

**APPENDIX K**  
**GENERAL CONFORMITY DETERMINATION**

**APPENDIX K  
GENERAL CONFORMITY ANALYSIS**

**Appendix K  
General Conformity Analysis  
Broadwater LNG Project**

Revised December 2007

**APPENDIX K  
GENERAL CONFORMITY ANALYSIS**

## **Broadwater General Conformity Analysis**

### **1.0 PROJECT DESCRIPTION**

Broadwater Energy, a joint venture between TCPL USA LNG, Inc., and Shell Broadwater Holdings LLC (Broadwater), has filed an application with the Federal Energy Regulatory Commission (FERC) seeking all of the necessary authorizations pursuant to the Natural Gas Act to construct and operate a marine liquefied natural gas (LNG) regasification facility (the Project) and subsea pipeline for the importation, storage, regasification, and transportation of natural gas. The Broadwater LNG Project (the Project) will increase the availability of natural gas to the New York and Connecticut markets through an interconnection with the Iroquois Gas Transmission System (IGTS).

The Project will be located approximately 9 miles from Long Island in Long Island Sound, in approximately 90 feet of water and offshore of Riverhead, Suffolk County, New York. The LNG terminal facilitates the sea-to-land transfer of natural gas. It will be designed to receive, store, and regasify LNG at an average throughput of 1.0 billion cubic feet per day (bcfd) and will be capable of delivering a peak throughput of 1.25 bcfd. The Project will deliver the regasified LNG to the existing natural gas pipeline system via an interconnection to the IGTS pipeline.

The proposed LNG terminal will consist of a floating storage and regasification unit (FSRU) that is approximately 1,215 feet (370 meters [m]) in length, 200 feet (60 m) in width, and rising approximately 80 feet (25 m) above the water line to the trunk deck. The FSRU's draft is approximately 40 feet (12 m). The FSRU will be designed with a net temporary storage capacity of approximately 350,000 cubic meters (m<sup>3</sup>) of LNG (equivalent to 8 billion cubic feet [bcf] of natural gas), with base vaporization capabilities of 1.0 bcfd using a closed-loop shell and tube vaporization (STV) system. The LNG will be delivered to the FSRU in LNG carriers with cargo capacities ranging from approximately 125,000 m<sup>3</sup> up to a potential future size of 250,000 m<sup>3</sup> at the frequency of two to three carriers per week.

The FSRU will be connected to the send-out pipeline, which rises from the seabed and is supported by a stationary tower structure. In addition to supporting the pipeline, the stationary tower also serves the purpose of securing the FSRU in such a manner to allow it to orient in response to prevailing wind, wave, and current conditions (i.e., weathervane) around the tower. The tower, which is secured to the seabed by four legs, will house the yoke mooring system (YMS), allowing the FSRU to weathervane around the tower. The total area under the tower structure, which is of open design, will be approximately 13,180 square feet (1,225 square meters [m<sup>2</sup>]).

A 30-inch-diameter natural gas pipeline will deliver the vaporized natural gas to the existing IGTS pipeline. It will be installed beneath the seafloor from the stationary tower structure to an interconnection location at the existing 24-inch-diameter subsea section of the IGTS pipeline, approximately 22 miles (35 km) west of the proposed FSRU site. To stabilize and protect the operating components, sections of the pipeline will be covered with engineered back-fill material or spoil removed during the lowering operation.

The Project is located within AQCR 43 (New Jersey-New York-Connecticut Interstate Area Quality Control Region). This AQCR is also known as the New York-Northern New Jersey-Long Island, NY-NJ-CT area. The portion of this area which is located in New York State is designated moderate nonattainment for the 8-hour ozone standard. Previously the AQCR was designated severe nonattainment for the 1-hour ozone standard and New York State continues to apply control programs addressing the 1-hour ozone standard as more protective of air quality. This area is designated as nonattainment for the PM<sub>2.5</sub> standard, effective April 5, 2005. These nonattainment designations result in the regulation of oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOCs) and PM<sub>2.5</sub> (and specified PM<sub>2.5</sub> precursors)

## **APPENDIX K GENERAL CONFORMITY ANALYSIS**

which may trigger the General Conformity requirements established by the United State Environmental Protection Agency (USEPA). This area is designated attainment for all other criteria pollutants.

### **2.0 GENERAL CONFORMITY – REGULATORY BACKGROUND**

Section 176(c) of the Federal Clean Air Act (CAA) provides that Federal agencies cannot engage, support, or provide financial assistance for licensing, permitting, or approving any project unless the project conforms to the applicable State Implementation Plan (SIP). A SIP is a compilation of a state's air quality control plans and rules, approved by the USEPA. The State and USEPA's goals are to eliminate or reduce the severity and number of violations of National Ambient Air Quality Standards (NAAQS) and achieve expeditious attainment of these standards.

Pursuant to CAA Section 176(c) requirements, the USEPA promulgated Title 40 of the Code of Federal Regulations (CFR) Part 51 (40 CFR 51) Subpart W and 40 CFR 93 Subpart B, "Determining Conformity of General Federal Actions to State or Federal Implementation Plans" (see Volume 58 of the Federal Register [FR], November 30, 1993 (58 FR 63214)). These regulations, commonly referred to as the General Conformity Rule, apply to all Federal actions except for those Federal actions which are excluded from review (e.g., stationary source emissions) or related to transportation plans, programs, and projects under Title 23 U.S. Code or the Federal Transit Act, which are subject to Transportation Conformity. 40 CFR 51 Subpart W applies in states where the state has an approved SIP revision adopting General Conformity regulations; 40 CFR 93 Subpart B applies in states where the state does not have an approved SIP revision adopting General Conformity regulations.

In New York State, the New York State Department of Environmental Conservation (NYSDEC) has not promulgated a rule incorporating Federal General Conformity regulations by reference or establishing its own General Conformity regulations. Therefore, the New York SIP does not contain an USEPA-approved SIP revision incorporating General Conformity. Although a proposed New York State General Conformity rule (Part 241) was slated for development in the NYSDEC January 2007 regulatory agenda, the rule has not been developed. As specified in 40 CFR 93, Subpart B, if a State has not developed its own General Conformity rule or formally adopted the Federal General Conformity rule, then the provisions in 40 CFR 93 Subpart B apply. It should be noted that General Conformity provisions in 40 CFR 93, Subpart B are identical to those in 40 CFR 51 Subpart W.

### **2.1 GENERAL CONFORMITY REQUIREMENTS**

The General Conformity Rule is used to determine if Federal actions<sup>1</sup> meet the requirements of the CAA and the applicable SIP by ensuring that air emissions related to the action do not:

- Cause or contribute to new violations of a NAAQS;
- Increase the frequency or severity of any existing violation of a NAAQS; or
- Delay timely attainment of a NAAQS or interim emission reduction.

A Federal action is subject to the General Conformity Rule if it is not classified as an exempt activity, as listed in 40 CFR 93, Subpart B and if the total direct and indirect emissions of a pollutant (or

---

<sup>1</sup> The General Conformity Rule defines a Federal action as any activity engaged in by a department, agency, or instrumentality of the Federal government or any activity that a department, agency, or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves. The General Conformity Rule applies only to Federal actions in locations designated as nonattainment or maintenance areas for any criteria air pollutant under 40 CFR Part 81, "Designation of Areas for Air Quality Planning Purposes."

## APPENDIX K GENERAL CONFORMITY ANALYSIS

its precursors), for which the area is classified as nonattainment or a maintenance area, equal or exceed (1) emission thresholds established in the General Conformity regulations or (2) 10 percent of the total emissions budget for the entire nonattainment or maintenance area. If emissions are less than these criteria levels, then the Federal action is presumed to conform to the SIP.

Conformity regulatory criterion are listed in 40 CFR 93.158 (note that the criterion listed here are the same as listed in 40 CFR 51.858). An action will be determined to conform to the applicable SIP if, for each pollutant that exceeds the rates in 40 CFR 93.153(b), or otherwise requires a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of paragraph (c) of 93.158.

The lead Federal agency for the Project is FERC and, as such, FERC will prepare the environmental impact statement (EIS) for the Project and the General Conformity determination. The Project would be located in an area designated nonattainment for ozone and PM<sub>2.5</sub>. Therefore, in accordance with 40 CFR 93.153 and 93.158, emissions of ozone precursor compounds nitrogen oxide NO<sub>x</sub> and VOC and PM<sub>2.5</sub> and PM<sub>2.5</sub> precursor compounds (sulfur dioxide [SO<sub>2</sub>] and NO<sub>x</sub>) are analyzed in a General Conformity analysis.

### 2.2 NEW YORK STATE SIP

The current New York State SIP contains provisions for control programs for ozone under the 1-hour standard, total suspended particulate, SO<sub>2</sub> and carbon monoxide. The provisions currently included in the SIP for total suspended particulate (a maintenance plan for the Niagara Frontier Air Quality Control Region), SO<sub>2</sub> (two provisions specific to the Lovett Generating Station) and carbon monoxide (provisions for an oxygenated gasoline program and control period associated with a Downtown Brooklyn maintenance plan and an Onondaga County maintenance plan) are not applicable to the Project.

The current New York State SIP provisions for attaining the 1-hour ozone standard contain control programs focused on motor vehicle emissions, certain specific industrial categories and stationary source programs for NO<sub>x</sub> and VOC control. The SIP provisions for motor vehicles and the industrial categories listed are not applicable to Broadwater. The only current provision in the SIP potentially governing Broadwater in regard to General Conformity is the New York SIP for Ozone - Phase II Alternative Attainment Demonstration; however the projected emission budget in this latter SIP extends only through 2007. As discussed below, NYSDEC is developing its SIP for 8-hour ozone attainment, and it is expected the emission budget will be addressed. The current SIP has been approved by the USEPA to attain the 1-hour ozone NAAQS. In accordance with a recent decision of the United States Court of Appeals, the 1-hour ozone standard and the CAA requirements for nonattainment SIPs under the 1-hour standard remain in effect.<sup>2</sup>

NYSDEC is in the process of developing its SIP for the attainment of the 8-hour ozone NAAQS. Historically, exceedance of the 1-hour and 8-hour ozone NAAQS have been found to occur between May 1 and September 30 in the nonattainment area. A combination of ozone precursor emissions and meteorological conditions during this period can cause formation of ozone. Thus, control programs in New York State are aimed at controlling emissions of ozone precursors (NO<sub>x</sub> and VOCs) during this period each year.

---

<sup>2</sup> South Coast Air Quality Management District v. EPA, 2006 U.S. App. Lexis 31451, (D.C. Cir. Dec. 22, 2006 (SCAQMD Decision)). A subsequent clarification by the court clarified that conformity only needs to be demonstrated to the 8-hour ozone standard.

## **APPENDIX K GENERAL CONFORMITY ANALYSIS**

There are no SIP provisions currently addressing PM<sub>2.5</sub> nonattainment since areas within New York State have not previously been designated with respect to the PM<sub>2.5</sub> standard. NYSDEC is in the process of developing its control strategy and SIP for PM<sub>2.5</sub>. In addition to existing and new stationary source control programs, other national air quality programs that are likely to be relied upon in New York State's upcoming SIPs for ozone and PM<sub>2.5</sub> include new regulations for nonroad diesel engine emissions (engine emission standards and sulfur-in-fuel limits).

### **3.0 PROJECT EMISSIONS**

Emissions will occur during two phases of the Project: construction and operation. Construction emissions will not occur simultaneously with operations emissions. Construction emissions will occur in calendar years 2009 and 2010, followed by operations emissions that include a facility shakedown period followed by commencement of regasification operations.

#### **3.1 CONSTRUCTION EMISSIONS**

Construction emissions will occur from construction of offshore facilities in New York State waters. Although onshore facilities in New York State will be utilized as well, temporary onshore facilities used during construction for the milling, concrete coating and temporary storage of pipeline will be existing facilities located outside the Project area. Temporary use of dock, office and warehouse space for construction contractors will utilize existing facilities.

Offshore construction activities will consist of pipeline installation, the installation and hook up of the mooring tower and FSRU towing. The FSRU will be constructed in a shipyard away from the Project site and towed to the site. Thus, the primary sources of emissions during construction activities will be the marine construction vessels used to install the pipeline and FSRU. Ships of various sizes, ranging from small day-use workboats to large supply vessels, pipeline construction vessels and ocean-going tug boats, will be used. Emission estimates from construction activities are based on the anticipated duration of use of each vessel type during the construction period, the vessels' engine characteristics and duty cycles, and emission factors. The construction emission estimate includes emissions from towing the FSRU while in New York State waters to its mooring location.

Construction is anticipated to occur during winter months only over a two-year period (2009 and 2010). A spreadsheet emission estimate tool provided by the U.S. Department of the Interior, Minerals Management Service, developed specifically for estimating construction in the marine environment, was used to estimate construction-related emissions. The emission estimate requires the use of a detailed construction schedule, inventory of vessel types, quantity and duration of use, and emission factors. Emission estimates for construction activity are presented in Table 1; the detailed construction emission estimate study is provided in Appendix A.

**APPENDIX K  
GENERAL CONFORMITY ANALYSIS**

<b>TABLE 1 Estimated Emissions from Construction Activities</b>							
Year	PM <sub>10</sub> / PM <sub>2.5</sub> (tpy)	SO <sub>2</sub> (tpy)	NO <sub>x</sub> <sup>(1,2)</sup> (tpy)	Ozone Control Period NO <sub>x</sub> (tons)	VOCs <sup>(1)</sup> (tpy)	Ozone Control Period VOCs (tons)	CO (tpy)
1	13	26	269	0	14	0	58
2	18	67	471	0	22	0	103
Annual General Conformity	100 <sup>(2)</sup>	100 <sup>(2)</sup>	100	n/a	50	n/a	n/a
<i>de minimis</i>			25 <sup>(3)</sup>		25 <sup>(3)</sup>		

<sup>(1)</sup> Assumes that *de minimis* thresholds proposed by USEPA for a moderate ozone nonattainment area are applicable. The *de minimis* threshold for NO<sub>x</sub> under the USEPA's PM<sub>2.5</sub> *de Minimis* Emission Levels for General Conformity Applicability (see FR Vol. 71, No. 65 April 5, 2006) is equal to 100 tpy, which is the same as the *de minimis* threshold proposed by USEPA for moderate ozone nonattainment.

<sup>(2)</sup> USEPA's PM<sub>2.5</sub> *de Minimis* Emission Levels for General Conformity Applicability (see FR Vol. 71, No. 65 April 5, 2006) sets *de minimis* levels for direct PM<sub>2.5</sub> and PM<sub>2.5</sub> precursor compounds (SO<sub>2</sub> and NO<sub>x</sub>) at 100 tpy. However, the final rule allows a State or USEPA to make a finding that VOC and/or ammonia are PM<sub>2.5</sub> precursors and to make a finding that NO<sub>x</sub> is not a PM<sub>2.5</sub> precursor.

<sup>(3)</sup> Assumes that the *de minimis* thresholds for the 1-hour ozone nonattainment area continue to apply.

### 3.2 OPERATIONAL EMISSIONS NOT SUBJECT TO PERMITTING

The FSRU is subject to major nonattainment New Source Review (NSR) for NO<sub>x</sub> under New York's 1-hour ozone nonattainment program. The initial SCAQMD Decision reinstated New York's SIP for the 1-hour ozone standard. Accordingly, Broadwater's FSRU NO<sub>x</sub> emissions are subject to requirements for permitting under the Clean Air Act and are excluded from General Conformity pursuant to 40 CFR 93.153(d)(1). This exemption includes emissions subject to major nonattainment NSR and prevention of significant deterioration (PSD) permitting requirements.

Emissions will be produced by LNG carriers during transit to and from the FSRU and by support vessel operation during routine operation of the FSRU. Vessels associated with routine operation of the FSRU include the LNG carrier and tug boats which will escort and assist the LNG carriers while approaching, positioning, docking, and leaving the FSRU. The final location of the permanent on-shore facility has not been chosen. Broadwater has identified locations in Greenport, NY and Port Jefferson, NY (both in Suffolk County) that can provide the needed facilities. Permanent on-shore facilities will utilize existing office space, warehouse and docks. The permanent onshore facility will not construct any new stationary emission sources or compression facilities. Small supply vessels will deliver supplies for use on the FSRU from the onshore facility.

Emissions for the LNG carriers are calculated for the complete delivery cycle beginning at the location at which the vessel enters New York State waters, as it travels inbound to the FSRU, unloads LNG at the FSRU, and as it travels outbound until it reaches the boundary of New York State waters. The United States Coast Guard (USCG) provides recommendations with respect to LNG carrier routes in the Waterways Suitability Report (USCG 2006).

## APPENDIX K GENERAL CONFORMITY ANALYSIS

Tug boats will be used to assist an LNG carrier during its operation in the vicinity of the FSRU. The tugs are used to aid in making turns and positioning the LNG carrier alongside the FSRU. In addition, tug boats will typically meet the inbound LNG carrier at the Race during transit into Long Island Sound, escort it to the FSRU, and escort the outbound LNG carrier out to the Race after it delivers its LNG cargo. The number of tug boats required for these operations will vary depending on the size of the LNG carrier and USCG requirements. For the purposes of this emission analysis, Broadwater has assumed that three tug boats will assist the LNG carrier while berthing to the FSRU and two escort tugs will travel with the LNG carrier inbound and outbound through Long Island Sound. One supply vessel will typically visit the FSRU per each LNG delivery. Based on LNG deliveries from a conventional LNG carrier with a cargo capacity of 250,000 m<sup>3</sup>, 66 supply vessel trips will be made to the FSRU annually.

A summary of reasonably foreseeable direct and indirect emissions not subject to major source NSR or PSD permitting during normal operation of the Project is presented in Table 2.

<b>TABLE 2 Operational Emission Summary for General Conformity</b>						
	Annual NO <sub>x</sub> (tpy)	Ozone Control Period NO <sub>x</sub> (tons)	Annual VOC (tpy)	Ozone Control Period VOC (tons)	PM <sub>10</sub> /P M <sub>2.5</sub> (tpy)	SO <sub>2</sub> (tpy)
LNG Carrier Hoteling and Unloading <sup>(1)</sup>	266	115.6	8	3.5	22	158
Carrier Transit and Support Tugs	31	13.5	0.7	0.3	0.7	16
FSRU <sup>(5)</sup>	0	0	18	7.5	48	4
Total	297	129.1	26.7	11.3	70.7	178
Annual General Conformity	100 <sup>(2)</sup>	n/a	50 <sup>(2)</sup>	n/a	100 <sup>(3)</sup>	100 <sup>(3)</sup>
<i>De minimis</i>	25 <sup>(4)</sup>		25 <sup>(4)</sup>			

<sup>(1)</sup> All LNG carrier emissions associated with LNG unloading and LNG carrier hoteling while at the FSRU are included in the General Conformity determination.

<sup>(2)</sup> Assumes that *de minimis* thresholds proposed by USEPA for a moderate ozone nonattainment area are applicable. The *de minimis* threshold for NO<sub>x</sub> under the USEPA's PM<sub>2.5</sub> *De Minimis* Emission Levels for General Conformity Applicability (see Vol. 75, No. 65 April 5, 2006) is equal to 100 tpy, which is the same as the *de minimis* threshold for moderate ozone nonattainment.

<sup>(3)</sup> USEPA's PM<sub>2.5</sub> *De Minimis* Emission Levels for General Conformity Applicability (see FR Vol. 71, No. 65 April 5, 2006) sets *de minimis* levels for direct PM<sub>2.5</sub> and PM<sub>2.5</sub> precursor compounds at 100 tpy. By default, SO<sub>2</sub> and NO<sub>x</sub> emissions are considered PM<sub>2.5</sub> precursor compounds and ammonia and VOC are not. The final rule allows a State or USEPA to make a finding that VOC and/or ammonia are PM<sub>2.5</sub> precursors and to make a finding that NO<sub>x</sub> is not a PM<sub>2.5</sub> precursor.

<sup>(4)</sup> Assumes that the *de minimis* thresholds for the 1-hour ozone nonattainment area continue to apply.

<sup>(5)</sup> FSRU NO<sub>x</sub> emissions are subject to major nonattainment NSR and are therefore excluded from General Conformity.

### 4.0 GENERAL CONFORMITY APPLICABILITY

Reasonably foreseeable emissions from direct and indirect sources associated with the construction and operation of the Project not subject to air permitting under the CAA NSR and/or Prevention of Significant Deterioration (PSD) requirements are considered in this analysis. The

## APPENDIX K GENERAL CONFORMITY ANALYSIS

reasonably foreseeable emissions include the ozone-forming pollutants NO<sub>x</sub> and VOCs because the Project area is in nonattainment for the 1 and 8-hour NAAQS. Direct FSRU emissions of VOCs are below the major source permitting threshold and are therefore aggregated with vessel and other emissions subject to General Conformity.

Suffolk County also is designated nonattainment for PM<sub>2.5</sub>; thus, in accordance with USEPA's General Conformity regulations, direct emissions of PM<sub>2.5</sub> and emissions of PM<sub>2.5</sub> precursor compounds (NO<sub>x</sub> and SO<sub>2</sub>) are compared to General Conformity *de minimis* thresholds defined in the final rule (FR Vol. 71, No. 65). The final PM<sub>2.5</sub> De Minimis General Conformity rule does not require VOC and ammonia emissions to be included as PM<sub>2.5</sub> precursor emission but does allow a state and USEPA to determine if VOC and ammonia emissions should be controlled as PM<sub>2.5</sub> precursors. The final rule includes NO<sub>x</sub> emissions as a PM<sub>2.5</sub> precursor but also allows a state or USEPA to not include NO<sub>x</sub> as a precursor if the state and USEPA find that NO<sub>x</sub> emissions from sources in the state do not significantly contribute to the PM<sub>2.5</sub> nonattainment area. At this time, New York State and USEPA have not provided a determination whether VOC, ammonia and NO<sub>x</sub> will be regulated as PM<sub>2.5</sub> precursors. As a result, it is assumed NO<sub>x</sub> and SO<sub>2</sub> are considered PM<sub>2.5</sub> precursor emissions as prescribed by the rule, while VOC and ammonia emissions are not PM<sub>2.5</sub> precursor emissions.

Construction-related emissions are not covered by New York's nonattainment NSR program (i.e., subject to offset requirements) and are therefore evaluated under the General Conformity Rule. Construction-related emissions occur in calendar years prior to commencement of FSRU operations. No other Project-related emissions will occur simultaneously with construction-related emissions. Since the region is in nonattainment for ozone, emissions of NO<sub>x</sub> and VOCs are compared to General Conformity *de minimis* thresholds for the 1 and 8-hour ozone standards.

The NO<sub>x</sub> emissions shown in Table 1 are above the General Conformity *de minimis* threshold of 100 tpy proposed under the 8-hour ozone standard and 25 tpy under the 1-hour standard for each year of construction. Assuming that New York State and USEPA will not exclude NO<sub>x</sub> emissions as a precursor for PM<sub>2.5</sub>, the full amount of the NO<sub>x</sub> emissions during the two-year construction period are subject to mitigation under General Conformity. However, with construction scheduled to occur outside of the ozone control period (May 1 through September 30), construction emissions will not have any bearing on control period ozone concentrations or violations of the 1 or 8-hour ozone NAAQS.

Direct construction emissions of PM<sub>2.5</sub> will be less than the *de minimis* threshold. Of the PM<sub>2.5</sub> precursor compounds (NO<sub>x</sub> and SO<sub>2</sub>), only NO<sub>x</sub> would exceed a *de minimis* threshold. This conclusion is based on the assumption that New York State and USEPA will not exclude NO<sub>x</sub> emissions as a precursor for PM<sub>2.5</sub>. Thus, NO<sub>x</sub> emissions from construction activities in 2009 and 2010 may need to be further mitigated under General Conformity. Conversely, emissions of VOC, PM<sub>2.5</sub> and SO<sub>2</sub> during each year of the two-year construction period are estimated to be below the *de minimis* threshold for applicability of the General Conformity rule. Therefore, a General Conformity determination is not required for these pollutants.

*De minimis* thresholds for ozone and PM<sub>2.5</sub>, and corresponding emissions associated with the operation of the Project, are shown in Table 2. Vessel activity during operation of the facility is shown to result in annual NO<sub>x</sub> and SO<sub>2</sub> emissions above the *de minimis* thresholds for these pollutants. Operational emissions of VOC from vessels and the FSRU in the aggregate exceed the *de minimis* threshold for VOC under the 1-hour ozone NAAQS and are subject to General Conformity. Direct emissions of PM<sub>2.5</sub> are below the *de minimis* threshold. Thus NO<sub>x</sub>, VOC, and SO<sub>2</sub> emissions in each year of operation will require a General Conformity determination.

## **APPENDIX K GENERAL CONFORMITY ANALYSIS**

### **4.1 NEW YORK STATE SIP**

The current New York 1-hour ozone SIP applicable to Broadwater is the “New York State Implementation Plan for Ozone Phase II Alternative Attainment Demonstration.” Within the attainment demonstration is a projection of emissions from the source category “Other Non-Road Emissions.” This category includes aircraft, locomotives and marine vessels. Emissions are shown broken out by these three categories by County for planning years 2002, 2005 and 2007. In light of the recent SQAMD court decision, NYSDEC will need to keep the 1-hour ozone SIP in effect and prepare reasonable further progress (RFP) updates until attaining the 1-hour NAAQS.

New York State is in process of developing a SIP to address 8-hour ozone nonattainment, including a baseline emission inventory budget to be used as the basis for the 8-hour ozone SIP emission budget projections. One of the source groups in New York's SIP emission inventory is marine vessels. NYSDEC based the marine vessel baseline emission inventory for the 8-hour ozone standard on the "Starcrest" Report (Port Authority NY NJ 2003). This marine vessel emission inventory is a comprehensive evaluation of marine vessel emissions in the waters surrounding the New York City Metropolitan area, including Long Island Sound. Broadwater's marine vessel emission inventory was developed using the same emission factors as used in the Starcrest report.

New York State is also beginning the process of developing SIP provisions to address PM<sub>2.5</sub> nonattainment. The PM<sub>2.5</sub> SIP is due April 2008. Broadwater may have to address control of PM<sub>2.5</sub> precursor emissions under a PM<sub>2.5</sub> SIP depending on the content of control programs New York State structures into its SIP provision for PM<sub>2.5</sub> nonattainment.

During the development of SIPs for ozone and PM<sub>2.5</sub>, it is likely that New York will include the emission reduction benefits provided by new emission standards for marine vessel engines and the fuel sulfur limitations of the nonroad diesel fuel rule in the projected emission budgets.

### **5.0 GENERAL CONFORMITY DETERMINATION**

In accordance with the SCAQMD Decision, New York's 1-hour SIP remains in effect and is subject to RFP under the CAA. As discussed in section 4.1, New York State is currently developing an ozone SIP to address attainment of the 8-hour ozone standard by 2009. Thus, at this time, a final ozone SIP applicable in 2009 and beyond is not available. Similarly, New York State is in the process of developing a SIP to address PM<sub>2.5</sub> nonattainment in the State's nonattainment areas including the project location. The PM<sub>2.5</sub> SIP is due three years after nonattainment designations are final; therefore the New York PM<sub>2.5</sub> SIP is due in April 2008 (see FR Vol. 70, No. 210 November 1, 2005).

#### **5.1 CONSISTENCY WITH RELEVANT SIP REQUIREMENTS**

Broadwater will be constructed and will operate in conformance with the New York SIP under the 1-hour ozone standard, insofar as it applies in the future. Broadwater anticipates that measures undertaken in conformance with the 1-hour ozone SIP will similarly conform under the 8-hour SIP. As noted above, New York State has not finalized SIP requirements beyond calendar year 2007. However, it is reasonable to assume that marine vessel engine standards and nonroad fuel sulfur requirements will be incorporated into future New York SIPs for attainment of the ozone standard and attainment of the PM<sub>2.5</sub> standard.

Broadwater is committed to meeting the requirements and being consistent with the relevant SIPs. Broadwater-owned vessels will comply with applicable marine vessel engine standards and nonroad fuel sulfur requirements. Owners and/or operators of other vessels such as LNG carrier or tug boats will have

## **APPENDIX K GENERAL CONFORMITY ANALYSIS**

an independent obligation to comply with marine vessel-related requirements. Broadwater will continue to follow development of the New York ozone and PM<sub>2.5</sub> SIPs and work with NYSDEC to be consistent with requirements in those SIPs.

### **5.2 EMISSION BUDGETS/ATTAINMENT DEMONSTRATION**

The current emission budget contained in the New York SIP is applicable to attaining the 1-hour ozone standard and, under the SCAQMD Decision, is subject to RFP requirements. Thus future updates to the 1-hour emissions budgets are required. The New York SIP emission budget to demonstrate attainment of the 8-hour ozone standard is under development.

New York State does not have an emission budget in place to address PM<sub>2.5</sub> nonattainment; PM<sub>2.5</sub> nonattainment designations are the result of relatively recent promulgation of the PM<sub>2.5</sub> air quality standard; thus, this is the first time that New York State has received a designation under the PM<sub>2.5</sub> standard. New York will also begin development in 2007 of a SIP emission budget to demonstrate attainment of the PM<sub>2.5</sub> standard.

Given the status of development of SIP budget components that affect Broadwater, Broadwater has initiated discussion with NYSDEC regarding General Conformity and the Project's emissions that are subject to General Conformity. Project emission data have been submitted to NYSDEC and are being evaluated by NYSDEC for incorporation into the SIP emission budget for the relevant ozone SIPs. NYSDEC has indicated they are also considering using the ozone SIP emission source inventory and budgets for the PM<sub>2.5</sub> SIP that are being developed. Broadwater intends to continue discussions with NYSDEC regarding incorporation of project emissions into the emission inventory budgets as the ozone and PM<sub>2.5</sub> SIPs are developed.

### **5.3 PROJECT EMISSIONS MITIGATION/OFFSETTING**

As lead federal agency for the Project, FERC conducts the full General Conformity determination parallel to its preparation of the EIS. FERC will utilize emission estimates prepared for this General Conformity analysis (which is similar to emission estimates already provided in Resource Report 9) in its General Conformity determination. The magnitude and potential impact of the emissions will be evaluated, and a determination will be made regarding whether mitigation is necessary.

Several options to demonstrate conformity are available, as provided for in 40 CFR 93.158:

- The project can comply with the control measures and regulations included in the applicable SIP(s); and, the total direct and indirect emissions subject to conformity are specifically identified and accounted for in the SIP's attainment demonstration; or
- The State commits to revise its SIP to accommodate the emissions from the Project; or
- For any criteria pollutant except ozone, the total emissions subject to conformity are evaluated through an area-wide and/or local air quality modeling analysis demonstrating that the project does not cause or contribute to any new NAAQS violation or increase the frequency or severity of any existing NAAQS violation in any area; or,
- Emissions from the Project are mitigated so that there is no net increase in emissions.

During the development phase of a new SIP, as is underway in New York State with respect to the 8-hour ozone attainment and PM<sub>2.5</sub> attainment demonstration SIPs, General Conformity can be demonstrated by incorporating projected emissions for the Project into the inventory. Likewise, insofar as the 1-hour ozone standard continues to apply during the relevant time period for the Project, emissions for

## **APPENDIX K GENERAL CONFORMITY ANALYSIS**

the Project can be incorporated into the RFP inventory for the 1-hour standard. If attainment is demonstrated and the SIP is approved by USEPA with the emission budget containing a project's emissions, then General Conformity is demonstrated.

Upon the determinations concerning the budgets, Broadwater will continue to coordinate with FERC, NYSDEC, and USEPA to satisfy the applicable General Conformity requirements. For example, with respect to construction emissions, as stated earlier, construction emissions will occur over a two year period but will not occur during the ozone control period within those years. Thus, construction activities will not contribute to ozone precursor (NO<sub>x</sub>) emissions during the May 1 through September 30 ozone control period as long as construction occurs as planned. This mitigation measure contributes to the current 1-hour ozone SIP's goal of reducing ozone control period ozone precursor emissions by limiting construction activities to the non-ozone control period. This approach will also serve a similar role with respect to the goals of the 8-hour ozone SIP, when approved. A similar mitigation measure was used by the New York Harbor dredging project for its first year of emissions, i.e., emissions of NO<sub>x</sub> and VOC will occur outside of the ozone control period and therefore will not contribute to ozone precursor emissions during the control period. Broadwater has confirmed with the FERC that this mitigation measure is sufficient for the purpose of satisfying General Conformity requirements to construction and related activities. Broadwater will also accept a permit condition to limit the construction to the non-ozone season. If Broadwater is required to demonstrate conformity through mitigation, Broadwater will coordinate with NYSDEC and the USEPA and provide all appropriate documents necessary to support the emission reductions associated with these mitigation efforts.

### **6.0 ADDITIONAL CONSIDERATIONS**

Broadwater introduces a reliable source of new natural gas to the region, offering a compelling solution to the ever-growing demands in the Long Island, New York City, greater New York City metropolitan and Southern Connecticut markets for a competitively priced, reliable and cleaner burning fuel supply. This supply, which will be used by the residences and businesses, municipal governments, commerce, schools and hospitals in the target markets, will encourage patterns of development that enhance Long Island coastal communities and enable existing coal-and oil-fired electric generating facilities to repower using clean-burning and cost-effective natural gas. The end result will be increased energy reliability and regional power generation and reduced impacts on the natural resources that so greatly contribute to the character of Long Island's coastal communities.

### **7.0 CONCLUSION**

Documentation supporting conformity with the applicable New York State SIPs in accordance with 40 C.F.R § 93.158 is not yet available as the SIP that will be in place during operation of the Project is not yet approved (discussed further in Section 5.1). Broadwater will continue to work with NYSDEC and, as necessary, USEPA to develop this documentation. Broadwater will undertake such actions as necessary to demonstrate General Conformity for the Project.

### **8.0 REFERENCES**

6 NYCRR Part 204, Title 6 New York Code Rules and Regulations Part 204, NO<sub>x</sub> Budget Trading Program.

Code of Federal Regulations, Title 40, Part 51, Subpart W, "Determining Conformity of General Federal Actions to State or Federal Implementation Plans." July 1, 2006.

**APPENDIX K**  
**GENERAL CONFORMITY ANALYSIS**

Code of Federal Regulations, Title 40, Part 93, Subpart B, "Determining Conformity of General Federal Actions to State or Federal Implementation Plans." July 1, 2006.

FR Vol. 70, No. 210, November 1, 2005, "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards."

FR Vol. 70, No. 91, May 12, 2005, "Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule)."

FR Vol. 71, No. 65 April 5, 2006, "PM2.5 De Minimis Emission Levels for General Conformity Applicability."

Port Authority NY NJ, 2003, "The New York, Northern New Jersey, Long Island Nonattainment Area Commercial Marine Vessel Emissions Inventory, Volume 3 – Appendices F and G," Starcrest Consulting Group LLC.

USCG, September 2006, U.S. Coast Guard Captain of the Port Long Island Sound Waterways Suitability Report for the Proposed Broadwater Liquefied Natural Gas Facility. United States Department of Homeland Security.