UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MEMORANDUM

Subject: Review of Variance to Florida Water Quality Standards: Premier Chemicals, LLC

From: Joanne Benante
Chief
Standards, Monitoring and TMDL Branch

To: James D. Giattina
Director
Water Management Division

The two purposes of this memorandum are to summarize the conclusions of our review of a temporary change to Florida water quality standards and to recommend that the Environmental Protection Agency (EPA) approve the revision to Florida water quality standards under Clean Water Act (CWA) § 303(c) authorities. The variance and supporting documentation were submitted for EPA review in a letter dated September 24, 2007, from Thomas M. Beason, General Counsel for Florida Department of Environmental Protection (FDEP), to James Palmer, EPA Region 4 Regional Administrator. The variance was granted by the FDEP on December 1, 2003, and the letter submitting the variance for EPA review included a certification "that the enclosed variance, representing a temporary change to surface water quality standards, was duly adopted pursuant to state law." The State's submittal of the variance to EPA was delayed due to protracted discussions between EPA and FDEP staff on the extent and type of financial data needed by EPA to evaluate the terms of the variance.

The variance was granted by the State under authorities of Section 403.201(1)(a), Florida Statutes, which allow variances to Florida water quality standards in cases where no practicable means are known or available for the adequate control of pollution in a discharge. The variance will expire at the expiration of National Pollutant Discharge Elimination System Permit Number FL0002607.

The Premier Chemicals LLC (Premier) facility effluent is discharged into a barge basin of the Gulf County Canal, which is a predominantly marine Class III water body. The Premier discharge does not meet the acute toxicity requirements of F.A.C 62-302.500(1)(a)(4) [Surface Waters: Minimum Criteria, General Criteria], and F.A.C. 62-4.244(3)(a) [Mixing Zones, Surface Waters], which state:

> F.A.C. 62-302.500(1) All surface waters of the State shall at all places and at all times be free from:

(a) Domestic, industrial, agricultural, or other man-induced non-thermal components of discharges which, alone or in combination with other substances or in combination with other components of discharges (whether thermal or non-thermal): ...
4. Are acutely toxic ...

F.A.C. 62-4.244(3)(a) Waters within mixing zones shall not be degraded below the minimum standards prescribed for all waters at all times in Rule 62-302.500, F.A.C. In determining compliance with the provisions of subsection 62-302.500(1), F.A.C., the average concentration of wastes in the mixing zone shall be measured or computed using generally accepted scientific techniques; provided that, the maximum concentration of wastes in the mixing zone shall not exceed the amount lethal to 50% of the test organisms in 96-hours (96 hr. LC50) for a species significant to the indigenous aquatic community, except as provided in paragraph (b), (c) or (d) below...

The manufacturing process used by the Premier facility removes magnesium from seawater taken from St. Joseph Bay. There is no substantial addition of pollutants during the process, except that calcium is added. The addition of calcium results in an ionic imbalance in the natural seawater, which causes acute toxicity in the effluent to organisms used as the test species for whole effluent toxicity testing. Based on analysis conducted by the facility, the acute toxicity has been attributed to the imbalance of the calcium ion.

The terms of the variance require that the discharge from the Premier facility meet the requirements F.A.C 62-302.500(1)(a)(4) at a distance no greater than 45 meters from the discharge point in the barge basin, and the requirements of F.A.C. 62-4.244(3)(a) be met at a distance of no greater than 30 meters from the discharge point. Existing uses in the barge basin will be protected and maintained. A copy of the variance is attached.

Alternatives considered by the facility included an alternate outfall construction, as well as discharge at alternate locations, including at a point that a dilution ratio of 100:1 would be achieved (which would eliminate the need to meet certain requirements of F.A.C. 62-4.244(3)(a)). Treatment of the effluent to the degree needed to meet Florida water quality standards at the current location is not feasible at the present time. Based on an analysis by Premier, as well as studies conducted by the State on similar wastewaters, the chemical matrix of the wastewater is not amenable to partial treatment, i.e., treatment to levels that would result in levels of toxicity that are less than the current wastewater. Therefore, such a partial reduction of toxicity would depend on a breakthrough treatment technology. Such treatment technology has not become available since the time of the previous variance. Since any renewal of the variance must meet Florida's requirement that "no practicable means are known or available for the adequate control of pollution in a discharge," an evaluation of treatment technologies will be conducted prior to the expiration of the variance to determine if further progress towards the applicable criteria is feasible. The draft approval letter specifically references 40

CFR 131.20 (a), which calls for a re-examination of such variances every three years to determine if any new information has become available.

The lowest cost alternative selected for further economic evaluation involves the relocation of the discharge to St. Joseph Bay, including: (1) construction of 11,000 feet of Plexco DR-21 pipe force main following the existing right of way between Premier's facility and the intake pumping station near St. Joseph Bay, (2) a 13.5 million gallons per day pumping station, and (3) a multi-port diffuser located near the east shore of St. Joseph Bay. Costs for design and permitting were included in the cost of compliance. Additional information was provided describing the financial status of the community, in relation to the continued operation of the facility, as well as the effect on the area should the current facility cease to operate.

These costs were analyzed by the facility using EPA's *Economic Guidance for Water Quality Standards*, EPA-823-B-95-002, March 1995. Based on review of the information provided by Premier and the State, EPA Region 4 staff concluded that the State's decision to grant the variance is consistent with the procedures and recommended review criteria in EPA's 1995 guidance. This guidance is EPA's most recent publication addressing the regulatory factor for use removal and variances to water quality standards contained in 40 CFR § 131.10(g)(6), which states:

> States may remove a designated use ... if the State can demonstrate that attaining the designated use is not feasible because ... controls more stringent than those required by Sections 301(b) and 306 of the Act would result in widespread economic and social impact.

EPA's review of the financial information provided is summarized in an e-mail message dated July 9, 2007, from Sheryl Parsons to Fritz Wagener, which is attached. The memorandum dated April 17, 2007, from Annie Godfrey, Chief, East Standards, Monitoring and TMDL Section, to Dorothy Rayfield, Chief, Construction and Technical Assistance Section, requesting assistance in conducting the financial review, is also attached.

The State previously granted a variance for the Premier facility on August 30, 1999. The terms of the December 2003 variance are the same as those included in the previous 1999 variance. There is no record that shows that EPA Region 4 water quality standards staff was aware of the previous variance. The States submittal of the December 2003 variance was part of a coordinated effort by EPA and the State to ensure that all modifications to Florida water quality standards were properly submitted for EPA review.

Region 4 has completed a review of the variance and determined that it will have no effect on endangered or threatened species or their critical habitat established pursuant to the Endangered Species Act. (See attached e-mail message dated March 24, 2008, from Duncan Powell, Region 4 ESA Coordinator, to Fritz Wagener.)

Based on our review, the variance reflects the highest attainable level of water quality in the receiving water body due to the wastewater treatment and economic constraints summarized above. Therefore, the variance complies with the requirements applicable to state adopted variances, including a demonstration that meeting the standard is unattainable, based on one of the factors outlined in the regulations for removing a designated use, in this case, 40 CFR 131.10(g)(6). We recommend that EPA approve the variance to Florida water quality standards. A draft letter reflecting that position is attached.

Sheryl Parsons/R4/USEPA/US
07/09/2007 08:32 AM

To Fritz Wagener/R4/USEPA/US@EPA
cc
bcc
Subject Premier Chemicals Variance...

Fritz,
I've reviewed the information you provided me regarding the Premier Chemicals WQS variance. Looking at the data provided, they qualify for an economic variance. (The quick ratio for the 2005 financials is 1.62, and our guidance wants at least 2.0 to be considered not disadvantaged.)

When this standard comes up (in three years), we need to work with Premier early if they still require an economic variance. I'd like to make sure we get the most recent financial data to analyze.

Thanks!
Sheryl