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BUREAU OF AIR REGULATION

February 7, 2001

C. H. Fancy, P. E.
Chief, Bureau of Air Regulation
Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Title V Air Operating Permit 1010056-002AV and Permit PSD-FL-127
Pasco County Resource Recovery Facility

Dear Mr. Fancy,

We certainly appreciate the review that the Department has provided as noted in your correspondence of December 26, 2000 regarding our May 24, 1991 roof top temperature combustion zone temperature correlation document. As you know, that report represented the documentation of data collected to establish a correlation to develop a means for demonstrating compliance with the PSD specific condition #1 as no standard test procedures existed at that time nor do they today. These procedures were developed with the Department's Southwest district office and have been the basis for compliance with the above noted temperature requirement since that time.

We are in concurrence with the department's position that the temperature and dwell time factors included in the PSD permit were based upon 1980's regulatory practices which required either direct or surrogate combustion zone measurements and no longer represent the most appropriate method of monitoring the performance of this facility. This monitoring is dated and redundant as reflected by USEPA's establishment of Good Combustion Practices (GCP) and the promulgation of Emission Guidelines for the Municipal Waste Combustion Industry. We made that comment in our review of the initial Draft Title V permit as documented as item #20 in correspondences dated December 14, 1999.

As the department indicated a desire to make the permit for this facility consistent with the permitting of other Municipal Waste Combustors (MWC), and sharing an understanding of the history of the current PSD permit condition, the Ogden Energy Group believes a formal request to remove the combustion monitoring temperature condition noted above, as indicators of compliance, from the current permits is in order. Pasco County will be approaching the department shortly to make this request.

We believe that demonstration of continuing compliance with the intention of this condition would occur by including all provisions of Good Combustion Practices (GCP) as identified by the USEPA without roof top temperature monitoring. The provisions of GCP was clarified in the preamble to the MWC Emission Guidelines and in the Background Information Document (USEPA 453/R-95-0136) as follows:

a. Applies to both large and small MWC plants.
b. A site-specific operator training manual is required to be developed and made available for MWC personnel.
c. The EPA or State MWC operator training course must be completed by the MWC chief facility operator, shift supervisors, and control room operators.
d. The ASME (or State-equivalent) operator certification must be obtained by the MWC chief facility operator (mandatory), shift supervisors (mandatory), and control room operators (optional).
The MWC load level is required to be measured and not to exceed 110 percent of the maximum load level measured during the most recent dioxin/furan performance test.
e. The PM control device inlet flue gas temperature is required to be measured and not to exceed the temperature 17^0C above the maximum temperature measured during the most recent dioxin/furan performance test.
f. The CO level is required to be measured using CEMS, and the concentration in the flue gas is required not to exceed the following:

MWC type	CO level/Averaging time
Mass burn waterwall	100 ppmdv 7% O_2/ 4-hour

The Pasco Resource Recovery Facility complies with all of these applicable requirements which are already included as conditions in the Title V permit.

In response to a specific comment regarding the identification of specific temperatures and residence times for the combustion zone the USEPA responded:

> "Good combustion practices were developed by the EPA to minimize both formation and emission of dioxins/furans and other trace organics. There are three components to GCP: a CO emission limit, a load limit, and a

temperature at the inlet of the PM control device. All three of these continuous compliance parameters have been shown to correlate with either formation or emission of dioxins/furans.

Low CO level is a surrogate parameter used to indicate the operation at combustion conditions conducive to the furnace destruction of trace organics. The load limit is used to control excessive entrainment PM (PM carryover) which can lead to formation of dioxins/furans downstream of the combustor. The PM control device inlet temperature limit is to limit formation of dioxins/furans on fly ash within the PM control device by controlling formation rates. Peak formation rates occur near 300 ^{0}C (570 ^{0}F) and decrease with decreasing temperatures. Below about 225 ^{0}C to 250 ^{0}C (435-480 ^{0}F) the formation rates are negligible. The temperature limit also controls partitioning of dioxin/furan between the solid and vapor phases. At lower temperatures, dioxins/furans remain adsorbed on PM and are disposed with the collected fly ash. There is no evidence that dioxins/furans absorbed on fly ash can be volatilized at ambient temperatures nor leached in landfills.

The EPA spent a substantial amount of resources investigating, developing, and documenting GCP. The EPA's first effort resulted in a report on the combustion control of organics (Municipal Waste Combustion Study: Combustion Control of Organics, EPA/530-SW-87-021c, June 1987). This report on the control of organics contained tables summarizing recommendations for good combustion practices to control organic emissions from mass burn, RDF, and modular starved-air MWC's. Recommendations were included for a combustion temperature of 980 ^{0}C (1800 ^{0}F) at fully mixed conditions, a 50 ppm CO emission limit, a range of flue gas O 2 concentrations for each combustor, the use of overfire air for mixing, turndown restrictions, and the use of auxiliary fuel to correct for low temperatures or high CO. In reviewing these recommendations, it was decided that only three parameters would be required to demonstrate continuous compliance with GCP. These include a CO emission limit to insure operation at combustion conditions which are indicative of the furnace destruction of organics, a load limit which is to control the amounts of PM which are carried out of the combustor with flue gases, and a temperature limit at the inlet of each PM control device to control formation of CDD/CDF within each control device."

In addition, MWC facilities, including Pasco, are subject to emission limits for MWC organics, i.e. total dioxins/furans which are based upon the best emission control technology, a combination of spray dryer/fabric filter, GCP and carbon injection. The utilization of spray dryer/fabric filter provides compliance with the temperature requirements of GCP. The injection of carbon is also known to promote the reduction for PCDD/PCDF emissions and thus provides additional assurance that combustion related pollutants will be maintained below the applicable emission limits. The associated process monitoring; (i.e. carbon injection rates), provides reasonable real time assurance that the facility is in full compliance without the use of surrogate temperature monitoring which we will certify in conjunction with the requirements of the Title V permit.

We can discuss this further as you desire, following the request by Pasco County to modify the permits. If you have any further questions please call me at 973-882-7285.

Sincerely,

Leon Brasowski
Vice President, Environmental Permitting

cc: S. Sheplak
J. Miller
J. Gorrie, CDM
V. Mannella, Pasco County