DOE/EA-1692

FINDING OF NO SIGNIFICANT IMPACT DEPARTMENT OF ENERGY LOAN GUARANTEE TO RED RIVER ENVIRONMENTAL PRODUCTS, LLC FOR CONSTRUCTION AND START-UP OF AN ACTIVATED CARBON MANUFACTURING FACILITY IN RED RIVER PARISH, LOUISIANA

AGENCY: U.S. Department of Energy, Loan Guarantee Program Office

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) conducted an environmental assessment (EA) that analyzed the potential environmental impacts associated with the construction and operation of an Activated Carbon (AC) manufacturing facility in Red River Parish, Louisiana. DOE, through its Loan Guarantee Program Office (LGPO), proposes to provide a Federal loan guarantee in the amount of $245 million pursuant to Title XVII of the Energy Policy Act of 2005 (EPAct 2005) to Red River Environmental Products, LLC (RREP) to support construction and start-up of the facility. The purpose and need for agency action is to comply with DOE's mandate under EPAct 2005 by selecting eligible projects that meet the goals of the Act. DOE is using the NEPA process to assist in determining whether to issue a loan guarantee to RREP to support the proposed project.

The RREP facility would produce 75,000 tons (150 million pounds) per year of powdered AC, a mercury capture sorbent that enables coal-fired power plants to lower mercury emissions through activated carbon injection. If utilized, that amount of AC could remove a total of 30,000 pounds of mercury per year from the flue gas of approximately 160 coal-fired power plants combined. The proposed project would also incorporate activated carbon injection to reduce its own mercury emissions by 80% compared to an uncontrolled AC manufacturing facility.

In addition to the potential mercury reduction benefits, the proposed AC manufacturing facility design represents a significantly improved technology that would result in increased energy efficiency in comparison with existing AC facilities. The plant design incorporates four parallel furnaces in a single production line to maximize efficiency of scale and enable the efficient recovery of waste heat for power generation. This power would be utilized to support facility operations, reducing the facility's need to obtain electricity from outside sources. Excess energy not used by the facility would then be sold to the power grid, potentially reducing the need for electricity generation and associated carbon dioxide emissions, a greenhouse gas, elsewhere.

All discussion and analysis related to the potential impacts of construction and operation of the proposed facility are contained in the Final EA (DOE/EA-1692), which is incorporated by reference. DOE examined potential impacts on the following resources and found none to be significant: land use; geology; soils; topography and drainage; ecological resources; water resources, including floodplains; air quality; waste management; socioeconomics and environmental justice; noise; scenic resources; public health and safety, including impacts related to intentionally destructive acts; cultural resources; transportation; and cumulative effects, including global climate change.

In compliance with Executive Order 11988, Floodplain Management and DOE's implementing regulations found in the Code of Federal Regulations Title 10 Part 1022, a notice of floodplain action was published in the Shreveport *Times* on September 21, 2009 and in the *Coushatta Citizen* on September 24, 2009, and a floodplain assessment was conducted for the proposed project and incorporated into the EA. The floodplain statement of findings is attached, and its availability will be announced in both newspapers.

In accordance with applicable regulations and policies, DOE sent a notification letter regarding the Department's determination to prepare an EA to the Louisiana Department of Environmental Quality on July 29, 2009. The letter described the proposed action and stated that a draft EA would be sent to the state for review. On April 22, 2010, DOE sent the draft EA to the Louisiana Department of Environmental Quality and invited their comments on the draft. The draft EA was also posted on the Loan Guarantee Program Office website and a notice of availability was published in the *Coushatta Citizen* and the Shreveport *Times*. No comments were received.

DETERMINATION: On the basis of the Final EA, DOE has determined that providing a Federal loan guarantee to Red River Environmental Products, LLC to support construction of the proposed AC manufacturing facility in Red River Parish, Louisiana, will not have a significant affect on the human environment. The preparation of an environmental impact statement is therefore not required, and DOE is issuing this Finding of No Significant Impact.

Copies of the Final EA are available at the DOE Loan Guarantee Program Office website at www.lgprogram.energy.gov or from

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Additional information on the DOE NEPA process is available from

Office of NEPA Policy and Compliance
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
202-586-4600 or 1-800-472-2756

Issued in Washington, DC on the 11 day of June in the year 2010.

Jonathan Silver
Executive Director, Loan Programs

ATTACHMENT
FLOODPLAIN STATEMENT OF FINDINGS
FOR DEPARTMENT OF ENERGY LOAN GUARANTEE TO RED RIVER ENVIRONMENTAL PRODUCTS, LLC FOR CONSTRUCTION AND START-UP OF AN ACTIVATED CARBON MANUFACTURING FACILITY IN RED RIVER PARISH, LOUISIANA

The U.S. Department of Energy (DOE) proposed action is to issue a loan guarantee to Red River Environmental Products, LLC (RREP) to support the construction and start-up of the AC manufacturing facility. The proposed facility would use lignite coal to produce 75,000 tons (150 million pounds) per year of powdered AC. The RREP AC manufacturing facility is being constructed on an approximately 60-acre site of reclaimed, previously-mined land located in Red River Parish, Louisiana, approximately three miles west of the Town of Coushatta. The project also includes a water intake line, wastewater outfall line, gas line, and electric line (collectively referred to as linear features); a water intake pump station, and an electric substation. Figure 1 is a map showing the location of the RREP AC manufacturing facility and linear features.

The proposed project is within Zone A of the 100-year floodplain as determined by the Federal Emergency Management Agency (FEMA) in 1985, prior to mining activities. Lignite mining required construction of a levee around a substantial area, including the site.

Construction began on the RREP AC manufacturing facility in September of 2008, prior to application for a loan guarantee. Since that time, the private applicant has continued work on the project, utilizing non-federal funds. As of the end of December 2009, construction of the facility was about 60% complete.

RREP considered a number of criteria in selecting the most suitable site for the proposed project. The primary driver for selecting a site was proximity to the primary raw material, lignite coal. Due to the expense of transporting lignite coal relative to its value and the need to keep the lignite covered/protected, it was critical that the manufacturing facility be located in an area rich in nearby lignite reserves. Further, because the quantity of raw material is much greater than the quantity of product (by a factor of four to five times), minimizing transportation cost and impacts on the raw material side, such as reducing truck traffic and fuel consumption, were important considerations. Also important in the selection process were the following factors:

- infrastructure support (combination of transportation, electrical interconnections, gas and water availability);
- proximity to potential clients/end users of the AC product;
- timing/ability to secure land ownership;
- avoidance or minimization of environmental impacts;
- state, local and regional benefits; and
- trained workforce availability and other economic considerations.

Based on the factors above, the selection was narrowed down to two sites in Northwest Louisiana that would have access to the same lignite coal reserves: the RREP site and the Oxbow 66 site (see Figure 2). The RREP site best met the criteria listed above.

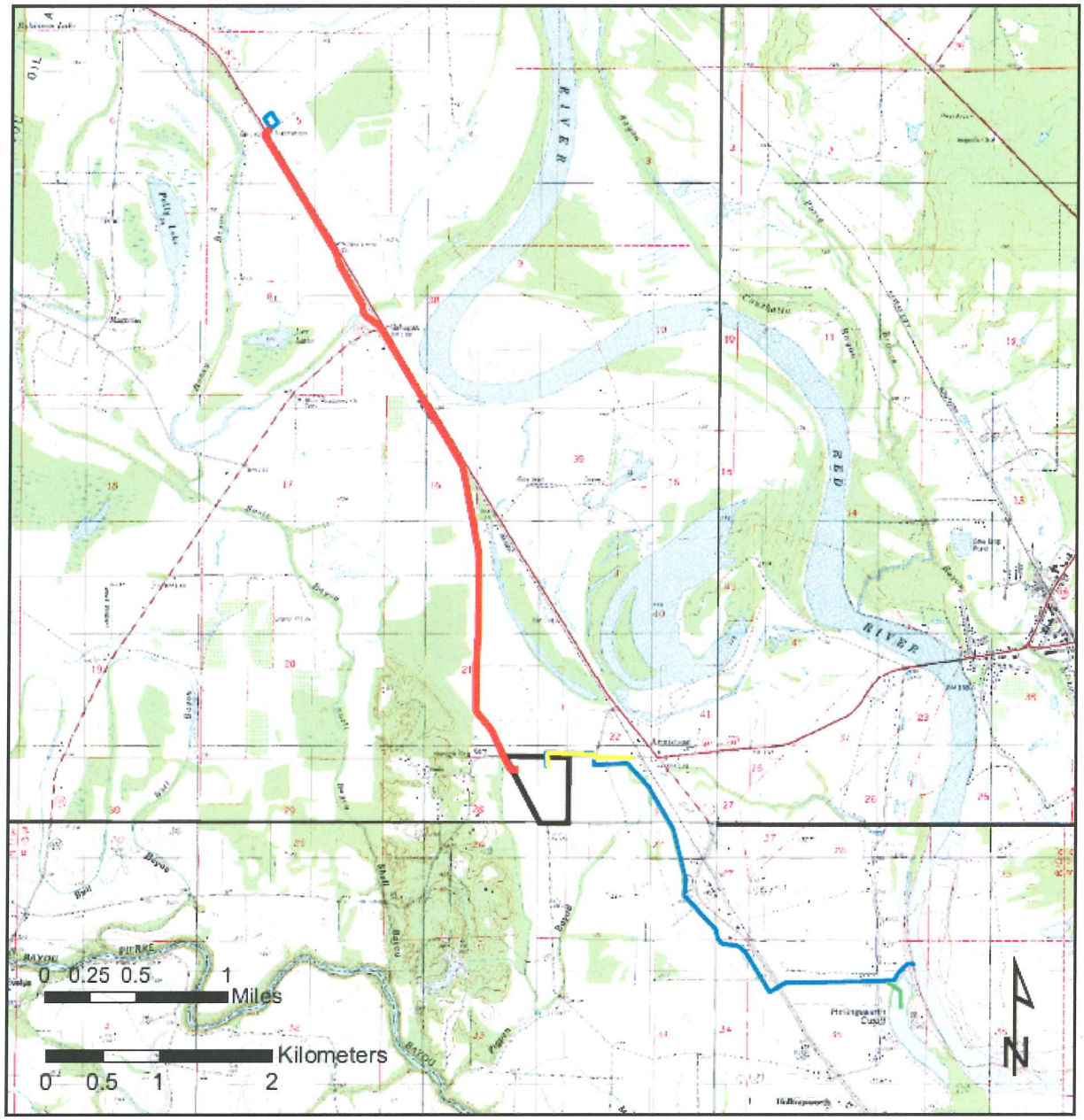
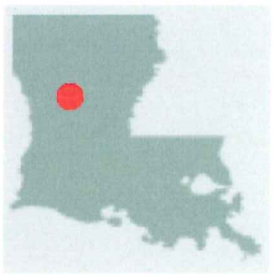


FIGURE 1
PROJECT AREA MAP

Sources: Harmon USGS Quadrangle; 1996.
Armstead, Red River Parish, Louisiana
Date: 6 June 2009

Gas Line
Site Boundary
Substation
Electric Line ROW
Intake ROW
Outfall ROW



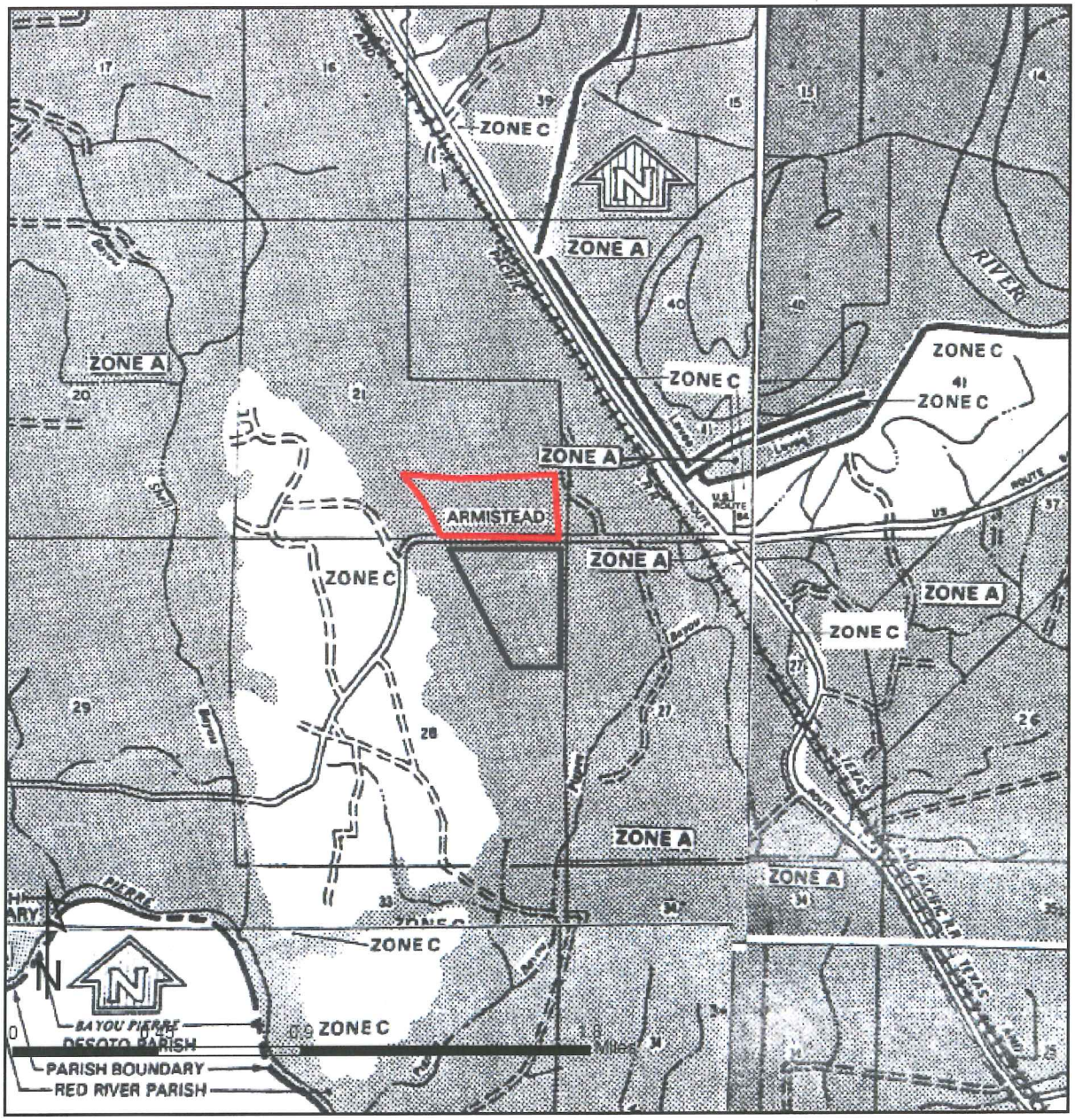


FIGURE 2
RREP AND ALTERNATIVE SITE FLOODPLAIN MAP

Sources: FIRM Map 220152 B. 1995.	
Armistead, Red River Parish, Louisiana	Alternative Site Considered
Date: 27 August 2009	RREP Site Boundary

Given the extensive reach of the 100-year floodplain in the Coushatta area, a feasible non-floodplain location was not found. The RREP site and the Oxbow 66 site, as well as a large majority of surrounding lands, are within the 100-year floodplain. The Oxbow 66 site was not selected based on several key factors relevant to floodplain issues including: 1) the elevation of the property is significantly lower than the RREP site and therefore would have required more fill within the floodplain to raise the elevation; 2) the property is not protected from flooding by a levee; and 3) two drainage swales and an intermittent stream transect the property. The area to the west of the site which is not in the 100 year floodplain includes offices and a coal loading facility owned by the Red River Mining Company, as well as a cemetery. The area is cut with active mining roads that are used to transport the coal within mine property. Additionally, when RREP was looking for sites, no site in this area was available.

DOE has determined that the proposed action conforms to applicable floodplain protection standards. DOE/EA-1692 Section 3.6.1.2 contains the floodplain assessment summarized in this statement of findings. In order to minimize harm, RREP established design criteria which specified that the bottom of all major equipment foundations and/or the top of foundations be a minimum of 1 foot above the computed base flood elevation (BFE)[1] of 132.6 feet above mean sea level. The grading and foundation plans for the manufacturing facility site were prepared and have been implemented in accordance with this requirement.

Analysis confirmed that a greater volume of soils were removed below the BFE during construction than were brought in as fill; resulting in no net filling within the existing floodplain below the BFE. Consequently, there has been no adverse effect on the floodplain's storage volume and subsequent flooding risk. A hydraulic analysis also confirmed that there would be no significant increase in flood elevations due to the placement of the fill for construction and that there is no increased risk of flooding to the site or to adjacent properties as a result of the construction. Additionally, local officials responsible for the area's Flood Insurance Program have been consulted and determined that the project is consistent with the applicable requirements for building in the floodplain.

Installation of linear features and construction of the water intake pump station have had minimal permanent effects on the floodplain. The intake pump station would occupy a small area (6,400 ft^2 or 0.15 acres) and be surrounded by security fencing which would allow flow across the site during flood events. The discharge line and outfall on the Red River have been installed via underground trenching or laid upon the bottom of the Red River. Effects to the floodplain due to construction of the substation and transmission line are anticipated to be minimal due to the small site area (approximately 1.3 acres elevated to the level of the adjacent road) and the use of security fencing, which would allow flow across the site during flood events.

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[1] Base Flood Elevation (BFE) is the computed elevation to which floodwater is anticipated to rise during the base flood. The base flood is the flood having a one percent chance of being equaled or exceeded in any given year. This is also referred to as the 100-year flood. BFEs are typically shown on Flood Insurance Rate Maps (FIRMs).

Flood protection measures that have been and are being implemented include the following:

- equipment and building foundations located a minimum of 1 ft above computed BFE;
- backfill compacted to a minimum of 95% maximum dry density;
- site sloped and paved areas installed to drain surface water away from buildings and equipment;
- underground storm water drain piping and catch basins installed to direct storm water to the retention pond;
- existing pond expanded to a significantly larger storm water retention pond;
- sanitary sewer system designed to prevent infiltration;
- culverts beneath access roads in drainage canal designed to ensure storm water flow is unrestricted;
- chemicals stored on site within secondary containment and on foundations above the BFE, managed in accordance with site Spill Prevention, Control and Countermeasures Plan (SPCC), where applicable; and
- chemical and fuel tanks installed with secondary containment and anchored to concrete.