

Georgia Department of Natural Resources

Environmental Protection Division • Air Protection Branch

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Noel Holcomb, Commissioner

Carol A. Couch, Ph.D., Director

October 19, 2007

Mr. Mark S. Sajer
Managing Director
Summit Energy Partners, LLC
99 Summit Avenue, Suite 2C
Summit, New Jersey 07901

Re: PSD Application No. 17700 dated September 27, 2007
Yellow Pine Energy Company, LLC (Yellow Pine) Fort Gaines, Georgia (Clay County)

Dear Mr. Sajer:

Technical review of the above referenced application for the construction and operation of a 110-megawatt (MW) power plant has begun. As a result, the Division has the following comments:

1. The application indicates that the emission factors used to calculate potential-to-emit (PTE) pollutant emissions from the fluidized boiler(s) are based on vendor data. However, no such data or explanation is provided for review and verification. Please provide an explanation and available documentation for each of the vendor derived emission factors. Until such data is provided, emission calculations and associated derived emission limits are deemed unacceptable at this time.
2. The application generally lists fuels and fuel blends which will be combusted by the fluidized boiler(s); it does not explicitly list each possible fuel blend combination which will be combusted. Yellow Pine must clearly and completely review each possible fuel usage and fuel blend combination and evaluate them.
3. This application does not address the potential applicability of any of the following regulations to this facility:
 - *40 CFR Part 60 Subpart Y—Standards of Performance for Coal Preparation Plants:*
This facility has processes/equipment potentially applicable to this regulation.
 - *40 CFR Part 60 Subpart OOO—Standards of Performance for Nonmetallic Mineral Processing Plants:*
This facility has processes/equipment potentially applicable to this regulation.
 - *40 CFR Part 60 Subpart HHHH—Emission Guidelines and Compliance Times for Coal-Fired Electric Steam Generating Units and Georgia Rule 391-3-1-.02(2)(ttt)—Mercury Emissions from New Electric Generating Units [Clean Air Mercury Rule (CAMR)]:*
These regulations are potentially applicable to this facility since this facility has the capability of combusting bituminous coal. In accordance with § 60.4102, coal-fired means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.

- *40 CFR Part 60 Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines:*
This facility has processes/equipment potentially applicable to this regulation.
- *National Emission Standards for Hazardous Air Pollutants for Source Categories: General Provisions; and Requirements for Control Technology Determinations for Major Sources in Accordance With Clean Air Act Sections, Sections 112(g) - Modifications, Construction, and Reconstruction and 112(j) - Equivalent Emission Limitation by Permit "MACT Hammer":*
This facility has processes/equipment potentially applicable to this regulation.
- *40 CFR Part 64—Compliance Assurance Monitoring and Georgia Rule 391-3-1-.02(11)—Compliance Assurance Monitoring:*
This facility has processes/equipment potentially applicable to these regulations.
- *40 CFR Part 96 Subparts AA through HH—Clean Air Interstate Rule (CAIR) Nitrogen Oxides (NO_x) Annual Trading Program and Georgia Rule 391-3-1-.02(12)—CAIR NO_x Annual Trading Program:*
This facility has processes/equipment potentially applicable to these regulations.
- *40 CFR Part 96 Subparts AAA through HHH—CAIR Sulfur Dioxide (SO₂) Trading Program and Georgia Rule 391-3-1-.02(13)—CAIR SO₂ Annual Trading Program:*
This facility has processes/equipment potentially applicable to these regulations.
- *Georgia Rule 391-3-1-.02(14)—Mercury Annual Trading Program:*
This facility has processes/equipment potentially applicable to this regulation.

Yellow Pine must address the potential applicability of each of these regulations to the proposed facility.

4. The permit application indicates that biomass will be combusted at 100 percent heat input capacity or at 85% with a combination of bituminous coal, petroleum coke (Pet Coke), or 95% metal-free tire-derived fuel (TDF) at 15%. The application does not indicate that the proposed boiler(s) will have a physical or operational equipment limitation that will not allow these sources to only burn bituminous coal, Pet Coke, biomass, or 95% metal-free TDF at 100% heat input capacity. Nor does the application indicate that there is a physical or operational equipment limitation that will not allow these sources to combust the fossil-derived fuels in combination with biomass at a heat input capacity greater than 15%. Furthermore, the application does not request such limitations. Since this equipment can potentially fire 100% of bituminous coal, Pet Coke, or 95% metal-free TDF, potential calculations should be calculated for each of the fuels and/or fuel blends to demonstrate worst-case emissions for each pollutant unless the applicant is requesting that the 85/15 composition be explicitly stated as a limit in the permit. If requesting such an operational limit, please indicate how compliance will be demonstrated in accordance with Compliance Assurance Monitoring (CAM) or periodic monitoring. Otherwise, estimate worst-case emission for each pollutant at maximum consumption of each fuel and worst-case load for each pollutant including startup and shut down.

5. The application indicates the fluidized boiler(s) are not subject to Georgia Rule 391-3-1-.02(2)(d)4 since the proposed equipment will burn a combination of biomass/fossil fuel mixture. Part (iv) of this regulation provides a method to determine nitrogen oxides (NO_x) emissions when different fuels are burned simultaneously in any combination the applicable standard. Since the boiler(s) can potentially fire any of the applicable fuels independently or simultaneously (as discussed on Comment 4), this regulation is potentially applicable.
6. The facility has not presented any definition of startup, shutdown, or malfunction of applicable equipment and how the facility proposes to comply with applicable PSD limits during these times. If Yellow Pine does not believe that the proposed equipment can comply with applicable PSD limits during startup, shutdown, or malfunction, then it must propose alternative emission limits during these timeframes.
7. The auxiliary boiler emission calculations indicate that the boiler will only be operated 250 hours per year. However, this application does not request such a limitation. Therefore, PTE calculations should be calculated for each of the proposed fuels to demonstrate worst-case emissions for each PSD pollutant and at maximum heat input capacity operating 8,760 hours per year or a request for a 250 hour per year operating limit should be requested I writing along with proposed monitoring and record keeping to ensure compliance.
8. The application indicates that fugitive PTE emissions are based on the facility combusting 100% biomass. However, this assumption may not represent worst-case emissions. Potential calculations should be calculated for each of the proposed fuels and fuel blends to demonstrate worst-case emissions for each pollutant.
9. The State Implementation Plan (SIP) application forms indicate that there will be one fluidized bed boiler. However, the application narrative indicates the potential for the installation of two boilers to achieve the desired heat input capacity. If Yellow Pine has determined that it can obtain one boiler or is required to obtain two boilers, it should inform the Division and perform applicable reviews accordingly.
10. The SIP application forms do not indicate a proposed capacity for the ammonia storage tank or fly ash silo. Please provide this information.
11. The SIP application forms do not indicate the capacity of the fire pump or emergency generator. In addition, very limited information is provided concerning the fuel process buildings. Please provide this information.
12. The permit application indicates a maximum sulfur content for each of the proposed fuels, however there is no information provided indicating how the facility will guarantee and/or determine that the sulfur content for each batch of fuel burned meets the proposed fuel sulfur content limitations. Please provide this information.
13. The facility indicates that the acrolen emission factor is based on a November 1, 2005 memo. Please provide this document for review.

14. The combustion of the proposed fuels may result in the emission of fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur (including H₂S), and reduced sulfur compounds (including H₂S). Yellow Pine must calculate emissions of these PSD-regulated pollutants and evaluate PSD applicability to them.
15. In accordance with § 52.21(b)(1)(i) – Major *stationary source* means: Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated New Source Review (NSR) pollutant: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in North American Industry Classification System (NAICS) codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants.

In accordance with § 52.21(c) (iii), fugitive emissions of a stationary source shall not be included in determining whether it is a major stationary source, unless the source belongs to one of the categories of stationary sources listed above. Yellow Pine is considered a fossil fuel-fired steam electric plant of more than 250 million British thermal units per hour heat input. In addition, Yellow Pine will operate fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input. Yellow Pine must include fugitive emissions in its potential emissions totals and applicable modeling to demonstrate compliance with applicable emission limits.

16. In accordance with § 52.21(c)(1)(ii), a major source that is major for volatile organic compounds or NO_x shall be considered major for ozone. Yellow Pine must address PSD applicability to ozone emissions.
17. Concerns with the calculated emissions and variable proposed fuel usage and composition as discussed above cause the modeled emission rates for applicable pollutants to be unacceptable at this time.
18. The visibility, soil and vegetation analysis is based on the modeled emission rates (i.e. modeled concentrations were below the applicable National Ambient Air Quality Standards). Until the modeled emission rates are deemed acceptable, the visibility, soil and vegetation analysis is deemed unacceptable at this time.
19. The Best Achievable Control Technology (BACT) analysis has yet to be completed at this time. However, please revise “top down” BACT analysis for NO_x to include Xonon[®] as a possible NO_x control technique.

The Division requests a response to these comments within thirty (30) business days following receipt of this letter. If you have any questions or need more information, please contact me at (404) 362-2700 or via email at tyneshia_tate@dnr.state.ga.us.

Sincerely,

Tyneshia Tate
Environmental Engineer
Stationary Source Permitting Program

cc: Peter Courtney
Ronald Vaughn, P.E. CH2M Hill