Background Report Reference

AP-42 Section Number: 9.10.1.1

Background Chapter: 2

Reference Number: 5

Title: Written Communication for T. King, Domino Sugar Corporation, Arabi, LA to D. Safriet

U.S. EPA

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March 21, 1997

U.S. EPA (MD-14)
RTP, NC 27711

Dear Mr. Safriet:

After reviewing the draft AP-42 Section and Background Report for "Sugarcane Processing," the following comments are submitted. In section 9.10.1.1.3:

- There are several instances where the terminology is misleading. These include:
  1. Paragraph 1 - refining process is referred to a "raw sugar refining;" it should be cane sugar refining,
  2. Paragraph 2, lines 3 and 6; paragraph 4, line 8 - usage of the term "liquor" instead of syrup. The liquid portion of the material removed during centrifugation is called syrup. Liquor is the crystalline sugar that has been melted.
  3. Paragraph 4, line 7 - the term "fugal" is used rather than centrifugal. That term is used primarily in Australia and is not in common usage in U.S. cane sugar refineries.

- In paragraph 4, it is mentioned that "the decolorized sugar liquor is sent to heaters..." This statement does not hold true for all refineries.

- Blackstrap (inedible) molasses should be added to the list of products. All refineries produce it as a by-product of refining. It is usually sold for use as an animal feed.

- Section 9.10.1.1.3 Emissions and Controls states that "particulate matter (PM), combustion products, and volatile organic compounds (VOC) are the primary pollutants emitted..." VOCs would not be considered a primary pollutant. VOCs account for only 6% of emissions at the Chalmette Refinery. Also, combustion products should be defined as NO_x , CO_2, Non-methane Hydrocarbons, Methane and SO_2.

- In the same section, it states that "the multi-effect evaporators and vacuum boiling pan are a potential source of VOC emissions from the juice." This statement is not entirely correct. While the sugar molecule is $C_{12}H_{22}O_{11}$, it is not likely to volatilize. However, some refineries use alcohol or other substances to "seed" the pan with

crystals. This material does volatilize, but is only used in minute quantities.

- Bulk loading operations should be added as a possible source for PM emissions.

- In most, perhaps all, instances of cane sugar refining operations, lime is supplied to the refinery in its final form. Therefore, Section 11.15 (Lime Manufacturing) would not apply.

- Potential emission sources should also include tanks which store processing aids, fuel storage tanks, stationary internal combustion engines and wastewater treatment facilities.

- Not all boilers are equipped with cyclones to remove particulate matter. Boilers burning natural gas may have no removal devices in place.

Please contact me at (504) 271-5331 if you have any questions about these comments.

Very truly yours,

Terry M. King