



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 09 2011

REPLY TO THE ATTENTION OF:
E-19J

Matthew T. Ponish
National Environmental Compliance Manager
United States Department of Agriculture
Farm Service Agency
1400 Independence Avenue SW
Stop 0513
Washington, DC 20250-0513

RE: Biomass Crop Assistance Program (BCAP) Draft Environmental Assessment for Proposed Giant Miscanthus (*Miscanthus X giganteus*) Establishment and Production in Arkansas, Missouri, Ohio and Pennsylvania, Sponsored by Aloterra Energy LLC and MFA Oil Biomass LLC, April 2011.

Dear Mr. Ponish:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) reviewed the U.S. Department of Agriculture, Farm Service Agency's (FSA) above-referenced Draft Environmental Assessment (DEA). This letter and enclosure provide the results of our review. A copy of this letter and enclosure is also being sent to the McKinney, Texas address as instructed in your April 8, 2011, memo.

The DEA is presented as a NEPA document tiered from the USDA-FSA and Commodity Credit Corporation's 2010 Biomass Crop Assistance Program (BCAP) Final Programmatic Environmental Impact Statement (PEIS). Funding assistance for the establishment and production of dedicated energy crops from the BCAP was authorized under the 2008 Farm Bill. EPA submitted comments on the draft and final PEIS.

DEA Proposed Action

Currently, the FSA is considering whether or not to establish four (4) BCAP project areas as proposed by Aloterra Energy LLC and MFA Oil Biomass LLC (Project Sponsors) to support the establishment and production of the perennial bioenergy crop giant miscanthus on 50,000 acres per proposed project area (200,000 total acres) by 2014, with crop longevity of 20 to 30 years. Each proposed project area is comprised of entire and/or portions of 7 to 9 counties within an approximately 50-mile radius of a proposed or existing Biomass Conversion Facility (BCF). BCFs would be utilized to process the giant miscanthus biomass into pellets to be shipped to other facilities or users for use in bioenergy products. Two of the four proposed project areas are in Missouri, one in Arkansas, and one in Ohio/Pennsylvania.

EPA supports the sustainable production of eligible biomass crops and their conversion into forms that can be used in bio-energy production and products. However, the environmental assessment for the four proposed project areas lacks data and specificity. We have some concerns about the current proposal as outlined below. We discuss our concerns in more detail and make recommendations for FSA to consider in the enclosure to this letter.

1. There is little experience with planting and growing giant miscanthus in the U.S. No commercial sized trials in the U.S have been conducted. There is little peer-reviewed literature concerning effects of giant miscanthus plantings on biological diversity.
2. The DEA does not disclose if the Project Sponsors considered the feasibility of using a mixture of low input/high diversity native grasses and forbs instead of the proposed monoculture of giant miscanthus.
3. The specific 30 – 100 acres fields/sites in each proposed project area have not yet been identified. Consequently, specific environmental impacts have not been identified nor specific examples of how mitigation would adequately address these impacts provided.
4. The DEA does not include a draft mitigation and monitoring plan.
5. EPA has water quality concerns related to pesticide, herbicide and fertilizer use.
6. BCF construction is interdependent with biomass crop production. Siting, construction and operation of BCFs are a connected action and should be included in the analysis.
7. Issues EPA raised in our comments on the BCAP PEIS regarding impacts on greenhouse gas emissions were never fully resolved and are not addressed in this tiered DEA.
8. Our PEIS issue regarding Environmental Justice (EJ) was never addressed and this tiered DEA does not provide a detailed account of EJ for each of the 4 proposed project areas.
9. EPA has concerns regarding cumulative impacts.

We appreciate the opportunity to review the DEA and provide comment on the proposed project. If you have any questions regarding EPA's comments, please contact Virginia Laszewski, of my staff at 312/886-7501 or at laszewski.virginia@epa.gov.

Sincerely,



Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance
EPA, Region 5

Enclosure

cc: Robert Hargrove/Art Totten, EPA, Office of Federal Activities
Barbara Rudnick, EPA, Region 3
Michael Jansky/John MacFarlane, EPA, Region 6
Joe Cothorn, EPA, Region 7

**EPA Comments Regarding Biomass Crop Assistance Program (BCAP)
Draft Environmental Assessment for the Proposed Giant Miscanthus (*Miscanthus X giganteus*) Establishment and Production in Arkansas, Missouri, Ohio and
Pennsylvania, Sponsored by Aloterra Energy LLC and MFA Oil Biomass LLC.**

The DEA analyzes four proposed BCAP project areas supporting the proposed establishment and production of giant miscanthus hybrid (giant miscanthus) by the Aloterra Energy LLC and MFA Oil Biomass Company LLC (Project Sponsors). Two of the four proposed project areas are located in Missouri, one in Arkansas and one in Ohio/Pennsylvania.

Concern Nos. 1, 2 and 3: Giant Miscanthus (*Miscanthus X giganteus*) and Biodiversity

The DEA (page ES-6) discloses that there is little experience in planting and growing giant miscanthus in the U.S. No commercial-scale trials have been conducted in the U.S. and there is little peer-reviewed literature concerning the effects of giant miscanthus plantings on biological diversity.

The DEA (pages 2-9) identifies giant miscanthus as a sterile hybrid which does not produce viable seed and is therefore propagated vegetatively by rhizome division. It appears that giant miscanthus is a hardy plant that can reach heights over 10 feet and once established can produce a thick monoculture in a few years. The DEA states that the rhizome spread is slow, 10 centimeters (cm) per year (page 4-12). The DEA identifies that Glyphosate and traditional tillage have been found to be effect eradication methods for giant miscanthus, though it may require more than one growing season for complete eradication (page 2-10). If giant miscanthus rhizomes spread undiscovered offsite and are uncontrolled, there seems to be the potential for giant miscanthus to replace native plants with a plant that has limited ecological benefit for wildlife, insects or birds.

Recommendation: Please discuss the potential for the species to spread and establish offsite by animals digging up rhizomes and/or rhizomes inadvertently being brought to the surface during harvest that are carried and dropped off-site by mammals (e.g., dogs, squirrels, raccoons, rats) and/or birds to locations well away from a miscanthus production field/site.

In all four project areas, habitat for endangered plant, mammal, bird and aquatic species have been identified. The DEA lacks specificity on how site-specific reviews would be conducted, what criteria would be utilized to determine whether and what best management practices (BMPs) would be adequate or whether certain acres should be screened out, especially for dealing with endangered species impacts.

Given the lack of experience, data and specificity, the report's conclusions of minor adverse impacts on vegetation and wildlife and zero impacts on protected species are not supported and therefore are not very convincing.

Recommendation: A case study, where a site-specific review is conducted on a 30-100 acre plot in one of the four areas, would be extremely helpful to demonstrate how the environmental worksheet and screening process and proposed BMPs would actually address the sensitive resources and/or protected species identified in that plot.

Recommendation: We recommend the Final EA (FEA) disclose whether or not the Project Sponsors considered the feasibility of using a mixture of low input/high diversity native grasses and forbs for the biomass crop. If so, the FEA should please explain the reason for choosing giant miscanthus over the native species mixture.

Concern No. 4: Mitigation

The DEA for these four project areas appears to be compromised by a lack of data and specificity. While the four project areas are identified, 30 – 100 acres commitments with individual growers within these project areas do not appear to have been realized, so specific environmental impacts have not been identified. Specific examples of how mitigation would adequately address these impacts are not provided. Rather, the DEA provides a generic process whereby site-specific reviews would be conducted by Technical Service Providers (TSPs) using an environmental worksheet to determine whether environmentally sensitive resources or protected species are present and could be potentially affected. If so, FSA proposes an adaptive mitigation and monitoring plan (MMP) which would include best management practices (BMPs) to be used in the establishment and production of giant miscanthus to ensure minimization of potentially adverse affects.

FSA (page 6-2) is expected to have primary responsibility for implementation and tracking of the mitigation and monitoring program. The DEA identifies that FSA is currently developing a Memorandum of Understanding (MOU) with the Natural Resources Conservation Service (NRCS) to have NRCS provide technical support as TSPs on an individual contract basis to ensure each producer complies with existing requirements of BCAP including completion of the Environmental Screening worksheet, completion of a Conservation Plan, and compliance with all existing rules and regulations following BMPs outlined in NRCS Conservation Practice Standards.

However, the DEA does not include a draft of the proposed Mitigation and Monitoring Plan or a draft of the FSA/NRCS MOU. Consequently, based on information in the DEA, we cannot determine if adequate mitigation and monitoring will likely be identified and successfully implemented in order to adequately protect the environment.

Recommendation: We recommend the FEA include a draft MMP specific for each project area, if feasible, and include the signed MOU between the USDA-FSA and NRCS regarding NRCS TSPs for this proposal.

The project-area-specific MMPs should be in place prior to any planting of giant miscanthus rhizomes and the plan/s should be reviewed by independent crop and invasive species experts to assure that there are adequate measures to prevent the release of giant miscanthus into the natural environment. As part of the MMPs, there should be a buffer

around each of these sites where the spread of the giant miscanthus can be identified before it spreads offsite.

Existing vegetation should be identified and quantified for areas where pasture/rangeland, will be converted. Rangeland vegetation, which may contain a diversity of native and/or non-native perennial grasses, provides greater biodiversity, decreases the potential for erosion, does not require pesticides, herbicides, or fertilizer (PH&F) input, and increases water filtration. The consequences, positive and negative, of converting pasture/rangeland should be described in the FEA.

Recommendation: EPA recommends areas currently in pasture/rangeland that have good biodiversity be avoided as potential sites for biomass production. We further recommend that brownfields, reclaimed mines, former landfills and other such unused land be aggressively pursued by FSA and the Project Sponsors for evaluation for possible biomass cultivation.

Concern No. 5: Water Quality

Although inputs of PH&F for giant miscanthus may be lower in areas where traditional row crops dominate, inputs will be higher where fallow, idle, or pasture/rangelands dominate. Stormwater runoff containing PH&F could lead to increased non-point source pollution in area waterways.

Recommendation: The EA would benefit by including a list of potential pesticides, herbicides, and fertilizers that could be used in giant miscanthus production along with a discussion of their possible effects on water quality, including effects to Clean Water Act Section 303(d) impaired waters. Please include amount of PH&F per acre typically used for biomass production of giant miscanthus or a similar biomass crop.

Recommendation: For clarity, please include large scale maps in the EA that depict potential landowner locations overlaid on impaired waters and threatened and endangered species.

Recommendation: EPA recommends the FEA correct the following: In the document (page 2-9), there are several references to Harness herbicide containing “Acteochlor” as an active ingredient. However, the active ingredient in Harness is “Acetochlor.”

Concern No. 6: Connected Actions/Biomass Conversion Facilities (BCFs)

Each of the four project areas require that the miscanthus crop be taken to a Biomass Conversion Facility (BCF) for processing. However, the DEA provides minimal information regarding the BCFs for this proposal. The DEA is unclear whether some or all of the BCFs currently exist or will need to be constructed. The DEA does not identify the size of the area needed nor the components that make up a typical miscanthus BCF nor does the DEA explain how a miscanthus BCF operates. Consequently, potential direct, indirect and cumulative impacts associated with the siting, construction, and/or operations of the BCFs are not identified nor potential mitigation measures proposed.

Recommendation: Since the BCFs for the proposed project areas are integral to the successful implementation of the Biomass Crop Assistance Program and this particular proposal, we recommend the BCFs be considered connected actions under NEPA and their impacts and proposed mitigation for those impacts be disclosed in the FEA. Any permits that may be needed to construct and/or operate the BCFs should also be disclosed.

Concern No. 7: Renewable Fuel Standards/Greenhouse Gas Emission (GHGs)/Criteria Pollutants

There is no evaluation of greenhouse gas (GHG) emission impacts associated with establishment of giant miscanthus under BCAP. EPA has determined under the Renewable Fuel Standard (RFS) that several biofuel pathways that use miscanthus as a feedstock qualify as a “Cellulosic Biofuel” under RFS definitions, indicating that EPA has assessed that these pathways meet the 60% lifecycle greenhouse gas reduction threshold as compared to a 2005 fossil fuel baseline required for Cellulosic Biofuels under RFS (see 40 CFR Part 80 for further details).

EPA’s July 26, 2010 Comments on BCAP Programmatic EIS with regards to impacts on GHG emissions.

Since EPA’s July 26, 2010 comments on the BCAP Programmatic EIS regarding concerns with the overall assessment of the program’s impact on GHG emissions were not adequately addressed, we take this opportunity to reiterate our PEIS comments and recommend the FEA incorporates these changes, as follows:

Section 4.4.3 - 4.4.4 Direct & Indirect impacts definitions and references

- U.S. legislation (Energy Independence and Security Act of 2007, or “EISA”) and regulation (Renewable Fuels Standard, or “RFS”) have laid down precedent in use of the terms “direct effects” and “indirect effects” with regard to lifecycle analysis of greenhouse gas emissions for biofuels. EPA is concerned that the use of the two terms in the EIS is inconsistent with precedent in U.S. legislation and regulation with typical usage of the terms in the field of lifecycle analysis.
- Section 4.4.3 - 04.4.4 refers to the “the concept of indirect” as “offsite activities” that contribute to biofuel production or electricity generation for irrigation).
- In RFS and in the science of lifecycle analysis, such “offsite activities” are typically considered “direct impacts” (or “indirect effects”) as they directly contribute to the production of the biofuel – i.e., in this analysis, the “system boundaries” includes in its direct impacts such offsite activities. “Indirect Impacts” are typically considered those secondary impacts mediated by the impact of the biofuel production/use on existing markets (e.g., land use change impacts).
- Sections 4.4.3.2 and 4.4.4.2 titled “Indirect Impacts” discusses impacts on quality (i.e., non-GHG pollutants). These should be referred to as “direct impacts” on air quality. The section would more appropriately be titled “Non-GHG Air Quality Impacts.”
- EPA expresses its concern that these terms should be used in the BCAP EIS in a

manner consistent with other U.S. reports and studies in order to clearly communicate the types of effects the EIS has analyzed.

Section 4.4.3.2 and 4.4.42 – Non-GHG pollutants

- EPA expresses concern that the EIS does not fully analyze potential impacts of the BCAP program on air quality due to non-GHG emissions.
- The EIS reports that because the same machinery is used for feedstock production for biofuels as is used for other farming practices, implementation of the BCAP program would result in no change to non-GHG related air quality. This assumption does not examine the possibility that increased crop production due to the BCAP program could lead to use of such machinery (and other related sources of air pollutant emissions) and increased total emissions compared to a No Alternative baseline.

Section 4.4.2 – Methodology (for GHG Analysis)

EPA expresses concern that the methodology description for the EIS analysis of potential GHG emissions impacts of BCAP does not provide sufficient information on analysis approach, modeling framework and tools, assumption, and emissions for readers to understand the reported results. In order for readers to adequately understand the EIS GHG analysis results, the methodology description should provide the following information:

- Modeling system and/or tools used to construct Net Ecosystem Carbon Budgets (NECB).
- Assumptions applied in constructing NECBs (for both the baseline and alternative use scenarios) and in comparing NECBs. (e.g., crop yields, fertilizer inputs)
- Description of the system boundaries for the analysis. The description should include clarification that downstream emissions (e.g., fuel processing and combustion) are not included.
- The time for the analysis (i.e., near term, longer term?)
- Indicate whether emission impacts reported are annual or cumulative over time.

Criteria Pollutants

The DEA identifies all project areas are in attainment for all criteria pollutants, except for the Ohio/Pennsylvania project area. The project area in Ohio contains Lake County designated as non-attainment for PM_{2.5} and Ashtabula County designated as partial non-attainment for PM_{2.5}. Lake County and Ashtabula County are part of the Cleveland-Akron-Lorain Air Quality Control Region (AQCR) 174.

Recommendation: The EA should disclose the sources and amounts of PM_{2.5} that may be emitted in Lake and Ashtabula Counties due to project implementation and operation, including the construction and/or operation of the Ashtabula BCF. The FEA should identify measures that will be undertaken to prevent any increases in PM_{2.5} in these areas due to the proposal.

The FEA should also identify any air permits that may be needed for construction and/or operation of all BCFs.

Concern No.8: Environmental Justice

It is not clear that a detailed environmental justice (EJ) analysis should be eliminated from this EA. EPA's comments on the draft Programmatic EIS, asked FSA to discuss how its Civil Rights Impact Analysis (CRIA) meets the letter and intent of Executive Order (E.O.) 129898. The July 2010 final Programmatic EIS, from which this EA was tiered, did not demonstrate this nor determine that disproportionate effects to minority, low-income and indigenous populations would not occur in the project areas. This precluded delineation of communities with possible EJ concerns.

Recommendation: EPA recommends the FEA leverage publicly available demographic information resources by utilizing tools such as Landview or other GIS-type data visualization applications to support the identification, mapping, and analysis of potential populations with EJ concerns. At the core of any EJ analysis is the identification of populations that may be considered communities with EJ concerns. Once the population is identified, the affected areas(s) can be delineated and the project's impacts and alternatives can be analyzed. EPA also recommends the FEA provide documentation that will substantiate a determination of non-applicability for an EJ analysis and support the argument that a reasonable threshold determination could be made regarding this.

The DEA did not identify the human environment within the 50-mile radius of the project area, any sources of exposure that populations(s) may experience or mitigation measures to address any adverse impacts. The DEA analyzed the establishment of four proposed BCAP project areas, two in Missouri, one in Arkansas and one in Ohio and Pennsylvania. The EA states in part . . . "Each proposed project area was developed as an approximate 50-mile radius from the approximate location of each BCF . . . the BCF location must include access to rail, highway, and be within reasonable distance of ports for water connection. These factors suggest the probability of human habitation and activity.

Recommendation: EPA recommends that the FEA identify the human environment within the 50-mile radius of the project area/s, sources of exposure that the population(s) may experience and the mitigation measures to address any adverse impacts.

The Council on Environmental Quality (CEQ) EJ NEPA Guidance discusses general principles for considering EJ under NEPA. It states in part: "In preparing an EIS or an EA, agencies must consider both impacts on the natural and physical environment and related social, cultural and economic impacts. EJ concerns may arise from impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations and Indian tribes, or from social or economic impacts."

Concern No. 9: Cumulative Effects

A cumulative effects analysis should take into consideration the effects of other past, present, and reasonably foreseeable future actions in the project area/s. The cumulative impacts assessment section of the DEA does not identify or discuss any other actions that could have an impact to the resources listed in the DEA. Only the potential cumulative effects by the proposed action are identified and discussed. This is not the intent of 40 CFR Part 1508.7.

Recommendation: EPA recommends the FEA provide a cumulative impacts analysis that identifies and takes into account the cumulative effects associated with other past, present and reasonably foreseeable future actions in the project area/s.