



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

DOE/EA 1787

**FINDING OF NO SIGNIFICANT IMPACT
AND
FLOODPLAIN STATEMENT OF FINDINGS
Myriant Succinic Acid Biorefinery Demonstration Facility
Lake Providence, East Carroll Parish, Louisiana**

AGENCY: U.S. Department of Energy, Golden Field Office

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of up to \$50 million in federal funding to Myriant Lake Providence, LLC (Myriant) to support the final design, construction, and start-up of the proposed Myriant Succinic Acid Biorefinery to be located on a 55-acre industrial site leased from the Lake Providence Port Commission in Lake Providence, Louisiana. The biorefinery will hereafter be referred to as "MySAB" or "the biorefinery." The biorefinery and all related on- and off-site infrastructure and utilities will be referred to as the "proposed project."

MySAB would produce 30 million pounds per year of succinic acid from sorghum grains and lignocellulosic-derived sugars. Succinic acid is an industrial organic chemical building block that can be used to produce food, plastics, clothing fibers, pigments, and biodegradable solvents. It also is a starting or intermediate material for a number of commercially significant specialty chemicals and chemical processes. The bio-based succinic acid would displace succinic acid produced from petroleum-based feedstocks. The process also produces ammonium sulfate as a co-product.

All discussion, analysis and findings related to the potential impacts of constructing and operating the proposed biorefinery, including the Myriant-committed mitigation measures, are documented in the final Environmental Assessment (EA). The final EA is hereby incorporated by reference.

This Finding of No Significant Impact (FONSI) was prepared in accordance with the *National Environmental Policy Act of 1969* (NEPA), 42 U.S.C. §§ 4321, *et seq.*, the Council on Environmental Quality regulations for implementing NEPA, as amended, 40 CFR 1500 to 1508, and DOE NEPA regulations, 10 CFR Part 1021. Concurrent with its NEPA review, DOE is also required to comply with 10 CFR Part 1022 - Compliance with Floodplain/Wetlands Environmental Review Requirements, because the proposed project involves a floodplain and wetland action. The EA therefore presents an assessment of potential floodplains and wetlands impacts, pursuant to 10 CFR Part 1022.

ENVIRONMENTAL IMPACTS: In compliance with NEPA and the DOE NEPA implementing regulations, the EA examined the potential impacts of DOE's decision to authorize Myriant to expend federal funds for the proposed project and also examined a No Action alternative. Under the No Action alternative, DOE would not authorize expenditure of federal funds by Myriant and Myriant would not design, construct or operate the proposed biorefinery.



DOE analyzed land use, air quality and odor, noise, visual and aesthetic resources, geology and soils, water resources (including floodplains and wetlands), biological resources, cultural resources, socioeconomics, environmental justice, waste management and hazardous materials, occupational health and safety, utilities and energy, and transportation, as well as cumulative impacts of the proposed project. DOE has determined that for all resource areas there would be no impacts or that the potential impacts would be negligible, temporary, or both. Air quality, water quality, and hazardous material handling were expressed as concerns in the one public comment letter received in response to the Notice of Scoping for this project. These resource areas, as well as others requiring permit conditions or applicant-committed measures to ensure minimal environmental impacts, are discussed below. A complete analysis of all potential environmental impacts and Myriant's committed environmental protection measures is contained in the EA.

Construction and operations of the infrastructure supporting the biorefinery would require installation of effluent wastewater, sanitary wastewater and natural gas pipelines which may result in temporary and/or permanent impacts on land use, water resources (including floodplain and wetlands), biological resources and cultural resources. The pipelines would be installed primarily outside the biorefinery site in 15-foot permanent rights-of-way within 30-foot construction corridors. It would be necessary to clear the areas of palustrine forested wetlands that the pipelines would traverse. The forested wetland would be converted to palustrine emergent wetlands, which would not cause loss of wetland area but may result in impacts to wildlife and habitat.

Installation of the proposed effluent wastewater pipeline and a portion of the proposed natural gas pipeline would require a federal dredge-and-fill permit from the U.S. Army Corps of Engineers (USACE) because of the potential impacts to floodplains and wetlands. Myriant is committed to comply with all mitigation measures required by the USACE. Installation of the pipelines would result in soil disturbance, increasing the possibility of erosion and sedimentation. Myriant would use Best Management Practices (BMPs) (e.g., sediment fencing) to minimize erosion and sedimentation impacts to the surrounding surface-water bodies. If required by the U. S. Department of Transportation (DOT), Myriant would restore the drainage ditches crossed by the pipeline routes to original contours following construction. Myriant has also committed to other mitigation measures such as, during construction, requiring that heavy equipment cross wetland areas on equipment mats, where necessary to minimize soil compaction and rutting. After construction, the pipeline rights-of-way would revegetate naturally, with the exception of the permanent right-of-way directly over the pipelines, which Myriant would periodically clear for monitoring and maintenance.

The U.S. Fish and Wildlife Service (USFWS) provided recommendations to minimize or avoid potential impacts to wildlife and habitat. Appendix B of the EA contains a copy of the USFWS letter. Myriant is committed to follow the USFWS recommendations to the maximum extent practicable and to continue consultation with the USFWS throughout the construction process.

The Louisiana State Historic Preservation Officer (SHPO) requested initiation of a Phase I archeological survey before the construction of the pipeline in the floodplain because of the proximity to the "Hollybrook site," which has been nominated for the National Register of Historic Places. Myriant is committed to performing the survey and will require a no-effect determination by the SHPO prior to construction of the pipeline. Myriant has also developed an *Unexpected Discoveries and Emergency Procedures Plan* to address the possibility of accidental discoveries during construction and will continue consultation with the SHPO during construction.

Construction of MySAB would result in an increase in air pollutant emissions such as fugitive dust; however, impacts would be minor and temporary because Myriant would use BMPs and dust control measures, such as road water spraying, to minimize the impacts.

Potential air emissions during operations would come from several sources including fugitive dust and small quantity emissions of volatile organic compounds (VOCs) and Hazardous Air Pollutants (HAPs). Myriant would minimize fugitive dust by implementing BMPs as appropriate including maintaining clean interior and exterior handling areas, enclosing grain handling equipment, use of pollution control systems, and by paving the biorefinery access road. Myriant would control VOCs, HAPs, and ammonia pollutants by implementing BMPs as appropriate, including scrubbers and oxidizers.

The biorefinery is expected to emit a slight odor of ammonia (based on DOE's dispersion analysis of the fermentation operations). The odor threshold (the level at which 50 percent of humans smell ammonia) is very low (approximately 5 parts ammonia per 1 million parts air). DOE analyzed the dispersion of ammonia to better understand the potential impacts to nearby residences. The results show that the concentration of ammonia was estimated to be between 0.0000015 ppm for a steady daily release and 0.009 ppm for a sudden daily release. The odor threshold for ammonia is 5 ppm, so the concentration of ammonia would be significantly less than the odor threshold.

The only chemical compound that Myriant would store at MySAB in a quantity large enough to be regulated under the Clean Air Act's Risk Management Rule (40 CFR part 68) would be anhydrous ammonia. Using the Environmental Protection Agency's (EPA) Risk Management Program Guidance and model, Myriant performed simulated worst-case and alternative release scenarios for the release of anhydrous ammonia, both of which indicated that toxic endpoint concentrations of the chemical could extend off site. To safely manage a catastrophic release of anhydrous ammonia, Myriant exhaustively studied the anhydrous ammonia storage and handling systems/procedures and developed mitigation plans to reduce the probability of an incident to levels that are probabilistically remote. As well, Myriant would develop appropriate spill response and emergency response plans in accordance with Federal and Louisiana Occupational Safety and Health Administration (OSHA), EPA, and the Louisiana Department of Environmental Quality (LDEQ) regulations and guidance, to address medical and environmental hazards associated with the MySAB biorefinery.

FLOODPLAIN STATEMENT OF FINDINGS: By comparing the biorefinery site elevation to the Base Flood Elevation, DOE has determined that the 55-acre biorefinery site would not be within the 100 year floodplain. However, the effluent wastewater pipeline and natural gas pipeline that would be constructed outside the proposed biorefinery site in 15-foot rights-of-way would be within the 100 year floodplain as is shown in Figures 3-1 and 3-3 of the EA. Along the routes of the pipelines, the infrastructure would be installed underground, via the open-trench method, and the area would be restored to original contour and grade. Therefore, there would be no effect on flood storage capacity of the floodplain and minimal impacts to the floodplain. Atmos Energy (the natural gas distribution company) and Myriant would obtain authorization under USACE Nationwide Permit No. 12 (NWP-12) Utility Line Activities, and conduct construction in compliance with permit conditions. BMPs, designed in accordance with NWP-12 requirements, would prevent significant erosion and sedimentation impacts to the surrounding surface-water bodies. The land in the pipeline rights-of-way (in the floodplain) would not contain aboveground structures and would remain available for limited uses, for example, recreation and roadside maintenance, respectively. DOE concludes that this project would have minimal impacts on the natural and beneficial floodplain values, would not affect lives or property in the area, and would comply with floodplain protection regulations.

PUBLIC PARTICIPATION IN THE EA PROCESS: In accordance with applicable regulations and policies, DOE sent a Notice of Scoping on June 2, 2010, to federal, state, and local agencies; tribal governments; elected officials; businesses; organizations and special interest groups; and members of the general public providing 30 days to submit comments regarding the EA's scope. DOE published the Notice of Scoping online at the DOE Golden Field Office Public Reading Room. DOE received one public comment letter on the Notice of Scoping. These documents are included in Appendix A.

In addition, DOE initiated consultation with the USACE; USFWS; LDEQ; Louisiana Department of Natural Resources (LDNR); Louisiana Department of Culture, Recreation, and Tourism (LACRT); Louisiana Department of Wildlife and Fisheries (LDWF); the Fifth Louisiana Levee District, Louisiana Department of Transportation and Development (LDOTD), the Jena Band of the Choctaw Indians, the Coushatta Indian Tribe, the Chitimacha Tribe of Louisiana, and the Tunica-Biloxi Tribe of Louisiana. Appendix B of the EA contains copies of the consultation letters and responses.

DOE published the Draft EA and Notice of Wetland Involvement (NOWI) in the DOE Golden Field Office Public Reading Room for a 15-day review period which ended September 13, 2010, and sent Notices of Availability (NOA) to interested agencies and individuals. DOE concurrently posted the NOWI in the Lake Providence, LA Banner-Democrat newspaper for the required 15-day public comment period. No timely comments were received during the draft EA and NOWI comment periods. On November 4, 2010, DOE published a Notice of Floodplain Action in the DOE Golden Field Office Public Reading Room and the Lake Providence, LA Banner-Democrat newspaper for the required 15-day public comment period which ended on November 18, 2010. DOE also sent the Notice to interested agencies and individuals. The LDEQ submitted the same comments as previously sent in response to the Notice of Scoping in July 2010. LDEQ indicated it had no objections to the project and provided recommendations. Applicable recommendations have been addressed in the EA and committed to by Myriant. Appendix A of the EA contains the NOA for the draft EA and the NOWI, the Notice of Floodplain Action, and the Distribution List and the LDEQ correspondence.

DETERMINATION: DOE determines that authorizing the expenditures of federal funds to Myriant to facilitate final design, construction, and start-up of the proposed Myriant Succinic Acid Biorefinery would not constitute a major federal action significantly affecting the human or natural environment, as defined by NEPA.

Myriant's commitments to (a) obtain and comply with all appropriate federal, state, and local permits, and (b) to minimize potential impacts through the implementation of federal agency recommendations, BMPs and various applicant-committed measures detailed in the EA, shall be incorporated and enforceable through DOE's financial assistance agreement. DOE and Myriant are committed to complete required consultation with the USFWS and the SHPO, and DOE will use an independent engineer to monitor implementation of Myriant's commitments.

Pursuant to 10 CFR 1022.12, DOE is allowing a 15-day public review period from the date the Floodplain Statement of Findings is posted before Myriant is authorized to expend funds on any activities in the floodplain. This condition will be incorporated and enforceable through DOE's financial assistance agreement.

Therefore, the preparation of an Environmental Impact Statement is not required, and DOE is issuing this Finding of No Significant Impact (FONSI). Subject to conditions in this FONSI and any other conditional provisions, this FONSI informs DOE's decision to authorize release of its cost-shared funding for the design, construction, and start-up of the biorefinery in Lake Providence, Louisiana.

Copies of the Final EA are available in the website at:
http://www.eere.energy.gov/golden/Reading_Room.aspx.


For questions about this FONSI, please contact:

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