:

New York City Administrative Code and Rules of the City of New York (RCNY)

New York State Department of State, Coastal Management Program Policies, August 1982.

New York City Department of City Planning, New York City Comprehensive Waterfront Plan (1993).

New York City Department of City Planning, Plan for the Brooklyn Waterfront (1994).

New York City Department of City Planning, The New Waterfront Revitalization Program (1999).

New York City Department of City Planning, Zoning Resolution for New York City – Article I, General Provisions.

New York City Department of City Planning, Zoning Resolution for New York City – Article IV, Manufacturing District Regulations.

New York City Department of City Planning, Zoning Resolution for New York City – Article VI, Waterfront Zoning.

Proposed Zoning Text Amendment: Brooklyn Loft Conversions

Brooklyn Community Board 1. Williamsburg Waterfront 197-a Plan: A Matter of Balance: Housing, Industry, Open Space (October 1998, and subsequent approved and published amendments).

Brooklyn Community Board 1. Greenpoint 197-a Plan (June 1998, and subsequent approved and published amendments).

Greenway Plan for New York City (Fall 1993).

New York City Local Waterfront Revitalization Program (September 30, 1982)

19 NYCRR, Part 600.5

CEQR Technical Manual, Section 3H.

Publicly available waterfront park development plans regarding redevelopment along the Greenpoint/ Williamsburg East River waterfront between North 7th street and Quay Street (including plans for new parkland, athletic fields, and a proposed “Monitor” park/museum site)

LAND USES

2. The Application will include a study of the land uses in the vicinity of the Project (Study). The Study will include:
 - (a) A map of all existing land uses within a 1-mile radius of the Project site;
 - (i) The map referenced herein will identify property lines, as well as the Project’s relationship to adjacent properties, land uses and land use plans using local land use planning resources; and
 - (ii) A separate larger scale map of all properties within 1000 feet of the Project site showing land use, tax parcel number, and owner of record of each property (based on municipal tax assessor office records) shall also be included.
 - (b) A map of existing zoning districts within a 1-mile radius of the Project site, including a description of the permitted uses within each zoning district, and documentation as to special use permits or variances issued by the Board of Standards and Appeals for residential use. The analysis will also include the Zoning Resolution’s Proposed Brooklyn Loft Text Amendment—~~[note: last sentence subject to Borough President signature]~~;
 - (c) A map of all publicly known proposed land uses within a 1-mile radius of the Project site, gleaned from interviews with state and local planning officials during TGE’s public involvement process or from other sources;
 - (d) an aerial ortho-photograph of the Project area at a scale suitable for discerning land use details.
 - (e) A qualitative assessment of the compatibility of the Project with existing and approved proposed land uses, within a 1-mile radius of the Project, which will include the following:
 - (i) Interviews with providers of local community services such as fire, police, health care, education, waste removal, and utilities to determine the potential impacts of the proposed Project on the local community;
 - (ii) In consultation with the Task Force, DPS and DEC and other interested parties, and subject to timely responses by the aforementioned parties,

TGE will identify key neighborhoods and community resources, including open space resources beyond adjacent surface waters, likely to be affected by multiple project impacts (traffic, air quality, noise, visual impacts, etc.); ~~[consultation with Task Force subject to its timely cooperation and signature]~~

- (iii) For each key neighborhood or community resource identified, the application to be submitted will include a summary (based on studies conducted subject to other stipulations) of all localized project impacts affecting that neighborhood or community resource. Based on this summary, a qualitative assessment of the compatibility of the Project with each specified neighborhood or community resource will be provided; and
 - (iv) A summary of the effect of the Project on neighborhood character, and a determination of the significance of this impact, consistent with the CEQR Technical Manual, Section 3H. "Neighborhood character" is defined to include considerations of land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic and noise.
3. In accordance with Section 1001.7(b)(2)&(3) of the Rules of the Siting Board, the Application to be submitted will include a description of the financial resources available to restore any disturbed areas of the Project site in the event the Project is abandoned, cannot be completed, or is decommissioned. These Rules also require TGE to submit a plan for the decommissioning of the Project site in the event the Project is approved and constructed. Any studies will be restricted to land owned by TGE. Any plan for site restoration or decommissioning will propose an outcome that is consistent with the current land use as well as an alternate plan that is consistent with unrestricted (open space, residential) uses.
4. The Application will include an analysis of the consistency of the proposed Project with the following land use plans and requirements, where applicable to the proposed Project. In addition, a table of the below listed plans will identify the dates of the plans, whether or not the plan is under revision or scheduled for revision. ~~[subject to Task Force signature]~~
- (a) New York City Comprehensive Waterfront Plan
 - (b) The New Waterfront Revitalization Program (1999)
 - (c) Plan for the Brooklyn Waterfront
 - (d) Greenway Plan for New York City
 - (e) New York Coastal Zone Management Policies
 - (f) New York City land use and zoning laws, ordinances, regulations and rules
 - (g) NYC Local Waterfront Revitalization Program (September 30, 1982)
 - (h) Williamsburg Waterfront 197-a Plan (as amended in 2001, if published prior to submittal of application).

- (i) Greenpoint Waterfront 197-a Plan (as amended in 2001, if published prior to submittal of application).
5. The Application to be submitted will identify and analyze all substantive provisions of local law applicable to the Project. The Application will include:
 - (a) An identification of all substantive New York City land use and zoning laws, ordinances, regulations and rules applicable to the construction or operation of the Project and interconnections;
 - (b) An identification of all substantive provisions identified above which the Applicant deems to be unreasonably restrictive pursuant to PSL 168(2)(d);
 - (c) For any substantive provisions which the Applicant deems to be unreasonably restrictive pursuant to PSL 168(2)(d), an explanation of the basis for asserting that the provision is unreasonably restrictive;
 - (d) For the substantive provisions that Applicant does not deem to be unreasonably restrictive pursuant to PSL 168(2)(d), a demonstration of the Project's compliance; and
 - (e) A demonstration that the request could not be obviated by reasonable design changes to the proposed project and that the request is the minimum necessary; and,
 - (e)(f) A summary comparison table in two columns listing the applicable substantive ~~the~~ provisions in the first column and the degree of compliance in the second column.
6. The Application to be submitted will identify all state and municipal approvals, consents, permits, certificates, or other conditions that would be required for the construction or operation of the proposed facility absent section 172 of the Public Service Law. For each approval, consent, permit certificate, or condition, the Application will include:
 - (i) An identification of the state agency, municipality or agency thereof that typically exercises jurisdiction over such matter;
 - (ii) A request that the Siting Board either (a) exercise its jurisdiction over such matter, or (b) authorize the appropriate state agency, municipality or agency thereof to exercise jurisdiction over such matter pursuant to Section 172(1) of the Public Service Law; and
 - (iii) An indication of the reason for each request made pursuant to paragraph 6(ii)(b) above.

MITIGATION

7. The Application will address mitigations measures, if necessary, to minimize any adverse impacts on land uses, including recreational land uses, identified in the course of performing the analysis described in land use studies described in this stipulation.

REAL PROPERTY

8. The Application will include:
 - (a) A demonstration the Applicant has obtained title to the Project site (including street access) or is under binding contract or option to obtain title to the Project site (including street access).
 - (b) A statement that the Applicant has obtained, or an explanation of how it can obtain, such deeds, easements, leases, licenses or other real property interests as are necessary for all interconnections for the Project, except no such demonstration shall be required regarding any transmission interconnection subject to Article VII.

OPEN SPACE USE

9. The Application will include an analysis of open space use by Project construction and operation personnel, in accordance with the CEQR Technical Manual guidance on open space availability studies.

PROPOSED STIPULATION NO. 6: NOISE

The Application to be submitted will include a study of the noise impacts of the construction and operation of the Project, per the Noise Impact Assessment Protocol, which will be made part of this Stipulation.

Regarding noise impacts, the Applicant will provide:

1. A map showing the location of the nearest sound receptors in relation to the Project site, including existing and approved key neighborhood/community resources, the nearest residential, school, and public open space receptor locations, as specified in the Noise Impact Assessment Protocol;
2. An evaluation of ambient pre-construction baseline noise conditions, including pure tones, at the nearest noise receptors, using actual measurement data recorded for 20 minute durations as a function of time and frequency using a Type 1 precision sound level meter (SLM) and octave band frequency spectrum analyzer;
3. A description of the noise standards applicable to the Project and the noise design goals for the Project at the nearest noise receptors, including the nearest residential, school, and public open space receptor locations, the noise design goals to be based on dBA levels and/or octave bands, as defined in the Noise Impact Assessment Protocol;
4. Computer noise modeling of construction and operational noise at the receptors using the methodology defined in the Noise Impact Assessment Protocol;
5. An identification and evaluation of reasonable noise abatement measures for normal as well as significant noise-producing construction activities;
6. An identification and evaluation of reasonable noise abatement measures, including the use of alternative technologies, for the final design and operation of the Project during all operating scenarios;
7. An evaluation of the following potential noise impacts: hearing damage; sleep interference; indoor and outdoor speech interference; use of public open space; low frequency noise annoyance, as well as community complaint potential; and the potential for structural damage due to vibration or infrasound;
8. A ranking for the operation phase, using the Modified Composite Noise Rating (“CNR”) method, at the nearest residential, school, and public open space receptor locations. The Application will include, at a minimum, an assessment of achieving a CNR rating of “C.” and, if proposed by the Applicant, “D.”
9. An analysis of the Project’s compliance with the New York City “Ambient Noise Quality Zones, Criteria and Standards”, in conjunction with or as part of the analysis of local laws; and

10. A description of post-construction noise evaluation studies that will be performed to establish conformance with operational noise design goals.

Attachment to Proposed Stipulation 6: Noise Impact Assessment Protocol

1.0 Introduction

This protocol documents the procedures and methods to be used to perform a noise impact assessment for a combined cycle facility (the Project) proposed by TransGas Energy Systems LLC (TGE). TGE proposes to construct the 1100 MW Project in the Greenpoint/Williamsburg section of Brooklyn. The noise impact assessment will provide documentation that normal operation of the facility will not result in significant impact to nearby residential areas and that facility noise levels will be in compliance with city and state noise level standards. The assessment will consist of determining the existing noise environment through a community noise monitoring program, computer noise modeling of the proposed facility noise sources, and specification of noise control measures required in order to evaluate compliance with New York City noise standards, the New York City Environmental Quality Review (CEQR) manual and noise guidelines as specified by the Staff of the New York State Department of Public Service (NYSDPS).

2.0 Noise Sensitive Areas in the Community

Topographic and other maps/aerial photography were reviewed to preliminarily identify noise sensitive and other land uses in the area surrounding the proposed facility. Property line locations, the nearest residences, school and open public spaces were identified. A site reconnaissance of the area was also performed in order to verify these uses and identify any other sensitive uses. Based on these efforts, the following were identified as the noise assessment receptors in the area, as shown in Figure 1.

- Kent Avenue / N. 13th Street
- Kent Avenue / N. 9th Street
- Quay Street (midway between Franklin and West Streets)
- Wythe Avenue / N. 10th Street
- Nassau Avenue / N. 15th Street
- Guernsey Street / Meserole Avenue
- Franklin Street / Oak Street
- N. 8th Street (Undeveloped Waterfront)

Figure 1: Noise Impact Assessment Locations
(distributed only in hard copy due to electronic file size)

3.0 Noise Monitoring Program

Noise monitoring will be conducted at the locations identified above during the day and late at night. Only daytime monitoring will be conducted at the North 8th Street waterfront location, as only daytime use of this area would be anticipated if the area is converted to a state-owned park. Daytime measurements will be performed between the hours of 9 a.m. and 6 p.m. and late night measurements between the hours of 12 a.m. and 5 a.m. Monitoring will be conducted using a tripod mounted Type 1 precision sound level meter and octave band analyzer. Measurements of the total A-weighted level and 1/3 octave band noise levels (in order to identify any existing pure tone noises) will be made for a duration of 20 minutes at each location during both the day and late at night. These baseline data will be used in the impact assessment for the project. The measured A-weighted parameters will include the L_{max} , L_{min} , L_{10} , L_{90} , and L_{eq} levels. The measured one-third octave band parameters will include the L_{eq} , L_{90} and L_{10} levels.

The meter will be set to measure at the slow response speed and will be calibrated in the field at the beginning and end of each monitoring period. In addition, the meter is to be factory calibrated within the last year before measurements are taken. Monitoring will only be conducted when wind speeds are less than 15 miles per hour and there is no precipitation.

4.0 Applicable Noise Standards

The following noise standards/criteria are to be evaluated relative to the project. These noise standards were identified by reviewing city and state law to determine standards in effect in the study area.

4.1 New York City Noise Code

Subchapter 6 of the New York City Code (the “Code”) sets noise levels for the Project area. The noise levels are based on “noise quality zones”, which are derived from the various land use zones and are designed to permit noise levels that are in accordance with accepted land uses. Two noise quality zones are applicable to the Project vicinity. The Project site and the area immediately bordering it are located in an M3-1 manufacturing land use zone (Noise Zone N-3). The Code sets noise levels for N-3 noise zones at a maximum of 70 dBA, both day (7AM to 10PM) and night (10PM to 7AM), measured at the adjoining property line.

High-density R6 residential zones (Noise Zone N-2) are located farther from the site, beyond the M3-1 zones. The Code sets noise levels for N-2 noise zones (high-density residential zones) at a maximum of 65 dBA during the day (7AM to 10PM) and 55 dBA at night (10PM to 7AM). The Code sets noise levels for commercial land uses that are the same as manufacturing levels: a maximum of 70 dBA, both day (7AM to 10PM) and night (10PM to 7AM), measured at the adjoining property line. Note that the above noise levels are the allowable facility contribution, and do not include extraneous sounds such as traffic and other industrial sources. In addition, the potential for noise zone changes from N-3 to N-1 will be evaluated in light of the Williamsburg 197-a plan.

The Code does not set overall noise thresholds for construction activity, though noise levels are set for certain types of equipment. Construction noise levels will be assessed as described in Section 5.2 below.

4.2 New York City Zoning Resolution

Section 42-21 of the Zoning Resolution sets performance standards for noise from any on-site activity to decibel levels according to octave band. Noise is the sound pressure level resulting from any open or enclosed activity. The decibel level performance standards, applicable at the lot line, are presented in Table 1.

Table 1: NYC Zoning Resolution Noise Performance Standards (dB)

Octave Band	Limits for M-3 District	Limits for M-3 District Adjoining a Residential District
<i>20 to 75 cycles per second</i>	80	74
75 to 150 cycles per second	75	69
150 to 300 cycles per second	70	64
300 to 600 cycles per second	64	58
600 to 1,200 cycles per second	58	52
1,200 to 2,400 cycles per second	53	47
2,400 to 4,800 cycles per second	49	43
Above 4,800 cycles per second	46	40

Source: New York City, City Planning Commission and City Planning Department (1998, Sections 42-213 and 42-214)

4.3 New York CEQR

This CEQR criterion limits increases in noise to no greater than 3 dBA above the minimum late night background L_{eq} noise levels at residential receptors. In practice then, noise generated by the proposed facility would be limited to the same level as the minimum late night background L_{eq} level. For example, if the minimum ambient late night L_{eq} were 60 dBA, the proposed facility would be limited to 60 dBA, resulting in a net ambient level of 63 dBA, and an increase of 3 dBA.

4.4 New York State Department of Public Service Staff (NYSDPS)

In accordance with NYSDPS requirements, the modified Composite Noise Rating Method (CNR) must be used to assess potential noise impacts associated with facility operation. This methodology takes into account many factors including the expected sound level from the plant, the existing sound levels, character of the noise (e.g., tonal, impulsive), duration, time of day and year, and subjective factors such as community attitude and history of previous exposure. The measured late night L_{90} noise levels will be used in the CNR analysis. At a minimum, the application will include achieving a rating of "C".

There are no Federal noise standards applicable to this project.

5.0 Computer Noise Modeling Methodology

5.1 Operational Noise

Computer modeling of the major facility sources will be performed in order to determine the projected contribution of the Project. A receptor grid, which includes the noise assessment locations discussed earlier, will be prepared for inclusion to the model. Detailed noise data for each major source in the proposed facility will be obtained from equipment vendors, or, in some cases, will be developed from reference materials. These reference materials will include, but not be limited to, the following documents:

- Empire State Electric Energy Research Corporation, Prediction of Noise from Power Plant Construction, Bolt, Beranek and Newman, Inc., Report No. 3321 (1977).
- Edison Electric Institute, Electric Power Plant Environmental Noise Guide, Volumes 1 and 2 (1984).

The NOISECALC computer model, developed by the NYSDPS, will be used to predict noise levels expected from operation of the proposed facility. The model was developed for predicting noise levels from power plants. NOISECALC is a Hemispherical Free Field (HFF) noise prediction model.

NOISECALC accepts a variety of attenuation factors under varying meteorological conditions. The model will be configured to accept hemispherical spreading and atmospheric absorption for this analysis based on values from the *Electric Power Plant Environmental Noise Guide (1984)*. Standard conditions of 59° F and 70 percent relative humidity will be assumed. Directivity effects for noise from the stacks will also be considered. No credit will be taken for ground absorption. Modeling receptors will be chosen in the same locations as where background monitoring will be performed. The model will account for the noise emissions from each source in each octave band that propagates to each point on a specified receptor grid, identifying the source and value of all data inputs used.

The noise modeling will be used as a design tool in order to determine the degree of silencing required on individual noise sources. Thus, several modeling runs will likely be made, with noise control added as required, until the required design goals are achieved. Typical noise control measures include the following:

- Tuned HRSG stack silencers
- Enclosures on the pumps and motors
- Acoustically treated buildings
- Specially designed quieted main transformers

5.2 Construction Noise

Estimated octave band noise levels for the expected construction equipment will be incorporated into the NOISECALC computer model. Modeling, using the same assumptions and receptors as for the operational noise assessment, will then be performed at the same receptor locations. As is typically done for construction noise analyses, average noise levels will be calculated for each construction phase. This will be performed by incorporating the usage factor, which is a factor of the average time a piece of construction equipment is expected to be in use for any given construction phase (Barnes, 1977).

The calculated construction noise levels will then be compared to the existing daytime L_{eq} noise levels. The L_{eq} level, which represents a measure of the average of all the noise present, will be used rather than the L_{90} because the L_{90} only represents the baseline noise levels, whereas construction noise is a combination of varying noises, more closely represented by the L_{eq} . For areas where estimated construction sounds levels are expected to exceed the existing background sound level by more than 10 dBA, the report will also include an evaluation of the potential for indoor and outdoor speech interference, and sleep interference. Such analysis will be based on Berglund (1995) and EPA, *Protective Noise Levels*. (1978)

6.0 Compliance with Applicable City and State Standards and Criteria

The projected facility noise levels at each noise assessment receptor location will be evaluated against the aforementioned noise standards and criteria in order to determine compliance. In addition to evaluating residentially and industrially zoned areas, the noise assessment will address non-conforming residential uses, per the proposed Brooklyn Loft Conversion Text Zoning Amendment. In addition, the potential for noise zone changes from N-3 to N-1 will be evaluated in light of the Williamsburg 197-a plan.

7.0 Post Construction Compliance Monitoring

An ambient noise monitoring program is proposed to be performed following commercial startup to confirm that the calculated noise levels are achieved. A description of the program will be

included in the application.. Details of the noise monitoring program will be the subject of a compliance filing following issuance of the Certificate.

8.0 References

Berglund, B., and T. Lindvall. 1995. Community Noise. Prepared for the World Health Organization. ISSN 1400-2817. ISBN 91-887-8402-9.

Bolt, Beranek and Newman, Inc. 1977. Prediction of Noise From Power Plant Construction. Prepared for Empire State Electric Energy Research Corporation.

Driscoll, D.A. 1985. NOISECALC: A Computer Program for Sound Propagation Calculations. New York State Department of Public Service.

Miller, L.N., E.W. Wood, R.M. Hoover, A.R. Thompson, and S.L. Patterson. 1984. Electric Power Plant Environmental Noise Guide. Prepared for Edison Electric Institute by Bolt, Beranek and Newman, Inc., Cambridge, Massachusetts.

New York City Mayor's Office of Environmental Coordination. 2001. New York City Environmental Quality Review Technical Manual - Noise.

New York City Department of Environmental Protection. New York City Noise Code. New York, New York.

New York City Department of City Planning. Proposed Zoning Text Amendment: Brooklyn Loft Conversions, N010564(A)ZRK, found at <http://www.nyc.gov/html/dcp/html/zoneup.html>, last modified on June 23, 2001.

United States Environmental Protection Agency, 1978. Protective Noise Levels. Office of Noise Abatement & Control. Report Number EPA 550/9-79-100. Washington, DC 20460.

PROPOSED STIPULATION NO. 7: SOCIOECONOMICS

The Application will evaluate the existing socioeconomic conditions and the socioeconomic impacts resulting from the construction and operation phases of the Project.

1. To the extent consistent with and applicable to the substantive terms of the paragraphs set forth in this Stipulation, the Socioeconomic Study for this Project shall be performed in accordance with substantive provisions of:

New York City Environmental Quality Review Procedures, Technical Manual and Appendices, ~~December 1993~~2001.

2. The socioeconomic evaluation will assess the following potential impacts resulting from the Project:

- (a) An estimate of the number of temporary construction jobs that will be created by the Project, during the phases of the construction (including peak employment levels);
- (b) An estimate of the annual construction payroll for each year of the Project and an estimate of annual direct non-payroll expenditures likely to be made for the Project during the period of construction;
- (c) An estimate of the number of jobs and the on-site payroll, by discipline, during a typical year once the Project is complete, and an estimate of other expenditures likely to be made in the vicinity of the Project during a typical year of operation.
- (d) A comparison of the anticipated construction work force and the construction and operation work force available within commuting distance and within Community District 1; ~~[note: change subject to Borough President signature]~~
- (e) An estimate of the extent and duration of temporary construction worker in-migration, with an examination of housing needs;
- (f) An assessment of significant incremental municipal, public authority, or utility operating and infrastructure costs that will be incurred by New York City, the Borough of Brooklyn, and any other affected municipality, public authority, or utility for police, fire, emergency, water, sewer, solid waste disposal and other municipal, public authority, or utility services during the construction phase of the Project (this estimate to be made after consultation with the affected municipalities, public authorities, or utilities);
- (g) An assessment of significant incremental municipal, public authority, or utility operating and infrastructure costs that will be incurred by New York City, the Borough of Brooklyn, and any other affected municipality, public authority, or utility for police, fire, emergency, water, sewer, solid waste disposal and other

municipal, public authority or utility services due to the permanent operation of the Project (this estimate to be made after consultation with the affected municipalities, public authorities, or utilities).

- (h) An assessment of the present tax revenue for land and improvements on the Project site, a description of the Project's anticipated payments given the exemption under the City's Industrial/Commercial Incentive Program (ICIP), and a Community Benefit Plan funded by a supplemental payment stream, with an assessment of the economic impact such payments represent.
- (i) An assessment of potential impacts on the local and regional areas, using Input-Output modeling. A multiplier to determine the direct and indirect economic and employment impacts associated with the Project will be used.

PROPOSED STIPULATION NO. 8: SOILS, GEOLOGY AND SEISMOLOGY

The Application to be submitted will include a study of the soils, geology, floodplain and seismology in the Project area. The components of the evaluation will include identification and mapping of existing conditions, impact analysis, and proposed mitigation measures.

GUIDANCE AND REGULATORY DOCUMENTS

1. To the extent consistent with and applicable to the substantive terms of the paragraphs set forth in this Stipulation, the geology evaluation of this Project shall be conducted in accordance with the Guidance and Regulatory Documents listed below:

American Society for Testing and Materials (ASTM) testing methods and standards.

Isachsen, Y.W. et al, editors, Geology of New York: A Simplified Account, New York State Museum/Geological Survey (1991).

Jacob, Klaus, Seismic Vulnerability of New York State: Code Implications for Buildings, Bridges and Municipal Landfill Facilities, National Center for Earthquake Engineering Research (NCEER), Buffalo, New York (April, 1993).

National Earthquake Information Center. Preliminary Determination of Epicenters, Monthly Listing, USGS.

New York State Geological Survey, Damaging Earthquakes in New York State 1737-1989 (1989).

New York State Geological Survey and New York State Museum, New York State Geologic Highway Map (1990).

~~2. Regarding soils, geology, construction techniques, seismology, and flood hazards, the Study will include:~~

SOILS

~~2. Regarding soils the Study will include:~~

~~(a)(a)~~ A map delineating soil types, thickness, and depth to bedrock on the Project site and interconnections;

~~(b)(b)~~ A description of the characteristics and suitability for construction purposes of each soil type identified above, including a description of the recharge/infiltration capacity of each soil type and a discussion of any dewatering and disposal of excavation water that may be necessary during construction and whether the

Project will contain any facilities below grade that would require continuous dewatering;

- ~~(e)~~(c) A proposed site plan showing existing and proposed contours at 2-foot intervals on the Project site and interconnections at a scale sufficient to show all the proposed buildings, structures, paved, vegetative, and construction areas;
- ~~(d)~~ A summary of any existing assessments of contamination conducted for the Project site and a summary of the Applicant's own Phase I Environmental Site Assessment. The application shall include a description of the remedial actions undertaken to date, an identification of any involved government agencies, and a description of how a site remediation work plan will be developed.
- ~~(e)~~~~(de)~~ Copies of publicly available state and federal documentation regarding site remediation requirements, including documentation previously provided to DEC personnel regarding contamination and remediation of the site; a description and summary of of the stipulation executed by NYSDEC relative to Spill no. 9804544 (which includes an attached Corrective Action Plan) for the site, progress of work under the stipulation, and a summary of the schedule for future remedial actions under the stipulation; and
- ~~(f)~~ a-A review of applicable law and guidance as to what the level of site remediation (i.e., methodology for development of soil cleanup objectives) is necessary to support industrial as well as unrestricted (residential, alternative open space) land uses.

GEOLOGY

3. Regarding geology the Study will include:

- ~~(e)~~(a) A map delineating underlying bedrock types on the Project site and interconnections, ~~including an evaluation for potential impacts due to Project blasting, construction and operation~~, based on information to be obtained from available published maps and scientific literature, review of technical studies conducted on and in the vicinity of the Project, and on-site field observations, test pits and/or borings;
- ~~(b)~~ An evaluation for potential impacts due to Project construction, including any blasting and pile driving, and Project operation on existing structures such as pipelines, buildings, and bulkheads
- ~~(e)~~(c) A proposed site plan showing existing and proposed contours at two-foot intervals, for the Project site and interconnections, at a scale sufficient to show all proposed buildings, structures, paved and vegetated areas, and construction areas;

- ~~(g)~~(d) A description and preliminary calculation of the quantity of cut to be removed from the Project site and interconnections, and fill material to be brought to the Project site and interconnections; including separate calculations for topsoil, subsoil, fill, and rock as appropriate;
- ~~(h)~~(e) A description of excavation techniques to be employed; and
- ~~(i)~~(f) A delineation of any temporary cut or fill storage areas to be employed.

BLASTING

4. Regarding blasting the Application will either provide evidence that no blasting will be required and Applicant's commitment not to blast, or in the alternative it will include:

- ~~(j)~~(a) A preliminary plan describing all blasting operations, if any, including location, blasting contractor qualifications, charge sizes and limits, quantity of discrete blasts, hours of blasting operations, estimates of amounts of rock to be blasted, warning measures, measures to ensure safe transportation, storage and handling of explosives, use of blasting mats, a plan for a pre-blasting videotape condition survey of nearby buildings and improvements, and coordination with local safety officials;
- ~~(k)~~(b) An assessment of potential impacts of blasting to environmental features, above-ground structures, such as residential buildings, and below-ground facilities such as pipelines; and
- ~~(l)~~(c) An identification and evaluation of reasonable mitigation measures regarding blasting impacts, including the use of alternative technologies and/or location of structures, and including a plan for securing compensation for damages that may occur due to blasting.

SEISMOLOGY

5. Regarding seismology the Study will include:

- ~~(m)~~(a) A description of the regional geology, tectonic setting and seismology of the Project vicinity; and
- ~~(n)~~(b) An identification of any potential impacts of geology and seismology on the Project.

FOUNDATIONS

6. An evaluation to determine suitable building and equipment foundations will be conducted. The evaluation will include:

(+)(a) An engineering assessment to determine the types and locations of foundations to be employed. The assessment will investigate the suitability of such foundation types as spread footings, caissons, and piles; and

(+)(b) Identification of mitigation measures regarding pile-driving impacts if applicable.

STEAM INTERCONNECTION

7. An evaluation to determine the preferred and alternative construction methods for steam interconnection construction, including:

(+)(a) A preliminary alternatives evaluation, to include directional drilling, tunnel boring, and use of existing infrastructure;

(+)(b) The subsurface geology under the East River will be presented on the basis of available literature; and

(+)(c) A conceptual work plan, with descriptions of steam interconnection requirements, equipment to be used, impacts to bedrock geology, and contingency plans associated with direction drilling or tunnel boring.

FLOOD PLAIN, TIDAL SURGES AND STORM SURGES

8. A floodplain, tidal surge and storm surge evaluation will be conducted which includes:

(+)(a) The preparation of a map indicating the location and type of flood plain found near the Project site;

(+)(b) A consideration and discussion of the criteria of New York Coastal Management Program, Policies 11-18, pertaining to Flooding and Erosion Hazards; and

(+)(c) An evaluation of potential flood plain hazards and tidal surge and storm surge impacts associated with the Project and mitigation measures, if any.

PROPOSED STIPULATION NO. 9: TRAFFIC AND TRANSPORTATION

1. The Application to be submitted will include an evaluation and assessment of the traffic and transportation impacts resulting from the construction and operation of the Project. To the extent consistent with the following paragraphs contained in this stipulation, the methodology for assessing the potential traffic and transportation impacts from traffic generated by the construction and operation of the Project shall be implemented in accordance with:

Transportation Research Board, National Research Council, Highway Capacity Manual, Special Report 209, Third Edition 1994/2000.

PRE-CONSTRUCTION TRAFFIC BASELINE

2. The Application will include a description of the pre-construction characteristics of the roadways in the vicinity of the Project, to include McGuinness Blvd., Greenpoint Ave., Franklin Street, Metropolitan Ave., Kent Ave., Nassau Street, and 12th Street. The description will include:
 - (a) A review of existing data on vehicle traffic, use levels, and accidents obtained from the New York State Department of Transportation, the New York City Department Of Transportation, and/or the New York City Police Department, as available;
 - (b) A review of local school bus routes and schedules, as available;
 - (c) An identification of emergency facilities (Hospitals) and the approach and departure routes to and from the Project site for police, fire, ambulance and other emergency vehicles;
 - (d) A review of anticipated truck load, ~~and~~ size characteristics and volumes for both construction and operation and a comparison to those existing at the site;
 - (e) The results of manual ~~or automated, as necessary,~~ peak turning movement counts ~~and vehicle classification counts~~ for typical weekday morning, weekday afternoon, and Saturday peaks, to be conducted by the Applicant at the following intersections:
 1. McGuinness Blvd./Greenpoint Ave.
 2. Greenpoint Ave./Franklin Street
 3. Metropolitan Ave./Kent Ave.
 4. Kent Ave./12th Street
 5. McGuinness Blvd./Nassau Street

- (f) The results of twenty-four (24) hour traffic volume counts to be conducted by the Applicant, including a calculation of average daily traffic (ADT) ~~for each intersection listed above~~ along Kent Avenue and North 12th Street;
 - (g) For each intersection listed above in Paragraph 2(e), documentation of the roadway geometry and physical operating characteristics will be inventoried;
 - (h) A calculation of the Level of Service (LOS) for each intersection listed above, giving detail for each turning movement; and
 - (i) An estimate of the annual rate of traffic growth in the vicinity of the Project incorporating general growth and growth from planned land use changes, but not including projected traffic for the Project, including the source and manner of calculation of the estimate.
3. The Application will include a description of the existing transit services and pedestrian activity, including school crossings, in the Project area.
4. The Application will include an estimate of the trip generation characteristics of the Project during both construction and operation. The estimate will include:
- (a) A description of each major phase of construction, including duration of construction, daily shift periods and project totals;
 - (b) For each major phase of construction, an estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure distribution, by size and type of vehicle;
 - (c) An identification of approach and departure routes to and from the Project site out of North 12th Street;
 - (d) An estimate of the number of employees per shift for each major phase of construction;
 - (e) A description of the operation of the Project, including the number of employees per shift, operating shift periods and seasonal and annual totals;
 - (f) An estimate of the number and frequency of vehicle trips generated during operation of the Project, including time of day and of week arrival and departure distribution, by size and type of vehicle;
 - (g) A modal distribution analysis for construction related traffic to determine vehicular traffic generation attributable to workers accessing the site, truck traffic, and other modes of transportation accessing the site during construction; and

- (h) An evaluation of the need/demand for, and availability of on-site parking for construction workers, and if necessary, a determination of the viability of off-site parking alternatives to support construction workforce if insufficient space is available on-site;
5. The Application will include a conceptual site plan, drawn at an appropriate scale, depicting all Project site driveway intersections with the city street network, ~~showing horizontal and vertical geometry, the number of approach lanes, the lane widths, shoulder widths, traffic control devices by approaches, and sight distances.~~
6. The Application will include an analysis and evaluation of the traffic and transportation impacts of the Project, including:
- (a) A comparison of projected future traffic conditions with and without the proposed Project, including a calculation and comparison of the Level of Service (LOS) for each intersection listed above, giving detail for each turning movement, the analysis to be conducted separately for the peak construction impacts of the Project and for the typical operations ~~and upon~~ completion of the Project;
- (b) An evaluation of the adequacy of the road system to accommodate the projected traffic, the analysis to be conducted separately for the peak construction impacts of the Project and for the typical operations of the completed Project;
- (c) An identification and evaluation of reasonable mitigation measures regarding traffic and transportation impacts, including the use of alternative technologies, the construction of physical roadway improvements, and the installation of new traffic control devices, if needed;
- (d) A qualitative assessment of the Project's impacts both during construction and operation on pedestrian service conditions and safety on the sidewalks, street corners, and crosswalks bordering the Project site; and
- (e) A qualitative assessment of the Project's impacts on transit services in the area and on the potential interaction of Project traffic with school buses and emergency vehicles.
- (f) An identification of publicly announced and approved roadway reconstruction projects proposed for the Project construction time period, and an assessment of cumulative impacts or benefits due to such projects.

PROPOSED STIPULATION NO. 10: AESTHETICS AND VISUAL RESOURCES

1. The Application to be submitted will include a visual impact assessment (VIA) to determine the extent and assess the significance of Project visibility. The components of the VIA will include: photo-documentation of current visibility of the Bayside Oil Facility, confirmatory visual assessment fieldwork, visual and aesthetic impact analysis, artist renderings of the Project, and proposed impact mitigation. To the extent consistent with, and applicable to, the substantive terms in the following paragraphs contained in this stipulation, the evaluation shall be performed in accordance with the substantive terms of the documents listed below:

The New York State Department of Environmental Conservation, *Assessing and Mitigating Visual Impacts*, Policy Memorandum DEP-00-2, dated July 31, 2000.

New York City, Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (~~December 1993~~2001), Chapter 3, Section G.

2. The VIA will address the following issues:
 - (a) a study documenting urban design characteristics of the Project setting and surrounding community~~the visual character and quality of the existing landscape~~, including the identification of significant visual resources such as unique or important public visual corridors, vistas, natural or built features, and resources listed in the NYSDEC Program Policy;
 - (b) visibility of the Project from the surrounding communities in Brooklyn and Manhattan, including key neighborhood and community resources;
 - (c) potential of the Project to block unique or important views of the waterfront, public parks, landmark structures or natural resources from public or publicly accessible locations;
 - (d) appearance of the Project upon completion, including height, bulk, setbacks, facade colors and texture and the relationship of the project to key urban design elements in the surrounding area, including stack marking to meet FAA requirements;
 - (e) lighting (including general location and direction of lights for facility area, operational lighting, and/or task use and safety lighting, including stack lighting to meet FAA requirements), and similar features;
 - (f) renderings of the Project to illustrate location, scale and appearance of the proposed facility;
 - (g) nature and degree of change resulting from construction of the Project;
 - (h) nature and degree of change resulting from operation of the Project including expected visible stack plume in both the cold and warm seasons based on the studies set forth in the Air Quality and Meteorology Stipulation (Stipulation No. 1);
 - (i) proposed mitigation and mitigation alternatives, including landscaping, lighting options for work areas and safety requirements, options for stack lighting and

- marking as required by the FAA, alternative technologies, downsizing Project capacity, disguising of components, and all other types of mitigations described in the NYSDEC Program Policy; and
- (j) cumulative impact analysis, if applicable, including any Article X ~~or MPA~~ plants under construction that have received an Article X compliance determination for its filed application.
3. The Application will identify whether the Project complies with applicable visual policies of the coastal management program as follows:
- (a) The Application will include a demonstration of whether the proposed Project would protect, restore, or enhance overall scenic-visual quality of the coastal area, including how the architectural design characteristics and the appearance of the Project, and on-site landscape architecture, will affect the appearance of the waterfront setting; and
- (b) The Application will include a demonstration of how the Project design guidelines for either significant or non-significant scenic resources take into consideration the following:
- i. Clustering or orienting structures to retain views;
 - ii. Maintaining or adding vegetation; and
 - iii. Using appropriate scale, forms, and materials.
4. The viewshed analysis component of the Application will be conducted as follows:
- (a) A viewshed map of the Project study area will be prepared and presented on a 1:24,000 scale recent edition topographic base map. The viewshed study area is defined as the area within a 1-mile radius of the center of the Project site. However, viewpoints outside the 1-mile radius will be considered along the East River and Newtown Creek. The 1-mile radius viewshed map(s) will provide an indication of public street or open space areas with potential visibility based on topography and representative structures and the top of the Project stacks. Visually-sensitive sites, cultural and historical resources, representative viewpoints, photograph locations, and public vantage points within the viewshed study area will be included on the map(s).
- (b) Representative visually sensitive resources will be evaluated in the field to determine if the proposed Project will be visible and to assess the relative importance of the views. The field investigations will make note of viewer context, existing landscape quality, and the extent of potential Project visibility (i.e. partial or full view). Photographs from representative viewpoints will be taken to document the existing views toward the proposed Project. Visually sensitive resources will be identified for further evaluation and elements will be identified that can be changed to minimize or modify visual impacts.
- (c) Simulations (photographic overlays) of the Project will be prepared from the representative viewpoints established pursuant to paragraph 5 herein to

demonstrate the post-construction appearance of the Project. The photographic overlays from each of the viewpoints will use the following protocol or its functional equivalent: a 3D CAD (or equivalent) file of the Project will be imported into Autodesk's 3D Studio VIZ. Before the import, the CAD file will be geo-referenced to a coordinate system. Once imported into Studio VIZ, colors and materials will be assigned to Project features. Cameras (specifying location and elevation) will be placed in 3D Studio VIZ at selected simulation locations. Compass readings as well as buildings or other physical elements will be used to fix orientation. Landmarks of known height will be used to verify elevation and adjust for camera tilt, if any. To ensure that the shadows and light intensity of the facility will properly match those of the background photograph, solar lighting will be added to each simulation with its parameters set according to the time and date of each photograph.

5. To select viewpoints for the use in preparation of visual simulation locations, the Applicant will confer with its cultural and historic resources consultants and as many of the following agencies/organizations that choose to participate on a timely basis; NYSDPS, NYSDEC, Office of Parks Recreation and Historic Preservation (OPRHP), New York City Landmarks Preservation Commission, New York City Planning, New York State Department of State, Division of Coastal Resources and GreenpointWilliamsburg Waterfront Task Force ~~[subject to timely cooperation and signature of Task Force]~~.
6. The determination of whether potential visual impacts are significant and adverse will include consideration of the following:
 - (a) compatibility of the Project with surrounding and nearby development in terms of bulk, building type, setbacks, building arrangement and street patterns;
 - (b) alteration of streetscape elements, street hierarchy or land uses that define the urban design or visual characteristics of the area;
 - (c) significant and permanent obstruction of important view or vistas, including seasonality, number and type of viewers, and uniqueness of the view or vista;
 - (d) changes to or the permanent elimination of natural features or interference with the public's enjoyment of natural features (by blocking views or access);
 - (e) interference with the visual enjoyment of an historic resource either through impairment of the public's ability to view the historic resource or the alteration of the visual context in which the resource is understood; and
 - (f) obstruction or interference with the public's enjoyment of waterfront views.
7. The Application will include a summary of the nature of the probable impact on aesthetic, scenic, historic, and recreational resources due to the Project, and a description of the mitigation to minimize adverse impacts on those resources. Additional revised

photographic overlays illustrating mitigation will be prepared for those observation points for which mitigation is proposed in the Application.

PROPOSED STIPULATION NO. 11: WATER RESOURCES

The Application to be submitted will include a study of the water resource impacts of the construction and operation of the Project. The Applicant will propose no new or modified surface water intakes in the East River or adjacent waterways.

Regarding water resource impacts, the Applicant will provide:

WATER SUPPLY

1. An estimate of the hourly and daily peak and the hourly and daily average water supply needs and consumptive water losses of the Project, in gallons, for each day of a typical year, broken down by power production (for both gas and oil fired modes) and domestic uses, with daily, monthly and annual totals;
2. An estimate of the daily peak, daily average, and fire suppression peak and average flow rate needs of the Project in gallons per minute (for both gas and oil fired modes) and a demonstration that adequate quantity and pressure is available for fire protection;
3. A description of the methodology used (i.e. estimate, comparison, data, calculation) to prepare the water supply needs and minimum and maximum flow rate estimates stating all factors used;
4. A description of the water chemistry requirements for water to be supplied to the Project, indicating any requirements that are more stringent than New York State standards for potable water, and describing any additional water treatment that will be necessary to obtain the desired chemistry;
5. An identification of the water supply source or sources to be used by the Project. Alternative water sources include, but are not necessarily limited to, are the Newtown Creek WPCP, Brooklyn-Queens Aquifer, and City Municipal Water Supply. For the chosen source or sources, the analysis will include:
 - (a) An analysis of the available capacity of the water supply source in terms of quantity, quality, and pressure for all seasons and during both normal and drought periods based on existing documentation and/or discussions with the water supply source;
 - (b) A cumulative analysis of the impacts of such project water usage during both normal and drought periods on other users (existing or approved users) of the water supply source;
 - (c) An identification of all infrastructure requirements necessary to serve the Project, including if applicable, identification of all facilities located outside the Project boundary; and

- (d) The impact of the Project on excess infrastructure capacity, including distribution piping, mains, pumps, storage, or additional supply during normal and maximum demands on water supply.
 - (e) The Project's water demand will be reviewed in light of other Article X Projects using the same water supply source to describe potential cumulative impacts. This analysis will include certificated projects as well as projects for which applications or preliminary scoping statements (PSS) have been filed up to 60 days prior to the Project Application filing, based on data presented in the public record for such proceedings.
 - (f) If Newtown Creek WPCP is chosen as the preferred water supply source a description of Newtown Creek WPCP effluent quality during both normal and upset conditions and for all seasons. A demonstration that the wastewater treatment facility will effectively treat the effluent to the water quality standards required by the Project will be included, together with an analysis and discussion of the potential for water supply disruptions and changes in effluent quality that could potentially result during the upgrading of Newtown Creek WPCP.
 - (g) If the Brooklyn Queens Aquifer is chosen as the preferred water supply source, a description of whether and how the use of the aquifer differs from the City Municipal Water Supply will be provided. If individual wells within the aquifer can be identified as the source of water, a drawdown analysis will be included. In addition, if, based upon publicly available data, there are identified contaminant plumes within the area affected by the withdrawal, an analysis of the effects of the withdrawal on the contaminant plume(s) will also be included.
6. A description of the status of negotiations, and/or a copy of agreements that have been executed, with NYCDEP for providing water to the Project.
7. An identification and evaluation of other reasonable mitigation measures, including the use of potential alternative supply sources including on-site sub-surface wells, water storage, and offsetting water conservation, to avoid or minimize water supply impact, and including a contingency plan for periods of drought or water emergency describing thresholds for water use curtailment.

WASTEWATER

8. A water balance diagram for average and maximum water use operating conditions for the Project that shows in detail all water sources, plant water uses, water treatment facilities, wastewater treatment facilities, and wastewater discharges;
9. An identification and description of any process wastewater generation from the Project, including an estimate of the hourly and daily peak and average volumes and effluent characteristics;

10. An identification and evaluation of reasonable mitigation measures to avoid or minimize wastewater generation and disposal impacts;
11. An identification and description of all disposal methods and wastewater treatment facilities and discharge structures for wastewater generated from the Project, including a review of all options explored for process wastewater disposal, including discharging to municipal sewer systems, aquifer recharge areas, in ground discharges, including, as applicable, an analysis of the impacts on water quality and quantity in affected groundwater resources, and an analysis of the impacts of any out-of-basin transfers;
12. An identification and description, including conceptual plans and locations, for all wastewater sewer mains or other improvements, structures or means of interconnection with the Project site for the purposes of wastewater disposal, including a description of available capacity and any limitations on wastewater disposal capacity;
13. A description of the status of negotiations, or a copy of agreements that have been executed, with municipalities, companies or individuals for receiving wastewater from the Project including any restrictions on Project wastewater disposal; and
14. An identification and description of any water treatment that will be required prior to discharge as well as an evaluation of whether local, state and federal effluent limitations applicable to the Project will be met during construction and operation~~the effluent limitations that will need to be met.~~
15. A description of coordination process to transfer the filing of the SPDES permit (NY 000 6301) from Bayside Fuel Oil Depot Corp. to TGE;
16. An evaluation as to whether a SPDES Permit for wastewater is required; and
17. If a SPDES Permit for direct discharge (other than storm water) to a surface water body is required, a completed application for the SPDES Permit Modification, using Form NY-2C and additional information required by the Form NY-2C supplement for electric generating facilities.
18. To the extent that the Project will use existing municipal infrastructure for storm water or wastewater disposal, ~~T~~the Application will address the issue of basement flooding due to sewer and storm drain backups in the Greenpoint/Williamsburg area, as follows:-
 - (a) On the basis of publicly available information and discussions with NYCDEP and NYSDEC interviews, a description of the frequency, nature, and causes of such basement flooding;
 - (b) An analysis of the Project's impact on such flooding; and
 - (c) An identification of potential mitigation, if impacts are identified.

GROUNDWATER

19. A map of the Project site showing the depths to high groundwater in increments appropriate for the tidal setting;
20. ~~If applicable, a~~ map based on publicly available information showing all areas within a 1-mile radius of the Project site within Brooklyn or Queens that (i) delineates all groundwater aquifers and groundwater recharge areas; (ii) identifies groundwater flow direction, groundwater quality, and the location, depth, yield, and use of all public and private groundwater wells or other points of extraction of groundwater; and (iii) delineates wellhead and aquifer protection zones;
21. An analysis and evaluation of all reasonably potential impacts created by the construction or operation of the Project on groundwater quality and quantity in the Project area;
22. ~~To the extent applicable, an~~ identification and evaluation of reasonable mitigation measures, including the use of water storage, and offsetting water conservation, to avoid or minimize groundwater impacts, including, i. —If applicable, identification of all facilities located outside the Project boundary.

SURFACE WATERS

23. A description, on the basis of publicly available information, of the water quality, flow and other characteristics of the East River and the Bushwick Inlet, including tidal stage, current velocity, and other characteristics of the East River, Bushwick Inlet, and any other surface water feature, including intermittent streams, on or adjacent to the Project site and interconnections.
24. An identification of the extent of all waters of the United States, subject to regulation under Section 404 of the Clean Water Act, within the Project site and along all interconnections;
25. A description of the characteristics of all waters of the United States identified above;
26. An analysis of the impact of the construction and operation of the Project and interconnections on the surface waters identified above; to include a description of shore line excavation and fills (if any), dredge spoil sampling and impacts from potential dredging, including volumes of material, dredging methods and dredge spoil disposal.
27. An identification of the nearest and potentially most impacted potable water drinking water supply intakes and an evaluation of the potential impacts of construction and operation of the Project on those water supplies; and
28. An identification and evaluation of reasonable mitigation measures to avoid or minimize impacts on waters of the United States and the other surface waters identified above;

including alternative technologies and the precautions that will be taken to minimize dredging impacts (if any) and assure compliance with water quality standards.

29. An identification and complete description of the spill control measures to be used for the Project for oil and chemical storage.

AQUATIC

30. A description based on publicly available information of the aquatic resource characteristics of surface water features identified above;
31. An analysis of the impact of the construction and operation of the Project and interconnections on the aquatic resources identified above; and
32. An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, to avoid or minimize aquatic resource impacts identified above.

WETLANDS

To the extent consistent with the following paragraphs contained in this stipulation, the methodology for assessing the potential impacts to wetlands will follow the procedures and use predictive data provided in the following documents:

For identifying the appropriate vegetation, hydrology, and soils criteria which would define Federal-jurisdictional wetlands, the US Army Corps of Engineers Wetlands Delineation Manual (1987);

33. An identification of the extent of all federal wetlands and state regulated tidal wetlands that may be impacted by the Project or interconnections;
34. An identification of the extent of all federal wetlands and state regulated tidal wetlands that may be impacted by the interconnections;
35. A description of the characteristics of all federal wetlands and state regulated tidal wetlands identified above, including a description of the vegetation, soils, and hydrology data collected for each of wetland sites identified, based on actual on-site wetland observations;
36. An on-site identification and delineation of all federal and state regulated wetlands identified above;
37. A survey or coordinate map of the location of all federal wetland and state regulated tidal wetland boundaries identified above; and
38. An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies and control of potential phosphorus and nitrogen sources from the Project, to avoid or minimize wetlands impacts (if any).

CONSTRUCTION/OPERATION STORM WATER RUNOFF

39. The Application will contain:
- (a) A description of all techniques that will be used to prevent storm water contamination, and a conceptual site plan showing all intended structures and improvements to prevent storm water contamination, including chemicals, fuel oil or other contaminants from storage facilities, product delivery, plant operation, plant maintenance, waste handling activities and vehicles in parking lots or other areas;
 - (b) An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, to avoid or minimize storm water quality impacts.
 - (c) An evaluation as to whether a State Pollutant Discharge Elimination Systems ("SPDES") Permit Modification is required for storm water; and.
 - (d) If a SPDES Permit Modification for storm water is required, a completed application for the SPDES Permit Modification, using Form NY-2C.

EROSION CONTROL

40. The Application will include a preliminary plan for the collection and treatment of storm water runoff from the Project site during construction and operation. In the event that the construction disturbance is greater than 5 acres, such preliminary plan will include the delineation of watershed boundaries and subbasins; existing flow paths and proposed flow path relocations; a general description of the location, type, and size of all existing and proposed storm drainage facilities, storm water outfall and/or subsurface locations and conditions; design flows and outfall velocities; the proposed method of stabilizing outfall channels; the location, size, and type of the nearest upstream and downstream bridge or culvert affected by the Project; the location, size, and structural details of storm water detention facilities; preliminary hydraulic calculations for the 2, 10, and 100 year storm frequencies for both existing and proposed conditions; delineation of affected floodways and flood hazard areas; a description of techniques that will be used to prevent or control storm water-related soil erosion, runoff and subsequent sedimentation in areas that have been cleared and graded, both during construction and operation; an analysis of storm water impacts; and an identification and evaluation of reasonable mitigation measures to avoid and minimize storm water impacts, including the use of alternative technologies and subsurface disposal.

STEAM SALES

41. A description of the status of negotiations, and/or a copy of any agreements that have been executed, with Con Edison for providing steam to the New York City steam system.

PROPOSED STIPULATION NO. 152: COMBINED IMPACTS FROM MULTIPLE FACILITIES

1. The Application will include a study of the relevant cumulative impacts of other power plants proposed in New York City. The study will focus on any relevant changes in visibility, and encroachment on, or impacts to, historic resources resulting from an Article X facility that has received a compliance determination or a NYPA peaking facility. The Application will also address cumulative noise impacts, traffic routes shared with the alternative facilities, consumptive water use, and waste water discharge to municipal wastewater treatment plants, considering Article X facilities that have received a compliance determination, NYPA peaking facilities, the proposed NISA barge plant, Newtown Creek generator, and Domino Sugar plant. The study will be based on publicly available information and will generally be qualitative in character, with quantitative analysis used as appropriate. ~~{note: change subject to Borough President signature}~~
2. Air quality, electric transmission, fuel availability, consumptive water use and system production modeling will be analyzed as outlined in Stipulations 1, 3, 4, 11 and 13. No additional analysis pursuant to this stipulation is required for these disciplines.

PROPOSED STIPULATION NO. 13: SIMULATION ANALYSIS

31. The Application will include the following analyses, which will be developed using MAPS, PROMOD or a similar modeling tool:
- ~~d~~a) Estimated statewide levels of SO₂, NO_x and CO₂ emissions, both with, and without the TGE Facility;
 - e)b) Estimated minimum, maximum, and average annual spot prices representative of Areas “A”, “F”, and “J”, of the New York Control Area, both with and without the Project; and
 - ~~f~~c) Estimated capacity factor for the Project.
42. The analysis will assume the following plants are in service: all existing electric generating facilities, and those electric generating facilities that ~~(a)~~ have been proposed in Article X applications and ~~(b)~~ have received a notification from the Chairman of the Siting Board 60 days prior to the filing of the Project’s Article X Application that their application is in compliance with Article X; non-Article X generating facilities proposed on Long Island that have received air permits from NYSDEC 60 days prior to filing of the Project’s Article X application; and projects that have filed applications under Article VII of the Public Service Law, for which the NYPSC has fixed a date for a public hearing under Section 123 of the Public Service Law 60 days prior to the filing of the Project’s Article X Application.
53. The Applicant will consult with the DPS Staff with the goal of agreeing to a mutually acceptable input data set, including modeling for the Applicant’s proposed facility, to be used in the above discussed Simulation analyses.