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April 30, 2007

BY ELECTRONIC FILING

Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: *Broadwater Energy, LLC*, Docket Nos. CP06-54-000;
Broadwater Pipeline, LLC, Docket Nos. CP06-55-000 & CP06-56-000

Dear Ms. Bose:

Pursuant to the Environmental Information Request issued on March 6, 2007 ("EIR"), enclosed for filing in the referenced proceedings is the response of Broadwater Energy LLC and Broadwater Pipeline LLC (collectively, "Broadwater") to EIR No. 3.

Broadwater anticipates providing its remaining responses to EIR Nos. 1 and 9 in the coming days.

Please do not hesitate to contact me with any questions regarding this submission.

Respectfully submitted,

/s/ Lawrence G. Acker

Lawrence G. Acker

Enclosure

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Request:
Compare ichthyoplankton entrainment and impingement estimates for the use of fine-mesh wedgewire screens (1.75 mm) on the sea chest intakes relative to the proposed 0.2 inch (5 mm) mesh screens.

Response:
As part of the Broadwater application to FERC, submitted in January of 2006, impacts to ichthyoplankton from impingement and entrainment were considered based on the use of 5 mm mesh screens at the FSRU water intakes. This evaluation was further expanded to incorporate project specific sampling and presented as part of subsequent Supplemental Filings to Resource Report 3 (Entrainment and Age-1 Equivalent Estimates Based on Intermediate and Deep Sampling Strata of the 2002 Poletti Ichthyoplankton Sampling Program). The results of Broadwater's analysis indicated that project impacts would not be significant based on the use of a 5 mm mesh screen, the low volume of water intake at the facility and amount of ichthyoplankton estimated to be impinged or entrained at the facility. It should be noted that impingement and entrainment estimates were developed based on a combination of previous ichthyoplankton sampling completed as part of the Poletti Project, as well as supplemental ichthyoplankton sampling collected for the Broadwater Project.

In assessing ichthyoplankton entrainment and impingement in relation to 5 mm mesh screen size and 1.75 mm fine mesh wedgewire screen size, Broadwater considered both the engineering viability of reducing the screen size of the sea chest intakes, as well as potential environmental benefits associated with reducing the screen size. Broadwater's analysis demonstrates that as a result of implementing a 1.75 mm fine mesh wedgewire screen size, adverse impacts to engineering considerations would occur in conjunction with increased operation and maintenance costs associated with the project, while no offsetting and measurable environmental benefits would be realized.

This response presents information regarding Broadwater's evaluation of screening technology, and discusses the associated environmental responses to a reduced screen size. This response presents summary data and ichthyoplankton modeling that was conducted to provide supporting information in fulfillment of the FERC Data Request.

Screening Technologies
In general, narrow-slot wedge-wire screens have been proven highly effective at reducing impingement and entrainment of fish including early life stages. Nearly 35 years of research has been conducted to develop technologies to reduce impingement and entrainment at cooling water intake structures and another 25 years of research has been conducted at other water withdrawals such as hydroelectric dams. Generally, wedge-wire

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screens have a low through slot velocity (<1 foot per second [ft/sec]) and work in an environment of higher velocity "sweeping-flow" of ambient current capable of carrying eggs and larvae past the screen that are passively floating in the water column. Based on the proposed design of the intakes for the FSRU, Broadwater does not see similar advantages being manifested. Intakes are located on both the port and starboard sides of the FSRU. Crossover piping collects the intake water toward the sea chests which are located in the interior of the FSRU. The 5 mm mesh screening for the seachests is located interior to the FSRU to allow for safer and relatively frequent operations and maintenance access. As designed, the sum of impingement and entrainment would not be altered by reducing the screen mesh size. The only difference would be a decrease in the proportion of ichthyoplankton that are entrained, while the proportion of ichthyoplankton that are impinged would increase.

In evaluating the available scientific literature on the effectiveness of wedge-wire screens, one important underlying theme is present in all scientific studies conducted. Since the effectiveness of fish protection technologies is highly dependent on site-specific factors, all available information regarding the water intake structure, biological community present, water quality, bathymetry, and currents needs to be applied to the site-specific evaluation before final considerations and determinations are made for effectiveness, limitations and practicality. In the case of the Broadwater facility, this data was gathered as part of the environmental sampling programs (E&E 2005 and 2006) executed to support the preparation of Resource Reports. Data from these sampling efforts was then used in the consideration of different screen sizes for use at the water intake structures.

The basis for variation in effectiveness of wedge-wire screen sizes is generally differences in project sites, but the ability to make a clear determination of the most effective technology based on the available range of functional values is more complicated since each site is unique and presents different physical parameters. One of the most important operational criteria for wedge-wire screens is the current of the local water body. The current flow must be counter to the intake structure to promote cleaning of the screen. In addition, smaller screen sizes likely reach a point of diminishing return since a known inverse relationship exists between impingement and entrainment in that impingement decreases with increases in slot size and entrainment increases with increases in slot size. The exact point where the impingement and entrainment relationship is most functionally beneficial to ichthyoplankton is impacted by several factors including dissolved oxygen, target species, freshwater versus salt water environment, turbidity, depth and other factors that change geographically.

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Screen Mesh Size Functional Comparison

In comparing any difference in ichthyoplankton entrainment and impingement estimates for the use of fine-mesh wedgewire screens (1.75 mm) on the sea chest intakes relative to the proposed 0.2 inch (5 mm) mesh screens one must consider the inverse relationship that exists as presented above which indicates that any mortality decrease that is gained from decreasing entrainment is lost by increased impingement of fish eggs and larvae on the smaller mesh screen. Therefore, resulting in no overall difference in mortality, but a change in the mortality mechanism. With the implementation of a 1.75 mm fine-mesh wedgewire screen, it is expected that entrainment in the FSRU water intakes would decrease; however impingement on the screen would increase. This results in the same number of ichthyoplankton impacted from the FSRU water intakes, which Broadwater demonstrated in prior submittal information as not significant. In addition, since the through slot velocity is very low (<0.5 ft/sec) any benefit in sweeping current carrying away organisms that have not been impinged is likely the same for both screen sizes since anything pulled into the cross-over pipe area of the water intake is expected to be either impinged on the screen or entrained by the water intake.

Comparative Facility Water Use

Besides a comparison of entrainment and impingement with different mesh sizes, it is important to put the Broadwater facility in context with other facilities that withdraw water from Long Island Sound that have the potential to impact ichthyoplankton. This includes the numerous power plants located in the shoreline areas of Long Island and Connecticut.

Existing power plants on Long Island Sound consistently take in a volume of water that is an order of magnitude higher than the Broadwater Facility. The KeySpan Northport and Port Jefferson facilities are permitted to withdraw 938 Million Gallons per Day (MGD) (3.6 million m^3/d) and 398 MGD (1.5 million m^3/d), respectively (Fuchs 2005). Five additional facilities in Connecticut have also been identified that withdraw significantly greater volumes of water than the Project would. The Millstone nuclear power plant is permitted to withdraw approximately 1.5 BGD (5.6 million m^3/d); the PSEG Power facilities in New Haven and Bridgeport are permitted to withdraw 410 MGD (1.5 million m^3/d) and 152 MGD (0.6 million m^3/d), respectively; the NRG Norwalk facility is permitted to withdraw 312 MGD (1.2 million m^3/d); and the Bridgeport Energy facility is permitted to withdraw 168 MGD (0.6 million m^3/d) (Mauger 2005). Each of these facilities requires water intakes and discharges to and from more environmentally sensitive nearshore waters, while Broadwater will withdraw water from the central part of the Sound, away from these more sensitive near shore environments.

Also, in addition to the considering the location of the FSRU in relation to other larger water usage facilities, the daily intake values for the FSRU and LNG carrier represent an insignificant fraction of the total volume of water in the Sound. The Sound contains

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approximately 18 trillion gallons of water. The combined water taken in by the FSRU and LNG carriers on a daily basis is less than 0.00016% of the total volume of water in Long Island Sound. Assuming an even distribution of ichthyoplankton throughout the water column, this percentage represents an insignificant impact. Furthermore, in general, ichthyoplankton densities are greater in the sensitive near shore environments that provide more fertile nursing grounds for developing marine fauna. As such, the percentage of total ichthyoplankton present in the waters surrounding the Broadwater facility that may be entrained or impinged by the water intakes would be even less than the total intake water volume of 0.00016%.

References:

Ecology and Environment, Inc. (E & E). 2005. *Spring 2005 Environmental Sampling Report for a Project To Construct and Operate an LNG Receiving Terminal in Long Island Sound, Long Island, New York.*

Ecology and Environment, Inc. (E & E). 2006. *Entrainment and Age-1 Equivalent Estimates Based on Intermediate and Deep Sampling Strata of the 2002 Poletti Ichthyoplankton Sampling Program.*

Fuchs, Alan. 2005. Regional Water Permit Manager, Regions 1-3, Albany, New York. Personal communication with John Hood, Ecology and Environment, Inc., Buffalo New York, October 4, 2005.

Mauger, Arthur. 2005. Permit Manager, Connecticut Department of Environmental Protection. E-mail communication with John Hood, Ecology and Environment, Inc., Buffalo, New York, October 11, 2005.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure.

Dated at Washington, D.C. this 30th day of April 2007.

/s/ Brett A. Snyder
Brett A. Snyder

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