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BUREAU OF AIR REGULATION

October 30, 2001

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Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Attention: Mr. Cleve Holladay, Meteorologist, New Source Review Section

RE: REQUEST FOR ADDITIONAL INFORMATION
TROPICANA PRODUCTS INC., FORT PIERCE, PROCESS STEAM BOILER
DEP File No. 1110004-004-AC, PSD-FL-303A

Dear Cleve:

This correspondence is submitted to provide the Department additional information requested in the letter dated October 19, 2001 to Mr. Richard Coyle of Tropicana Products, Inc. In this letter the Department requested additional information related to the air quality impacts for the addition of a process steam boiler at the Tropicana Products, Inc. Fort Pierce Plant. The Department has asked for additional information pertaining to the SO₂ 24-hour AAQS impacts, which appear to exceed the standard. Specifically, when the background selected by the Department is added to the maximum predicted concentrations from the model, the total concentration is calculated to be slightly above the 24-hour AAQS for SO₂.

In the PSD application submittal for the installation of the juice extractors, a conservative background value was developed from 24-hour data available at a monitoring station in Palm Beach County. The background value selected was 22 µg/m³, which was the average of the highest second high observed concentration in 1998 (i.e., 34 µg/m³) and 1999 (10.5 µg/m³). This approach was conservative for the AAQS analysis given the location of the monitor and influence by other major SO₂ sources. In the technical evaluation for the juice extractor project, the Department employed the 34 µg/m³ background concentration as a more conservative measure in the evaluation. Never the less, the total impacts for the juice extractor project was below the AAQS. In the Department's October 19, 2001 letter, a background of 34 µg/m³ is being considered for the process steam boiler project. The use of this background in preference to the 2-year average is not representative the SO₂ concentration in the vicinity of the Tropicana's Fort Pierce Plant for several reasons.

First, the SO₂ monitor station in Riviera Beach is located approximately 74 kilometers (km) from the facility. However, for lack of more representative data, this monitor was chosen. The Riviera Beach Monitor is a "source-oriented" monitor. This monitor measures SO₂ levels near a largely emitting SO₂ source. In this case, the source is the FPL Riviera Beach Power Plant. The monitor is located approximately 2.4 km southwest of the power plant. This monitor is also located in a highly urbanized area of Palm Beach County where even minor sources of SO₂ can influence observed concentrations. Moreover, the second highest observed concentration data for the year 2000 was 21 µg/m³. This supports the use of the 1999 and 2000 average as a conservative estimate of background for the Fort Pierce area.

Second, in an AAQS analysis, a background concentration was added to the modeled concentration to account for sources not modeled within the plant's significant impact area. SO₂ emitting sources were investigated for inclusion into the AAQS as presented in Table 6-4 of the PSD application for the juice extractors. Through the use of the North Carolina Screening Technique, sources were chosen for inclusion or exclusion in the AAQS analysis. A determination of the percentage of emissions modeled inside 100 km (the significant impact area plus 50 km) is shown in the following table:

Distance from Modeled Origin (km)	SO ₂ Emissions (TPY)		% Sources Modeled
	Modeled	Not Modeled	
0-25	1,873	293 3	86.5 99+
25-50	82,858	1,694 6	98.0 99+
50-75	2,007	2,042 1	49.6 99+
75-100	110,919	2,642	97.7
Total % Modeled =			96.7%

Handwritten notes:
 Total 197,657 2652
 Not Modeled

This shows that approximately 97% of the SO₂ emissions were modeled with the maximum potential emissions from the Fort Pierce plant. This also includes the FPL Riviera power plant, which influences the observed concentrations at the monitoring station used to determine the background concentration. Fort Pierce is much less urbanized and has no major sources of SO₂ that would influence observed concentrations. Thus, the use of 22 µg/m³ provides a conservative background of those sources not modeled in the analysis.

Finally, the highest-second highest impacts from the modeling analysis all occur within 2 km of the plant and are due to meteorological conditions that include high wind speeds from a persistent direction. This is shown on the attached figure that shows a wind rose of the meteorological conditions when the highest-second highest concentration is predicted. As shown in the figure the winds are persistently from the northeast at 11 knots or higher. This also resulted in little to no contribution from other major sources modeled. Therefore, a background concentration developed from a 2-year average (i.e., 22 µg/m³) provides a conservative background for the conditions modeled.

Taking together: (1) the source-oriented and highly urbanized nature of the monitor used to determine the background concentration, (2) the percentage of sources modeled in the evaluation and (3) meteorological conditions producing the highest-second highest concentrations, the use of 22 µg/m³ is clearly a conservative background for the 24-hour AAQS evaluation. The proposed project (process steam boiler) will not cause or contribute to a violation of the 24-hour SO₂ AAQS. The maximum impact with background is 249 µg/m³. Therefore, reductions in emissions are not necessary from either the existing facilities or process steam boiler. Indeed, the impacts from the process steam boiler by itself were below the significant impact levels.

Your expeditious review of this information would be greatly appreciated.

Sincerely,
GOLDER ASSOCIATES INC.



Ken Kosky, P.E.
Principal

kfk/

Enclosures

cc: Mr. Greg Worley, EPA
Mr. John Bunyak, NPS
Mr. Isidore Goldman, P.E., DEP SE District
Mr. Richard Coyle, Tropicana Products Inc.
Mr. Doug Foster, Tropicana Products, Inc.
Mr. Scott Davis, Tropicana Products, Inc.

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