



Florida Department of Environmental Protection

Memorandum

TO: Rick Bradburn
THROUGH: Armando I. Sarasua, P.E.
FROM: Angelia Jackson
DATE: September 30, 2009
SUBJECT: Evaluation Summary for Premier Chemicals, LLC, Port St. Joe Facility 0450001-005-AF, Gulf County

We recommend issuing a renewal federally enforceable operating permit (FESOP) to Premier Chemicals, LLC to operate their Port St. Joe Facility. This permit follows 0450001-004-AF, effective date August 27, 2004.

Process Description.

The Premier Chemicals, LLC, Port St. Joe facility manufactures magnesia products [that contain Magnesium Oxide (MgO) and Magnesium Hydroxide (Mg(OH)₂)]. These magnesia products are manufactured using dolomitic lime, sulfuric acid, seawater and granular triple superphosphate (GTSP) as raw materials. Dolomitic lime (typically calcium oxide and magnesium oxide) is stored, crushed and hydrated with recycled process water. The hydrated lime is reacted with (sulfuric) acidified seawater and magnesium hydroxide seed resulting in a magnesium hydroxide precipitate which is washed, filtered and stored as sludge for future use.

Utilizing the facility's two multi-hearth natural gas fired furnaces, magnesium hydroxide sludge is calcined to produce MgO (Magox), or dried to produce powdered Mg(OH)₂. Emissions from the two multi-hearth furnaces are controlled by individual baghouses. Both products are stored, or processed further with grinding, pelletizing, etc. Products include Aquamag [Mg(OH)₂ slurry], Aquamag SW (dried, powdered Aquamag), Magox (powdered MgO), Magox HB (dried hard-burned MgO pellets), and Enviroblend (MgO and GTSP).

Pollution Control Equipment.

PM emissions are controlled by baghouses or vent filters. Combustion emissions are vented to the atmosphere.

Environmental Impact.

Airborne Contaminant Emitted	FAC Rule	Estimated Emissions		Allowable Emissions	
		lbs/hr	T/yr	lb/hr	T/yr
PM	N/A	N/A	12.7*	N/A	54.6**
SO ₂	N/A	N/A	0.3**	N/A	N/A
VOC	N/A	N/A	4.2**	N/A	N/A
NO _x	N/A	N/A	37.8**	N/A	N/A
CO	N/A	N/A	31.8**	N/A	N/A
Objectionable Odors	62-296.320(2)	N/A	N/A	None allowed off plant property	
VE ²	62-297.620(4)	N/A	N/A	Not more than 5% opacity	

(* EU012; ** EUs 006/007/010)

Note: This permit allows a waiver of periodic PM compliance testing by incorporating an alternate compliance standard of 5% opacity in accordance with Rule 62-297.620(4), F.A.C.

Applicable Rules & Regulations.

This source is regulated in accordance with Rules 62-296.320(4), F.A.C. - Process Weight Table, and 62-297.620(4), F.A.C. - PM testing waiver for 5% opacity with a baghouse. Permittee requested a lower PM limit, with respect to EUs 006, 007, and 010, to avoid Title V permitting [Rule 62-210.300(2)(b), F.A.C.]

Compliance Monitoring.

Annual Method 9 VE testing and recording of the baghouses pressure drop every eight hours.

Compliance History.

Compliance inspections for 2009 - 2005 noted the facility to be "In-Compliance."

Fee Summary.

This is an AF2B (\$1,000 x 2) minor source - other sample = \$2,000.

Additional Notes

{Permit Note: As of September 24, 2009 all air emission units for this facility are shut down. The facility ceased operation of the drying and grinding equipment on September 22, 2006. Only the wet end of the process continues; i.e., magnesium oxide.}