TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Standard Carbon LLC, dba Standard Purification
551 North U.S. Highway 41, Dunnellon, FL 34432

Facility ID No. 0830170

PROJECT

Project No. 0830170-004-AC
Application for Minor Air Construction Permit for Facility Modifications

COUNTY

Marion County Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Management
Southwest District Office
Temple Terrace, Florida 33637-7600

July 19, 2011

Prepared by David Zell

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

I. Project Description:

A. Applicant:

Mr. James Sharpe, CEO
Standard Carbon LLC
551 North U.S. Highway 41
Dunnellon, FL 34432

B. Professional Engineer:

Mr. Kenneth E. Given, P.E.
Air Testing & Consulting, Inc.
333 N. Falkenburg Road, Unit B-214
Tampa, FL 33619

C. Project Location:

This existing activated carbon production facility is located at 551 North Highway 41 in Dunnellon, Marion County

D. Project Summary:

The construction permit application (with clarifications made in subsequent discussions with the plant manager during a 07/12/11 site visit) requested authorization to make the following modifications.

- Increase maximum permitted kiln combustion chamber fuel heat input rates from 8 MMBtu/hr to 19 MMBtu/hr (21 burners @0.905 MMBtu/hr each) for Kiln No. 1, and from 8 MMBtu/hr to 11.8 MMBtu/hr (13 burners @0.905 MMBtu/hr each) for Kiln No. 2, through combustion chamber blower modifications.

  (PTE Note - This modification will result in an increase of potential emissions from combustion of natural gas in both of the kiln combustion chambers. The increases will take the NOx PTE for each of the kiln combustion chambers from below 5 TPY (and therefore exempt from permitting*) to above 5 TPY (thereby making them emission sources subject to permitting and requiring assignment of new emission unit ID numbers.)

  (This will require creation of new EU Nos. 015 (Kiln No. 1 Combustion Chamber) and 016 (Kiln No. 2 Combustion Chamber)*.) *(* Note - These kiln combustion chambers were previously considered exempt from air permitting under Rules 62-210.300(3)(a)(34)(Categorical and Conditional exemption for external combustion heating units) and 62-210.300(3)(b)1.(Generic Emission Activity Exemption), F.A.C.)*

- Replace existing Carbon Storage Silo Nos. 8, 10 and 12 emission control Baghouse PJ-4 with, currently not being used, existing EU 003 Baghouse PJ-2.

  (PTE Note - Even though PJ-2 is a larger baghouse capable of handling a larger airflow, since the blower will be the same there will be no change in actual airflow rate of 600 dscfm as a result of this changing of the baghouse. This means there will be no change in potential PM emissions.)

  (This modification will affect EU No. 009, and also EU No. 003, which currently shows Baghouse PJ-2 as the PM emissions control device. EU No. 003 which is currently not being used to pneumatically transfer dry fly ash due to the use of wet fly ash as a raw material instead of dry fly ash) will be shown without an associated PM emission control device.)

- Modify the fly ash receiving/unloading area (EU No. 001) to receive and unload very large bags (super sacks) of powdered activated carbon (from fly ash from combustion of coal). This powdered activated carbon will be pneumatically transferred to Fly Ash/Carbon Silo Nos. 9 or 11 (EU No. 002), or to Carbon Storage Silo Nos. 8, 10, or 12 (EU No. 009). This powdered activated carbon will be mixed with activated carbon (from fly ash from combustion of wood) produced by the Standard Carbon facility to create a blended final product.

  (PTE Note - Addition of this activity does not represent an increase in potential PM emissions from the facility as the emission control devices for fly ash receiving and the carbon storage silos (baghouses PJ-T, PJ-1 and PJ-2 (prev. PJ-4)) were already included in the facility PTE at maximum air flow rate for 8,760 hours/yr.)

(This modification affects EU Nos. 001, 002, and 009.)

- Addition of a shaker screen between the Kiln Surge Hopper and the Raymond Mill Receiving Hopper (EU No. 007) to remove sand from the kiln product prior to milling. All of the equipment associated with this shaker screen (feeder equipment, shaker screen, and outlet equipment) is all enclosed such that there are no direct air emissions from this operation. Any PM from the screening operation will be carried by the air stream to the Raymond Mill Receiving Hopper and the associated Baghouse PJ-3 emission control device.

  (PTE Note – Addition of this shaker screen is exempt from permitting since it is not an emission source and will not result in any change in potential emissions.)

  (This modification indirectly affects EU No. 007, as the shaker screen will be added to the description of this emission unit.)

- An existing currently not-in-use Baghouse PM emission control device located on top of Carbon Storage Silo No. 16 will be refurbished and put in service to control emission from transfer of carbon product to Carbon Storage Silo No. 16 (previously part of EU No. 010) and from the loading of truck or railcars from Carbon Storage Silo Nos. 14 and 16 (EU No. 011). Emissions from these operations, and the transfer of carbon product to Carbon Storage Silo No. 14, were previously all controlled by PM emissions control Baghouse PJ-6. This meant that carbon product could not be transferred to Carbon Storage Silo Nos. 14 and 16 at the same time. With the modification, Baghouse PJ-6 will control only Carbon Storage Silo No. 14 (EU No. 010) and the refurbished baghouse will control Carbon Storage Silo No. 16 (new EU No. 014) (along with truck/railcar loading (EU No. 011)), thereby allowing both silos to be loaded at the same time.

  (PTE Note – This refurbished baghouse on Carbon Storage Silo No. 16 represents an additional emission point (and therefore an additional emissions unit now that Carbon Storage Silo Nos. 14 and 16 have separate emission control devices and exhausts) and an increase in the potential PM emissions from the facility.)

  (This modification affects EU Nos. 010 and 011, and will require creation of new EU No. 14.)

Summary of EU Nos. Affected by modifications: 001, 002, 003, 004, 005, 007, 009, 010, 011 *(plus newly created EU Nos. 014, 015 and 016)*

EU Nos. not affected by modifications: 006, 012, and 013

E. Application Information:

Application Received and Complete on: 06/23/11

(Permit Application Processor (DZ) Note – Additional clarifications and corrections to the application were obtained during a 07/11/11 phone conversation with the applicant's consultant, and from the plant manager during a 07/12/11 site visit.)

II. Rule Applicability

This project is subject to the preconstruction review requirements of Chapter 403, Florida Statutes and Chapters 62-204 through 62-297, Florida Administrative Code (F.A.C.), as indicated below.

Subject to:	Y/N	Comments
Rule 62-210.300, F.A.C. - Project Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements, F.A.C.	Y	not exempt from general permitting requirements
Rule 62-212.400, F.A.C. - Prevention of Significant Deterioration	N	facility is not a PSD major source
Rule 62-296.320(4), F.A.C. - General Particulate Emission Limiting Standards	Y	Kilns and Raymond Mill (EU Nos. 004, 005, and 006) are subject to Process Weight Table PM standards. Material handling operations are a potential source of unconfined particulate matter emissions.
Rules 62-296.320(1) and (2), F.A.C. - General Pollutant Emission Limiting Standards (VOCs and Odor)	Y	not expected to be a source of VOC, but could be a source of odors
Rule 62-296.400, F.A.C. - Stationary Source Emission Standards	N	there is no applicable source category
Rule 62-296.500, F.A.C. - Reasonably Available Control Technology (VOC)	N	Marion County is not an air quality maintenance area for ozone
Rule 62-296.700, F.A.C. - Reasonably Available Control Technology (PM)	N	this is a "new" facility, therefore not subject to PM RACT rule
Rule 62-204.800, F.A.C. - Standards of Performance for New Stationary Sources (NSPS)	N	there is no applicable source category
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants (NESHAPS - 40 CFR 61)	N	there is no applicable source category
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants for Source Categories a.k.a. MACT (NESHAPS - 40 CFR 63)	N	there is no applicable source category
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution	N	facility is a synthetic non-Title V source
Rule 62-297.310, F.A.C. - General Compliance Test Requirements, F.A.C.	Y	VE testing is required for the baghouse emission control devices (EU Nos. 001, 002, and 004 thru 014)

III. Summary of Potential to Emit (PTE) Changes from Previous Constr. Permit (0830170-003-AC)
(See II. D. Project Summary above for details of changes.)

Pollutant	Affected EU No. and Brief Description of Change	PTE as Modified (TPY)	Previous PTE (TPY)	Change in PTE (TPY)
PM/PM10	EU 014 - Operation of refurbished baghouse on Carbon Silo No. 16 (also controls emissions from loading of product into trucks or railcars)	0.68	*NA* (new emission source)	0.68
	EU 015- Kiln No. 1 Combustion Chamber	0.238	0.10	0.138
	EU 016 - Kiln No. 2 Combustion Chamber	0.148	0.10	0.048
	Total	**1.066**	**0.2**	**0.866**
NOx	EU 015 - Kiln No. 1 Combustion Chamber	11.1	4.67	6.43
	EU 016 - Kiln No. 2 Combustion Chamber	6.89	4.67	2.22
	Total	**17.99**	**9.34**	**8.65**
CO	EU 015 - Kiln No. 1 Combustion Chamber	2.77	1.17	1.6
	EU 016 - Kiln No. 2 Combustion Chamber	1.72	1.17	0.55
	Total	**4.49**	**2.34**	**2.15**
VOC	EU 015 - Kiln No. 1 Combustion Chamber	0.222	0.09	0.132
	EU 016 - Kiln No. 2 Combustion Chamber	0.138	0.09	0.048
	Total	**0.36**	**0.18**	**0.18**
SO_2	EU 015 - Kiln No. 1 Combustion Chamber	0.048	0.02	0.028
	EU 016 - Kiln No. 2 Combustion Chamber	0.03	0.02	0.01
	Total	**0.078**	**0.04**	**0.038**

(*Kiln Combustion Chamber Potential to Emit Note - Kiln combustion chamber potential emissions are based upon maximum design fuel heat input rates for 8760 hours/year. Previous maximum permitted heat input rates for each kiln was 8 MMBtu/hr. Modified maximum design heat input rates are 19 MMBtu/hr for Kiln No. 1 and 11.8 MMBtu/hr for Kiln No. 2.)*

IV. Conclusions

The emission limits proposed by the applicant will meet all of the requirements of Chapters 62-204 through 297, F.A.C.

The General and Specific Conditions listed in the proposed permit (attached) will assure compliance with all the applicable requirements of Chapters 62-204 through 297, F.A.C.

V. Preliminary Determination

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection Air Resource Management, Southwest District 13051 North Telecom Parkway, Temple Terrace, Florida 33637-7600.

Pursuant to Section 403.087, Florida Statutes and Section 62-4.070, Florida Administrative Code, the Department hereby gives notice of its intent to issue a permit to construct the aforementioned air pollution source in accordance with the draft permit and its conditions as stipulated (see attached).