

# GWAPP

## Position Paper No. 1

June 2001

### **An Article X Analysis Pertaining to the Proposed Bayside Site: Why Clean Point Energy, LLC Will Be Unable to Obtain Permits<sup>1</sup>**

#### **Preliminary Statement**

This position paper presents an analysis under Public Service Law Article X of the Clean Point Energy proposed 1000 to 1500 megawatt ("MW") facility at the Bushwick Inlet and East River. This proposed facility would be sited directly next to residences, within two blocks of North Brooklyn's regional park, a church, two schools, a landmarked historic district and a State/New York University ("NYU") recreational waterfront park project. Clean Point Energy proposes this site despite the fact that the Greenpoint/Williamsburg community has been one of New York City's most rapidly growing communities. This position paper analyzes the environmental setting of the proposed site; the potential environmental impacts from

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<sup>1</sup> The Policy & Planning Group of Greenpoint Waterfront Association for Parks & Planning, Inc. ("GWAPP") is issuing this policy paper as part of a series to express the community's opposition to the Clean Point Energy, LLC's proposal to develop a power plant at the Bayside OilSite. This paper is based upon the following sources: Stipulation Pursuant to Section 17-0303 of the Environmental Conservation Law and Section 176 of the Navigation Law by: Texaco Refining & Marketing, Inc. Spill #9804544 (July1998); Criteria Air Pollutant Report for Kings County - New York; Environmental Defense Fund Community Scorecard; 1996 EPA National Emissions Trends Database (<http://www.scorecard.org>); USEPA National Ambient Air Quality Standards; Brooklyn Community Board One, 197-A Plan for Greenpoint, Brooklyn (January 1999); Brooklyn Community Board One, 197-A Plan for Williamsburg, Brooklyn (October 1998); New York City Zoning Resolution - Article IV: Manufacturing District Regulations and New York City Noise Code Sub-chapter 6. Assumptions regarding the proposed Clean Point Energy facility are based upon the following source: Astoria Energy Article X Pre-application, Case 99-F-1191, SCS Energy, LLC (1999), describing a 1000-megawatt "state-of-the-art" combined-cycle plant powered by natural gas and number 2 distillate. Without expressing an opinion regarding the merits of the proposed Astoria Energy facility, GWAPP has utilized this report to derive assumptions about the Bayside site because Clean Point Energy has refused to provide the community with any details of their proposed project other than stating their desire to build a "state-of-the-art" 1000 to 1500 megawatt ("MW") combined-cycle plant.

the construction and operation of the facility; the mitigation issues associated with this location; a land-use compatibility analysis; and an analysis of impacts on local historical, aesthetic, cultural, and economic conditions. In examining each of these factors, the proposed Clean Point Energy plant is inconsistent with current and future local environmental, land-use and economic conditions. As a result, the Clean Point Energy plant should not be permitted by New York State.

### **Description of Proposed Project and Current Environmental Setting**

The proposed facility would be located at the Bayside Fuel Oil Depot, an 8-acre parcel of waterfront property overlooking the East River across from the Manhattan skyline. The site is bounded by a data storage facility to the south, the East River to the west, and the Bushwick Inlet to the north, and the residences of Greenpoint and Williamsburg to the east. The site is in active use by the Bayside Fuel, a home heating oil storage and distribution company.

Currently, the Bayside Oil site contains tanks for storing home heating oil, office buildings, storage sheds, a parking lot for oil trucks and employee vehicles, and a warehouse building that contains a state-of-the-art recording facility and artist studios. Clean Point Energy proposes to demolish all of the existing structures except for three oil storage tanks to make room for the proposed power plant.

The proposed power plant would consist of a nominal 1000 to 1500 megawatt (“MW”) combined-cycle natural gas fired facility with the ability to operate with low sulfur number 2 distillate as a back-up fuel. The major components of the plant would include combustion turbine generators (CTs), heat recovery steam generators (HRSGs), steam turbine generators (STs), exhaust stacks, an electrical switchyard, air cooled condensers (ACCs), warehouses, a water treatment facility and storage tanks that would contain raw water, distillate fuel oil and a variety of

potentially hazardous industrial chemicals required to maintain and operate the facility.

The process arrangement of the major plant components would be presumably consistent with current state-of-the-art emissions control technology. Natural gas or fuel oil would be supplied to the CTs to produce electricity and exhaust to HRSGs. Combined with water, the HRSGs would produce steam to drive the STs and produce additional electricity. After passing through the HRSG, exhaust gases would be released into the atmosphere through the stacks. Exhaust from the STs would flow into the ACCs and the condensate would be returned to the HRSGs. This technology is referred to as combined-cycle because electric power is generated both in gas and steam turbines.

The primary fuel would be natural gas from a connection to the regional pipeline network. When natural gas use is curtailed, which is the expected operating scenario for at least 720 hours per year (1 month), No. 2 fuel oil distillate would be used. Three fuel oil storage tanks and supply lines, which are currently on-site, will be converted to storing the low-sulfur No. 2 fuel oil distillate. During the firing of fuel oil, aqueous ammonia is used in a selective catalytic reduction (SCR) process to reduce nitrogen oxide (NO<sub>x</sub>) emissions. Consequently, the proposed project will also require the storage of aqueous ammonia in specially dedicated tanks. Ammonia is a toxic, corrosive and irritating substance. Spills of aqueous ammonia and release of ammonia vapor into the atmosphere is likely to occur during routine facility operation and delivery. In addition, the fuel oil and aqueous ammonia will be delivered to the facility by truck and/or water transport, which would add to the already substantial truck and barge traffic from the existing marine and land-based waste transfer facilities in Greenpoint/Williamsburg.

Alternatively, urea may be used to generate ammonia to minimize NOx emissions during the firing of fuel oil. The urea would be dissolved in water, and heat and pressure from project operations would convert the urea into ammonia. Although non-volatile urea is an irritant, reacts with strong oxidizing agents and has been classified as a mutagen. When used in the SCRs, aqueous urea may only reduce NOx emissions by 85%. Urea would be stored on the site in bulk storage silos.

Water would also have to be used at the facility for the HRSGs, evaporative coolers, and for injection into the gas turbines when firing fuel oil. The water would have to be stored on-site, in raw water storage tanks, and could also be used for fire emergencies. Using the Astoria Energy facility as a model for a baseline estimate, waste-water generated at the Clean Point Energy project is estimated to be approximately 120,000 gallons per day. The post-process wastewater will contain oil and electrolytes that will have been treated at the facility. It is expected that wastewater seepage will occur on the site.

Relevant air emissions from the proposed power plant will include sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NOx), particulate matter (PM10 and PM2.5), carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and volatile organic compounds (VOCs). The facility, if operated year-round at 85% capacity, would introduce an estimated 350-500 tons per year of NOx, 300 tons per year of CO and 400-450 tons per year of PM into an airshed already overburdened with significant levels of air pollutants. (Emissions of SOx would be highly variable and dependent upon the magnitude of No. 2 Fuel Oil use at the proposed facility.) Greenpoint/Williamsburg (Kings County) is not only in a National Ambient Air-Quality Standards non-attainment area for carbon monoxide and NOx (ozone precursors) and particulate

matter, it is also listed by the Environmental Defense Fund to be among the top 10% of worst areas in the country in terms of carbon monoxide, nitrogen oxides (NO<sub>x</sub>), particulate matter, and volatile organic compound (VOC) emissions. Industries such as freight transportation, sewage treatment, waste transfer, paint manufacture, plastic bag manufacture, and over 3,500 per day truck traffic, already contribute significantly to the compromised ambient air quality in the Greenpoint/ Williamsburg area.

Although the many proposed combined-cycle natural gas and oil fired power plants that are currently being reviewed under Article X may result in a net reduction in total emissions. If compared to older plants, the Clean Point Energy facility will be generating considerable quantities of additional air pollutants into a community that is already a non-attainment area for air quality (even in the absence of this power plant). The proposed state-of-the-art technology for generating electricity is only likely to improve the operating efficiency of the power plant by 15%, from 35% to 50%, as compared with older power generating facilities in the immediate vicinity. As a result, the project may severely exacerbate what are already extremely elevated asthma rates in our community.

Of particular concern is the level of PM<sub>2.5</sub> emissions that will result from plant operation. PM<sub>2.5</sub> refers to particulate matter that is 2.5 micrometers or smaller in size. Whether burning gas or oil, the Clean Point Energy facility is likely to produce considerable amounts of PM<sub>2.5</sub> as a result of the direct combustion of fuel and as a consequence of chemical reactions in the atmosphere that involve sulfur dioxide, NO<sub>x</sub>, and VOCs (the common emissions from any power plant). PM<sub>2.5</sub> penetrates deep into the lungs, and epidemiological studies show that inhalation of these particulates exacerbates asthma, allergies, bronchitis, and chronic respiratory ailments that are linked with premature death in the elderly. Because of their

developing immune systems, children are especially susceptible to health risks from PM2.5.

### **Zoning, Local and Regional Land Use**

The proposed site is directly adjacent to the Bushwick Inlet, which has been designated as “open space” by the NYSDEC. It is also the site of the launch site of the Civil War ironclad ship, the U.S.S. Monitor. The site is also next to homes and within two blocks of North Brooklyn’s main regional park, two schools, a Catholic church, a NYU/NYS waterfront recreational park and the landmarked residential Greenpoint Historic District. Because the community is predominately residential, the immediate area surrounding the site does not have adequate roadways to support the increased truck activity that would result from the power plant’s construction and operation.

The area is currently zoned industrial, a designation which dates back to 1916. It is now inconsistent, however, with every land-use study performed over the past ten years of the New York City waterfront. This includes the New York City Planning Department’s Waterfront Plan (which is the State’s adopted Coastal Management Plan for New York City), the City Planning Department’s Plan for the Brooklyn Waterfront, and Brooklyn Community Board One’s 197-a Plans for the Greenpoint and Williamsburg communities. These plans uniformly recommend remediation and rezoning of the waterfront area for mixed-use purposes, due to the general decline of the regional manufacturing base, the need for more housing, urban renewal, and the fact that the site sits within the heart of the Greenpoint/Williamsburg community. Although the Bayside site is considered a brownfield due to past contamination with spilled petroleum, the previous site owner (Texaco Refining & Marketing, Inc.) must remediate the site under a 1998 stipulations with

NYSDEC. The State imposed Corrective Action Plan ensures that the current contamination will be remediated, and thus, following cleanup, available for mixed-use.

The construction of a power plant would permanently preclude the rezoning and beneficial redevelopment of the site to more locally and regionally desirable uses. Given its superlative location on the East River, and the potential for reuse benefiting the entire local and regional population, the opportunity cost of building a power plant on this site is unsupportable.

### **Potential Environmental and Socioeconomic Impacts**

Although zoned for heavy industry, the Bayside site is not a viable M-3 area because of its juxtaposition to changing and growing the Greenpoint/Williamsburg community. The zoning is adjacent to and abutting areas of the site that are reserved for open space, mixed use residential and commercial, a designation that is more in character with current local area land-uses. Kent Avenue, Franklin Street, Greenpoint Avenue, Manhattan Avenue, and McGuinness Boulevard are potential truck routes for construction and operation of the facility. These roadways are located along main residential and commercial corridors, and the power plant construction and operation will cause increased wear and tear, increased noise levels and compromised pedestrian safety. Additional traffic in the community is a critical factor due to the large amount of traffic already entering the Newtown Creek and other areas for waste transfer and other commercial operations.

The proposed project is also inconsistent with the local community's future comprehensive development objectives. Every government and community sponsored planning study of this waterfront area calls for its redevelopment into

sponsored planning study of this waterfront area calls for its redevelopment into residential and commercial space consistent with the robust socioeconomic growth experienced by the community within the past 20 years. Not only is the proposed plant inconsistent with these plans, its design will be ineffective to buffer the community from the increased traffic, increased noise, increased emissions, electromagnetic radiation and visual impact.

Because the site is located in an area classified as "non-attainment" for ozone (NO<sub>x</sub> and VOC) PM<sub>10</sub>, PM<sub>2.5</sub> and CO, the annual NO<sub>x</sub> and VOC emissions are expected to exceed the thresholds for non-attainment review applicability. Consequently, the additional ozone-producing emissions would have severely detrimental repercussions on the already elevated asthma rate in the Greenpoint/Williamsburg community.

Further, the New York City Environmental Quality Review limits increases in noise to no greater than 3 dBA above the minimum late night background noise levels at any residential receptors or 90% of the lower dBA limit (L90). In practice, noise generated by the construction and operation of the proposed project would not be limited to the same level as the minimum late night background L90 level. Since the area is primarily quiet and residential and lacking in heavy industry, the ambient background late night noise levels do not exceed the 40-50 dBA range. It is expected that this range will be exceeded (as monitored by the residential receptors that are 100 ft to 1/2 mile from the facility) during construction and routine operation of the power plant. According to New York Zoning Regulations pertaining to manufacturing districts, stringent restrictions are placed on ambient noise and the steady state and impact vibrations produced during construction and operation of an industrial facility located within an M3 zone when that facility adjoins a residential district. It is expected that

these restrictions will be exceeded during the construction and operation of this facility.

The proposed facility would also have a devastating socioeconomic impact on the Greenpoint/Williamsburg community and the Borough of Brooklyn. For the past two decades, the Greenpoint/Williamsburg community has experienced robust growth, revitalization and urban renewal. The community has witnessed an influx of over twenty thousand professionals and artists who have reclaimed and renovated dilapidated or abandoned structures converting them into housing and commercial enterprises. As a result, property values have more than doubled in the period between 1995 and 2001 and the area has become one of the premier neighborhoods in New York City.

The Polish and Slavic Federal Credit Union, which holds many mortgages on residences and businesses in the community, estimates that property values would fall 40% or more following construction of the proposed facility. As a result, GWAPP and every local church, synagogue, and community organization have committed their financial and other resources to oppose the construction of the proposed facility.

During construction and operation of the proposed facility, the thriving streets of the Williamsburg community and the quiet avenues of the Greenpoint Historic District will be disrupted by increased vehicular traffic, which will elevate the risk of accidents and compromise pedestrian safety. Moreover, any projected financial gain from the facility will be undermined by the potential reduction in property values, reversing the robust urban renewal of the past decade. Since the Greenpoint/Williamsburg community consists of over 140,000 residents, the curtailment in growth of revenue from private, multi-dwelling residences and local business due to the slowing or reversal in urban renewal would more than offset any

gain in tax revenue from the facility. Consequently, the Greenpoint/Williamsburg community, and Brooklyn in general, would realize a net loss in revenue as a result of the superimposition of the facility on the neighborhood.

### **Cultural, Historical and Aesthetic Impact**

The proposed site is neither next to or part of an area that supports heavy industry. Rather, the site abuts the Bushwick Inlet, and sits directly adjacent to the residential Williamsburg and Greenpoint Historic District communities, playgrounds, schools and houses of worship. Residential property abuts the site and it is surrounded by many converted warehouses and loft properties that are being proposed for legal residency by the New York City. Public recreation areas, currently planned by the NYC government and NYU are within the immediate vicinity of the site. Consequently, construction and operation of the facility would significantly disrupt the daily activity and overall quality of life of the neighborhood.

The Clean Point Energy facility will likely consist of the following primary elements: a turbine building to house the CTs and STs, HRSG enclosures topped with stack flues, an electric switchyard, ACCs, fuel oil and waste water storage tanks, a water treatment building, additional administrative and employee facilities, and a parking lot. Using the 1000 MW Astoria Energy Site as an example, the layout and dimensions of the structures is likely to encompass more than 60% of the 8.4 acre Bayside Oil Site. There are no taller structures or industrial activities in the vicinity of the site to camouflage the facility. Indeed, the eight stacks are likely to be over 150 feet high. 110 foot high wind barriers would be erected to protect the HSRGs and the ACCs. These structures would tower over the three and four-story residences and houses of worship of the Greenpoint Historic District and Williamsburg communities. The juxtaposition of the facility to the

Greenpoint/Williamsburg community would mar the local visual setting of the landmarked Greenpoint Historic District as well as adjoining streets. The entire viewshed from Greenpoint Avenue to the Williamsburg Bridge, looking towards Manhattan, would be dominated by the Clean Point Energy facility. Since the site and surroundings do not support heavy industry, the facility will not conform to the architecture of the vicinity. Consequently the proposed facility would be in direct contradiction with the Visual Resources and Aesthetics guidelines established by the New York State Office of Parks, Recreation and Historic Preservation. Finally, the proposed site is adjacent to the launching site of the Civil War ironclad battleship U.S.S. Monitor. Consequently, the area is being placed on the National Historic Register and being proposed for congressional designation as a National Park.

### **Conclusion**

The majority of factors considered under Public Service Law Article X to determine the suitability of proposals to site electric generating facilities have been analyzed above. Based on this Article X analysis, the proposed site is not appropriate for development of a power plant. The combination of existing local environmental concerns, the availability of the site for more beneficial uses such as open space and mixed use and the significant upturn in the Greenpoint/Williamsburg area should be sufficient evidence that a power plant at this location is not in the public interest and would be hugely detrimental to the Greenpoint/Williamsburg community and the City and State of New York.