



Consultants to Process & Power Industries

3 July 2014

Mr. Alvaro Linero
Florida Department of Environmental Protection
Division of Air Resource Management
Office of Permitting and Compliance
2600 Blair Stone Road, M.S. 5505
Tallahassee, Florida 32399-2400

*DELIVERED VIA ELECTRONIC MAIL [To: Alvaro.Linero@dep.state.fl.us]
DELIVERED HARDCOPY VIA FEDERAL EXPRESS*

**Re: Written Comments on the Draft GHG Air Permit No. 0310583-002-AC (PSD-426A) Jacksonville Lime, LLC
Proposed Lime Manufacturing Facility
Facility ID No. 0310583
Jacksonville, Duval County, Florida**

Dear Mr. Linero:

This letter includes our written comments on the Draft GHG Air Permit No. 0310583-002-AC (PSD-FL-426A) for the proposed Jacksonville Lime, LLC Lime Manufacturing Facility to be located in Jacksonville, Duval County, Florida. Based on the Public Notice of Intent (Published June 3rd, 2014) we submit the following comments regarding this "draft" GHG Air Permit issued to Jacksonville Lime, LLC.

Should FDEP have any questions or concerns regarding the written comments presented herein, please do not hesitate to contact me for clarification or additional details. I may be reached by phone at (610) 836-1864 or by email at mpsanders@alphathree.com.

Sincerely,

A handwritten signature in black ink that reads 'Michael P. Sanders'. The signature is written in a cursive style with a horizontal line underneath the name.

Michael P. Sanders
Principal Director-Alpha3

cc:

Enclosures:

1. AlphaThree Consulting-LLC; Written Comments on the Draft GHG Air Permit No. 0310583-002-AC (PSD-FL-426A), Jacksonville Lime, LLC Lime Manufacturing Facility, Jacksonville, Duval County, Florida
2. EIA Long-term Projections for Natural Gas prices

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**Submitted Written Comments on the Draft GHG Air Permit No. 0310583-002-
AC (PSD-FL-426A) Jacksonville Lime, LLC Lime Manufacturing Facility
Jacksonville, Duval County, Florida**

Provided By: Alpha Three Consulting, LLC

Date: July 3, 2014

Comment #1. BACT Analysis Incomplete and Inaccurate.

We believe the BACT analysis performed on the proposed facility is incomplete and possibly inaccurate as outlined below. Inconsistencies and ambiguity between the Final PSD permit document, the “Draft” GHG Air Permit and the Technical Evaluation and Preliminary Determination (TEPD) warrant a review of the emissions estimates, calculations, and previously completed dispersion modeling of the proposed facility. We offer our comments as follows:

Comment #2. Applicant Failed to Properly Evaluate Alternative Fuels.

The applicant has failed to adequately evaluate alternative fuels in addition to petcoke in the BACT analysis. Alternative fuels, and in particular natural gas, should have been reviewed on the basis of cost per ton of GHG avoided. The selection of petcoke as the primary fuel for the kilns is solely based upon economic decisions (i.e., the cost of the selected fuel, petcoke, is less expensive than natural gas fuel) and is not based upon environmental impact.

Comment #3. Compliance Verification and Reporting of GHG Emissions.

The “draft” GHG permit provides flexible emission limitations depending upon the type of lime product produced; however, it does not specify how the source will determine compliance with any particular limit. Additionally, the permit fails to provide a clear definition of the specific “corrective actions” that need to be taken when the emissions standards are exceeded.

Comment #4. Overestimated Cost of Natural Gas and Incomplete Estimates of GHG Emissions Associated with Solid Fuels.

The applicant has overestimated the cost of natural gas relative to coal, petcoke, and wood waste fuels. As noted in our comments on the criteria pollutant PSD permit, during the period January 1, 2010 through December 13, 2013, delivered natural gas prices in Jacksonville, Florida have averaged \$5.22 per MMBtu (information provided by Schneider Electric, an energy consulting firm). This cost estimate is significantly less than the natural gas fuel cost estimated by the applicant. Furthermore, natural gas prices are projected to remain low due to the significant increase in natural gas production across the US (see attached excerpt from a February 2011 report prepared by the US Energy Information Administration).

The effect of overestimating natural gas costs is to favor solid fuels versus natural gas. The use of solid fuels will increase GHG emissions relative to the natural gas baseline due to the greater GHG emissions intensity of solid fuels relative to natural gas. The use of solid fuels will also increase on-site GHG emissions associated with fuel storage (fugitive methane) and fuel combustion emissions associated with the mobile equipment used during handling of the solid fuels. Additionally, emissions resulting from the fuel “drying” process for coal, petcoke and wood waste fuels should be included in the GHG BACT analysis.

The applicant should be required to conduct the GHG BACT analysis utilizing more appropriate estimates of natural gas costs as well as ensuring that the operational GHG emissions associated with solid fuels are fully considered. This review would result in a more objective evaluation of the project and ultimately may impact the fuel selection decision. Each of the alternative fuels will have different GHG emission profiles and the GHG BACT analysis should consider each fuel relative to natural gas.

Comment #5. Change to the Primary Equipment Supplier/Design.

The data provided by the applicant presents estimated GHG emissions only from the Maerz PFR Shaft kilns. In their PSD application and BACT analysis, the applicant frequently references the performance of the kilns at the Winchester, Va. site, which we understand to be the Maerz PFR kilns. Yet, in the submitted GHG Permit application for the Keystone site in Jacksonville, it appears the applicant has selected another manufacturer and kiln type, the Cimprogetti “Cim-Reversy TSR” kiln. The change in kiln supplier creates questions as to whether the current BACT Analysis in the GHG Permit Submission is, in fact, credible.

The applicant should provide information from both kiln manufacturers quantifying the impact of any design and operational changes on GHG emissions and any criteria pollutant. Additionally, the applicant should reconcile any differences between the approved PSD Permit for criteria pollutants and the GHG permit submission.

Comment #6. Additional Comments Regarding Selected Equipment Provider/Design.

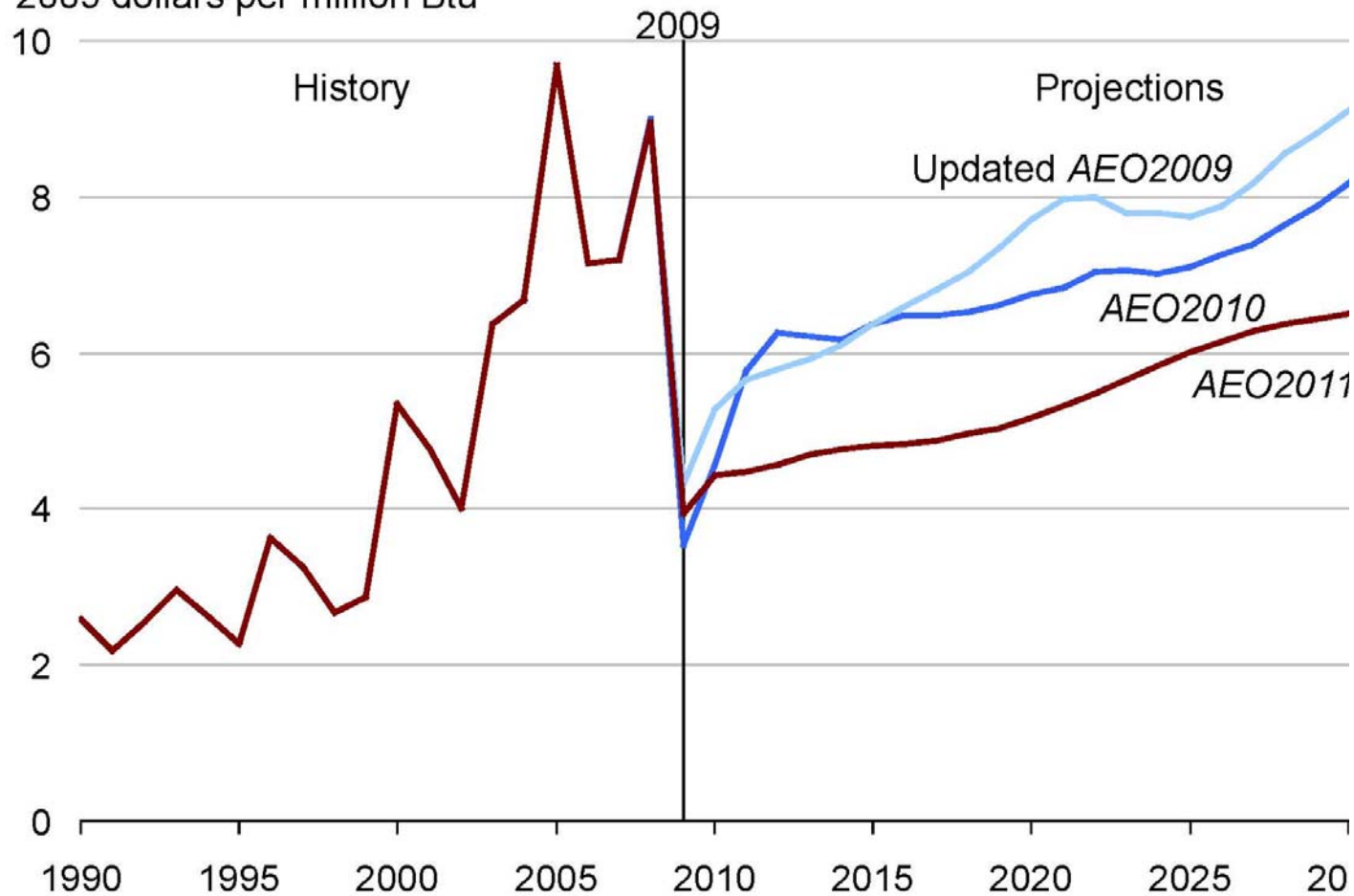
If the applicant has, in fact, decided that the “Cim-Reversy” TSR is the lime kiln of choice for this specific project in Duval County, Fl., the impacts on various other parameters needs to be addressed. The physical parameters that require evaluation include: stack gas exit temperature, stack gas volume, stack height, stack diameter, flue gas dispersion and pollutant concentrations resulting from the TSR kiln design. It is currently unclear in the GHG Permit and the TEPD document which equipment manufacturer has been selected and also which is being approved by FDEP. It is our opinion that the applicant needs to quantify the impact of any equipment changes and that additional dispersion modeling should be required to ensure these changes will not result in modeled violations of the NAAQS & PSD limits.

Comment #7. Stack Emissions Monitoring.

Although the “draft” GHG Air Permit requires the applicant to determine source emissions in accordance with 40 CFR 98 Sub Parts, A C & S it is not clear to us why the installation of “in-situ” CEMs for CO₂e are not required within the permit.

Natural gas price projections are significantly lower than past years due to an expanded shale gas resource

natural gas spot price (Henry Hub)
2009 dollars per million Btu



Richard Newell, February 2, 2011

Source: EIA, *Annual Energy Review*