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October 28, 2009

Via Electronic Mail and U.S. Mail

Florida Department of Environmental Protection
Bureau of Air Regulation, Division of Air Resource Management
2600 Blair Stone Road, M.S. 5500
Tallahassee, FL 32399-2400

Attention: Mr. Alvaro Linero, Director of Special Projects
(alvaro.linero@dep.state.fl.us)

RE: Formal Comments
Air Construction Permit No. 0470016-001-AC
Application for ADAGE Hamilton LLC - Air Construction Permit
Proposed Nominal Net 53 MW Woody Biomass Electric Power Plant
Hamilton County, Florida

Dear Mr. Linero:

ADAGE Hamilton LLC (ADAGE) submitted an application for an air construction permit to the Florida Department of Environmental Protection, Bureau of Air Regulation, Division of Air Resource Management (Bureau) on May 20, 2009 for the construction of a proposed nominal net 53 MW Woody Biomass Electric Power Plant to be located in Hamilton County, Florida. Supplemental information was also provided to the Bureau in the form of Supplements #1, #2 and #3.

On October 8, 2009, ADAGE received a letter from the Bureau stating their intent to issue the air permit. Included in that letter was a "Written Notice of Intent to Issue Air Permit". This notice of intent states the following:

> Comments: The Permitting Authority will accept written comments concerning the proposed Draft Permit for a period of 14 days from the date of publication of Public Notice. Written comments must be received by the Permitting Authority by close of business (5:00 PM) on or before the end of this 14-days period.

The Public Notice noted above was made by ADAGE and appeared in the Jasper News on October 15, 2009. The 14-day period extends from this date until the 29th of October. We are hereby providing our comments on the 28th of October which meets the 14-day requirement within this Notice of Intent.

Attached you will find two tables that provide comments from ADAGE as they pertain to the Draft Air Permit No. 0470016-001-AC and supporting appendices. Table 1 provides comments that are technical in nature and Table 2 provides comments that are more administrative (e.g., corrected descriptions, permit language consistency).

ADAGE is committed to supporting the Bureau with their permitting effort and is available to answer any additional questions that may arise as a result of the information provided in its comment submittal. ADAGE is also available to meet with the Bureau to discuss these comments in person.

Should you have any questions, please do not hesitate to contact Ms. Vanessa Goff of ADAGE at (585) 749-7302. We look forward to continuing to work with the Bureau on issuance of a construction permit for the proposed plant.

Very truly yours,
ADAGE Hamilton LLC

F. Reed Wills
President

Table 1
Proposed Nominal 53 Megawatt (Net) Woody Biomass Electric Generating Plant - Hamilton County, Florida
Formal Technical Comments Pertaining to Draft Air Permit No. 0470016-001-AC

Permit Condition			Proposed Change	Rationale for Change
Condition Number	Page Number	Description		
NA	NA	General Comment	Change all references from "fuel silos" to "fuel bins"	Correct terminology
NA	NA	General Comment	Change all references from "vent filters" to "vent screens associated with the fuel bins"	Correct terminology
NA	NA	General Comment	Expiration date of December 31, 2012 should be changed to December 31, 2013	ADAGE Hamilton, LLC is requesting an expiration date of December 31, 2013. This date should provide sufficient time to construct and perform required compliance testing.
NA	Section 1, Page 3	Proposed Project Description - " The BFB biomass boiler will use natural gas (NG) or propane as a startup and shutdown fuel and for flame (bed) stabilization. If natural gas or propane is not available or is in limited supply, ultralow sulfur distillate (ULSD) fuel oil (FO) with a maximum sulfur concentration of 0.0015 percent (%) by weight will be used."	"The BFB biomass boiler will use natural gas, propane, or ULSD FO with a sulfur content less than 0.0015% sulfur (S) for startup, shutdown and combustion bed stabilization."	Consistency within the Permit ADAGE Hamilton, LLC would prefer the opportunity to use ULSD for startup shutdown and bed stabilization without regard to the availability of other supplemental fuels.
2	Section 3, Page 8	Air Pollution Control Equipment To minimize fugitive PM, woody biomass conveyors shall be enclosed. Dust collectors shall be installed on the conveyor transfer and drop points. Vent filters shall be installed on the fuel silos to minimize PM emissions. Dust collectors will be installed as required to control fugitive emissions.	Air Pollution Control Equipment To minimize fugitive dust, all conveyor systems in the fuel handling, storage and processing system will be designed with covers and to the extent possible enclosed chutes for dropping fuel to and from conveyors. The boiler fuel storage system will consist of fuel bins and vent screens.	The current design of the boiler fuel storage system consists of fuel bins with vent screens. ADAGE Hamilton, LLC does not expect fugitive emissions from the fuel bins. Additionally, our emission estimates in the application are 15.7 tons per year and assume no dust collection control from the fuel handling and storage conveyors. Dust collectors on woody biomass in the 35% to 55% moisture range are not customary for the control of fugitive emissions and have not been included in our emissions estimates.
3	Section 3, Page 8	BMP Plan	Insert at the end of this condition "The final BMP plan will be included in the permit as a permit revision".	ADAGE Hamilton, LLC is requesting inclusion of this statement to adequately reflect the requirement associated with updating the BMP plans based on final engineering designs.
6, 7, 8, 9, 10, 11, 12, 13 and 14	Section 3, Pages 9-10	Process throughput limitations are identified for A) woody biomass, B) truck dumpers, C) conveyors and D) fuel silos.	Process throughput limitations should be deleted from the permit conditions within this section.	Best management practices will ensure minimal emissions from these material handling operations. In addition, plant wide PM emissions from these sources are less than 15.7 tons/year.
15	Section 3, Page 10	Paved Roadways The plant's roadways shall be paved and during dry conditions wetted sufficiently to maintain surface moisture to minimize fugitive dust emissions.	Paved Roadways "Best Management Practices shall be utilized to minimize fugitive dust emissions from the plant's roadways during dry conditions."	Corrected Description - To minimize excessive water consumption, best management practices will be performed on an as needed basis, mitigation plans could include sweeping, vacuuming, dust suppressants or other means to effectively control emissions.
16	Section 3, Page 10	Gravel Areas To minimize fugitive dust emissions during dry conditions any gravel areas at the facility shall be wetted sufficiently to maintain surface moisture	Gravel Areas "To minimize fugitive dust emissions during dry conditions any gravel areas at the facility shall be maintained through best management practices to minimize fugitive dust."	Corrected Description - To minimize excessive water consumption, gravel areas will be maintained through BMPs to minimize the potential for dust formation.
Emission Unit Description	Section 3, Page 10	Capacity: The steam production capacity will be between 400,000 and 450,000 pounds per hour (lbs/hr).	Remove reference to steam production capacity.	Steam production capacity is a redundant permit condition with the requirements established for heat input. As a point of clarification the normal operating rage of the boiler steam flow of the BFB boiler ranges from 354,000 to 570,000 pounds per hour.

Table 1
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Condition Number	Page Number	Description		
2.a	Section3, Page 12	Fabric Filter Baghouse: The control efficiency of the baghouse shall be greater than 99.9%.	Remove reference to control efficiency of 99.9%	ADAGE Hamilton, LLC is requesting that the reference to a 99.9 % control efficiency for the baghouse be removed. Condition 8 of this permit provides emission limits for PM emissions from the BFB boiler. In addition, appropriate testing requirements have been established to confirm the emission limits identified in Condition 8. Opacity limits have also been established, along with a requirement to continuously measure opacity and comply with a CAM plan. The combination of compliance testing and continuous emission monitoring should provide reasonable assurance that the PM emission limit will be maintained. ADAGE Hamilton, LLC will also be performing and recording the required operational checks and maintenance on the baghouse to ensure that it is working properly. These records will be available to the Department upon request.
2.b	Section 3, Page 12	SCR System The permittee shall design, install, operate, and maintain an NH3-based SCR system including reagent storage tank, pumps, metering system, injection grid, reactor and catalyst to reduce NOX emissions in the flue gas exhaust and achieve the NOX emissions standards specified in this subsection. The SCR shall be on line and functioning properly whenever the boiler is in operation.	SCR System The permittee shall design, install, operate, and maintain an NH3-based SCR system including reagent storage tank, pumps, metering system, injection grid, reactor and catalyst to reduce NOX emissions in the flue gas exhaust to maintain the emission limit contained in Condition 8.	The manufacturer has stipulated that the SCR is designed to operate when the flue gas achieves normal operating temperature. This temperature is achieved when the BFB boiler is at an operating load above 50% of maximum normal operation. Therefore, the SCR should not be operated during start-up or shutdown when loads are less than 50% of normal operation.
2.c	Section 3, Page 13	IDSIS An IDSIS based on the use of lime, limestone, trona or sodium bicarbonate and including a storage silo with a vent filter, pumps, metering and injection equipment shall be installed to control SO2 and HCl. Part of this IDSIS will be a silo to store the sorbent material with a vent filter to control PM emissions.	IDSIS An IDSIS based on the use of lime, limestone, trona or sodium bicarbonate and including a storage silo with a vent filter, pumps, metering and injection equipment shall be installed to control HCl and SO2 as necessary to maintain the emission limits contained in Condition 8. Part of this IDSIS will be a silo to store the sorbent material with a vent filter to control PM emissions.	IDSIS will be operated to maintain minor source status and may not be operated continuously.
4	Section 3, Page 13	"The steam generating unit is authorized to combust as its primary fuel clean woody biomass as defined in Condition 5 of subsection 3-A of this permit. In addition, the boiler is authorized to combust natural gas as a supplemental fuel primarily for startup, shutdown and flame (bed) combustion stabilization. The boiler is also authorized to combust ULSD FO or propane depending upon the availability of natural gas."	"The steam generating unit is authorized to combust as its primary fuel clean woody biomass as defined in Condition 5 of subsection 3-A of this permit. In addition, the boiler is authorized to combust natural gas, propane, or ULSD FO with sulfur content less than 0.0015% sulfur (S) for startup, shutdown and combustion bed stabilization."	Consistency within the permit.
5	Section 3, Page 13	Heat Input Rate from All Fuels: The maximum heat input capacity from all fuel combinations is 834 MMBtu per hour (4-hour average).	Heat Input Rate from All Fuels: The maximum heat input capacity from all fuel combinations is 800 MMBtu per hour (24-hour average).	ADAGE Hamilton, LLC is requesting a change to this condition to better reflect the heat input of the BFB boiler over the range of normal operating conditions and with respect to anticipated fuel moisture variations.
8	Section 3, Page 14	Emission Limits	Insert NSPS Db NO_x limit of 0.2 lbs/MMBtu in table of emission limits. This should replace the NO_x limit of 0.3 lbs/MMBtu.	Reflect co-firing of ULSD FO with wood. Meeting the limit as written is a demonstration of compliance with NSPS limit of 0.3 lbs/MMBtu when co-firing natural gas with wood. This change is necessary under NSPS for co firing with oil.
9	Section 3, Page 14	Sorbent Storage Silo VE Opacity from the vent filter of the sorbent storage silo shall not exceed 5% opacity based on EPA Method 9 during initial and annual tests.	Sorbent Storage Silo VE Opacity from the vent filter of the sorbent storage silo shall not exceed 7% opacity based on EPA Method 9 during initial and annual tests.	Reflect NSPS, Subpart OOO requirement. ADAGE Hamilton, LLC has not requested a more restrictive limit than NSPS. Potential PM emissions are extremely small from this source. Opacity of 7% should provide reasonable assurance of satisfying low PM emission rate.

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Permit Condition			Proposed Change	Rationale for Change
Condition Number	Page Number	Description		
10.d	Section 3, Page 15	HCl CEMS "The HCl CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 15. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for the HCl monitor shall be performed using EPA Method 26 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The HCl monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards."	HCl CEMS "The HCl CEMS shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 15, EPA Method OTM 22 or alternate specifications approved by the Department. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, EPA Method OTM 23 or alternative procedures approved by the Department. A Data Assessment Report shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The RATA tests required for HCl monitor shall be performed using EPA Method 26 or 26A as detailed in Appendix A of 40 CFR 60 or by Method 320 as detailed in Appendix A of 40 CFR 63. The HCl monitor span value shall be set appropriately, considering the allowable methods of operation and corresponding emission standards. Approval of specific initial performance specifications and quality assurance/quality control procedures must be provided by the Department prior to installation and operation of the CEM system."	ADAGE Hamilton, LLC is requesting the changes be made to draft permit condition 10(d), page 15 of 23 based on the following rational: 1) reference to Performance Specification 15 would require installation of an FTIR CEM device; 2) flexibility in the specific CEM device should be provided to allow for the best device to be selected that will ensure compliance with the pound per hour emission rate for HCl averaged over a 12 month period and 3) limited information is available on the actual reliability of the FTIR CEM device. Selection of the CEM device is critical to ensuring that a device will be capable of achieving high levels of reliability, thus minimizing the need to perform data gap filling for missing data periods.
20	Section 3, Page 17	Steam Parameters	Remove Condition 20.	Steam production capacity is a redundant permit condition with the requirements established for heat input. As a point of clarification, the normal operating range of the boiler steam flow is between 354,000 and 570,000 pounds per hour.
21	Section 3, Page 17	Pressure Drop	Remove reference to 40 CFR 63.548.	Reference is not relevant. This MACT provision is not applicable to emission sources at this plant.
22	Section 3, Page 18	Bag Leak Detection	Remove reference to 40 CFR 63.548.	Reference is not relevant. This MACT provision is not applicable to emission sources at this plant.
5, 6, 7, 8 and 9	Section 3, Pages 19-20	Process throughput limitations and references to dust collectors	Process throughput limitations and references to dust collectors should be deleted from the permit conditions within this section.	Best Management Practices will ensure minimal fugitive emissions from these material handling operations. In addition, emissions estimates for this system were not modeled with dust collection devices and the total emissions from these sources are less than 1.0 tons/year.
17	Section 3, Page 21	Pressure Drop	Remove requirement to measure pressure drop. Nature of the operation and equipment vendor maintenance should be sufficient for this baghouse.	Reference to Best Management Practices should be sufficient for compliance. Maintaining of the baghouse following suggested vendor maintenance procedures should provide reasonable assurance that the baghouse is working effectively. Operational checks and maintenance records will be recorded and made available to the department upon request. Additionally, uncontrolled emissions from all ash handling operation are less than 1.0 tons per year.
18	Section 3, Page 21	Bag Leak Detection	Remove requirement to install bag leak detection. Nature of the operation and equipment vendor maintenance should be sufficient for this baghouse.	Reference to Best Management Practices should be sufficient for compliance. Maintaining of the baghouse following suggested vendor maintenance procedures should provide reasonable assurance that the baghouse is working effectively. Operational checks and maintenance records will be recorded and made available to the department upon request. Additionally, uncontrolled emissions from all ash handling operation are less than 1.0 tons per year.
F-7	Section 4, Appendix F	40 CFR Part 75, Appendix 5, Section 5 provides for measurement of boiler heat input rate. This subpart specifies specific constants (F Factors) for Wood (Bark and Wood Residue) that will be used in the CEMS to calculate boiler heat input.	Add sentence after Table 1 - "Alternatively, Permittee may use the procedure of 40 CFR Part 75. Appendix F, Section 3.3.6 to calculate a site specific F factor.	ADAGE Hamilton LLC is requesting the option to use the F Factors as given in 40 CFR 75, Appendix 5, Section 5 or to perform appropriate testing to utilize site specific F Factors for the Clean Woody Biomass to be used. The option to calculate site specific F Factors will allow for a more accurate representation of the boiler heat input.

Table 2
ADAGE Hamilton LLC
Proposed Nominal 53-Megawatt (Net) Woody Biomass Electric Generating Plant - Hamilton County, Florida
Formal Administrative Comments Pertaining to Draft Air Permit No. 0470016-001-AC

Permit Condition			Proposed Change	Rationale for Change
Condition Number	**Page Number**	**Description**		
NA	NA	General Comment	The applicant is ADAGE Hamilton LLC, not ADAGE Hamilton, LLC.	Correct applicant name
Emission Unit Description	Section 3, Page 8	EU Description - "Typical operation of the fuel handling system will be 12 hours/day and 5 days/week."	"Typical operation of the fuel handling system will be 12 hours/day and 5 days/week" to "Typical operation of the fuel receiving system will be 12 hours/day and 5 days/week. The fuel handling system will be 24 hours/day and 7 days/week."	Corrected Description
5	Section 3, Page 9	Condition 5 table identified clean woody biomass to be utilized	The following language should be inserted above the table: "Only clean woody biomass will be utilized in the proposed BFB boiler. The clean, untreated woody biomass will include: clean untreated lumber; tree stumps; tree limbs; slash; wood residue; bark; sawdust; sander dust; wood chips; scraps; slabs; millings; shavings; and processed pallets made from wood or other forest residues. The table below further identifies the types of woody biomass to be combusted in the BFB boiler."	Corrected Description/Consistency with the Permit. This language is utilized in other sections of the permit
Emission Unit Description	Section 3, Page 12	EU Description - Stack Parameters: The stack will be approximately 10.5 feet in diameter (maximum) and 195 feet tall (minimum). Exhaust flue gas will exit the stack at the following approximate conditions: an exit temperature of 310° F and a volumetric flow rate of 278,600 actual cubic feet per minute (acfm).	ADAGE Hamilton LLC is providing the following information to better define the approximate stack diameter, flow rate and temperature of the BFB boiler exhaust stack. Exhaust flue gas will exit the stack at the following approximate design conditions: a stack diameter of 12.5 feet, an exit temperature of 300°F and a flow rate range of 246,900 to 306,400 acfm based on a range of fuel moisture from 35% to 55%.	Update to technical data based on engineering data provided by the boiler vendor. This data was also utilized in the voluntary air quality impact evaluation performed in support of the proposed plant.
10	Section 3, Page 14	In the first sentence of Condition 10, replace "oiler" with:	"boiler"	Correct spelling error.
10.c	Section 3, Page 15	CO CEMS "The RATA tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train."	CO CEMS: "The rate tests required for the CO monitor shall be performed using EPA Method 10 in Appendix A of 40 CFR 60"	Clarity of intent of utilizing Method 10. Method 10 is an instrumental method and does not use a sampling train.
15	Section 3, Page 16	Opacity: During startup, shutdown and malfunctions, the stack opacity shall not exceed 20% based on a 6-minute block average, except for one 6-minute block per hour that shall not exceed 27% opacity.	Opacity: During startup, shutdown and malfunctions, the stack opacity shall not exceed 20% on 6-minute block averages, except for one 6-minute block per hour that shall not exceed 27% opacity.	Simple change for clarity pertaining to start-up, shutdown and malfunction periods. The hour is broken into 6 minute averages and each hour, one six minute average shall not exceed 27%.
16	Section 3, Page 16	This procedure shall be used to calculate the heat input rate in MMBtu/hr to the BFB boiler when using clean woody biomass as its primary fuel and NG, ULSD FO or propane as a flame (bed) stabilization fuel.	Revise permit condition to read: "…and NG, ULSD FO or propane as startup, shutdown and bed stabilization fuels."	Corrected Description.
18	Section 3, Page 17	Test Methods	Update test methods: 1) "10B" should be "10;" 2) Include Method 26A with Method 26; and 3) Remove reference to Method 8.	ADAGE Hamilton LLC is requesting this update to cover appropriate test methods available.
24	Section 3, Page 18	Stack Test Reports In addition to the information required in Rule 62-297.310(8), F.A.C., each stack test report shall also include the following information: steam production rate (lb/hour), heat input rate (MMBtu/hour), calculated authorized fuels firing rate (tons/hour, cubic feet per minute or gallons per hour as appropriate), and emission rates (ammonia (NH3) slip in ppmvd @ 7% oxygen; PM, VOC, NOX, SO2, CO and HCl in lb/hr; and SAM in TPY).	Stack Test Reports In addition to the information required in Rule 62-297.310(8), F.A.C., each stack test report shall also include the following information: steam production rate (lb/hour), heat input rate (MMBtu/hour), calculated authorized fuels firing rate (tons/hour, cubic feet per minute or gallons per hour as appropriate), and emission rates (ammonia (NH3) slip in ppmvd @ 7% oxygen; and PM, VOC, NOX, SO2, CO and HCl in lb/hr).	Stack testing is not required for SAM. Reference should be removed for stack test report requirement.
4	Section 3, Page 22	Hours of Operation The emergency generator may operate up to 250 hours per year for maintenance and testing purposes.	Hours of Operation The emergency generator may operate up to 250 hours per year for maintenance and testing purposes. The emergency equipment is not limited to an hours restriction if a true emergency situation occurs at the plant and/or the boiler is not in operation.	Corrected and clarified description. The facility wide emissions for the project have been estimated based on the boiler operating 8760/hours per year. Anytime the boiler is not operating the emissions from the emergency equipment will be trivial in comparison to the boiler and will not place the annual tonnage limits in jeopardy.

Table 2
ADAGE Hamilton LLC
Proposed Nominal 53-Megawatt (Net) Woody Biomass Electric Generating Plant - Hamilton County, Florida
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Permit Condition			Proposed Change	Rationale for Change
Condition Number	**Page Number**	**Description**		
4	Section 3, Page 23	Hours of Operation Each pump may operate up to 250 hours per year for maintenance and testing purposes.	Hours of Operation Each pump may operate up to 250 hours per year for maintenance and testing purposes. The emergency equipment is not limited to an hours restriction if a true emergency situation occurs at the plant and/or the boiler is not in operation.	Corrected and clarified description. The facility wide emissions for the project have been estimated based on the boiler operating 8760/hours per year. Anytime the boiler is not operating the emissions from the emergency equipment will be trivial in comparison to the boiler and will not place the annual tonnage limits in jeopardy.
Technical Evaluation Document	Page 6	Makes reference to below ground receiving hoppers.	Remove reference to "below ground".	Corrected and clarified description.
Technical Evaluation Document	Page 12	Table 6 on page 12 under Section 4.1 indicates that the primary fuel is clean biomass at a maximum rate of 47 tons per hour.	Clean woody biomass at maximum rate is approximately 100 tons/hour.	Corrected and clarified description.
Technical Evaluation Document	Page 12	Table 6 on page 12 under Section 4.1 indicates steam rate is 400,000 to 450,000 lb/hr.	The correct fuel rate is 354,000 to 570,000 lbs/hr	Corrected and clarified description.
Technical Evaluation Document	Page 18	Under the discussion on PM, the draft states in the 7th paragraph that the VE standard is 10% except for one 6-minute period per hour of not more than 15%.	Request FDEP to change 15% to 20%.	Corrected and clarified description.
Technical Evaluation Document	Page 18	Confirm Method 19 for PM testing.	Request FDEP to change Reference Method from Method 19 to Method 5 and 202.	Corrected and clarified description.