

U.S. Department of Energy
in cooperation with
U.S. Army Corps of Engineers

KEMPER COUNTY IGCC PROJECT

FINAL ENVIRONMENTAL IMPACT STATEMENT

DOE/EIS-0409

VOLUME 1



May 2010



Office of Fossil Energy
National Energy Technology Laboratory



US Army Corps
of Engineers®

COVER SHEET

May 2010

LEAD AGENCY

U.S. Department of Energy (DOE)

COOPERATING AGENCY

U.S. Army Corps of Engineers (USACE)

TITLE

Kemper County Integrated Gasification Combined-Cycle (IGCC) Project, **Final** Environmental Impact Statement (EIS) (DOE/EIS-0409)

LOCATION

Kemper County, Mississippi

CONTACTS

Additional copies or information concerning this Draft EIS can be obtained from Mr. Richard A. Hargis, Jr., National Environmental Policy Act (NEPA) Document Manager, U.S. Department of Energy, National Energy Technology Laboratory, 626 Cochran Mill Road, P.O. Box 10940, Pittsburgh, Pennsylvania, 15236-0940. Telephone: 412-386-6065. E-mail: Kemper-EIS@netl.doe.gov.

For general information on DOE's NEPA process, contact Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC-54), U.S. Department of Energy, 1000 Independence Avenue, Southwest, Washington, DC, 20585-0001. Telephone: 202-586-4600, or leave a toll-free message at 1-800-472-2756.

ABSTRACT

This **Final** EIS assesses the potential environmental impacts that would result from a proposed DOE action to provide cost-shared funding and possibly a loan guarantee for construction and operation of advanced power generation plant in Kemper County, Mississippi. The project was selected under DOE's Clean Coal Power Initiative to demonstrate IGCC technology. **DOE also invited Mississippi Power Company to submit an application for the Kemper County IGCC Project to the Loan Guarantee Program during 2008. Assessment of a prospective loan guarantee is currently in progress.** The power generation components (i.e., coal gasifiers, synthesis gas [syngas] cleanup systems, combined-cycle unit, and supporting infrastructure) would convert coal into syngas to drive gas combustion turbines, and hot exhaust gas from the gas turbines would generate steam from water to drive a steam turbine. Combined, the three turbines would generate a nominal 582 megawatts (MW) of electricity. Although DOE funding would support only the IGCC power plant, the project would include new electrical power transmission lines and upgrades of some existing transmission lines, a surface lignite mine, a natural gas supply pipeline, a reclaimed water supply pipeline, and a carbon dioxide pipeline. The construction and operation of these facilities are considered connected actions in this **Final** EIS.

The **Final** EIS evaluates potential impacts of the proposed facilities on air quality, geology, water resources, floodplains, wetlands, ecological resources, land use, aesthetics, social and economic resources, waste management, noise, and human health and safety. The EIS also evaluates potential impacts on these resource areas for the no-action alternative, under which DOE would not provide cost-shared funding or a loan guarantee and the power plant and connected action facilities would likely not be built.

The U.S. Army Corps of Engineers is a cooperating agency in the preparation of this EIS and will consider the environmental impacts for the evaluation of Department of the Army permits in accordance with Section 404 of the Clean Water Act for stream and wetland disturbances related to the proposed mine, power plant project, power transmission lines, and pipelines.

PUBLIC PARTICIPATION

DOE encourages public participation in the NEPA process. The Notice of Availability of the Draft EIS appeared in the *Federal Register* on November 5, 2009. Comments were invited on the Draft EIS through the end of the comment period on December 21, 2009. DOE considered late comments to the extent practicable. DOE conducted a formal public hearing to receive comments on the Draft EIS in DeKalb, Mississippi, on December 1, 2009. An informational session was held prior to the formal hearing for the public to learn more about the project. The public was encouraged to provide oral comments at the hearing and to submit written comments to DOE through the close of the comment period.

CHANGES FROM THE DRAFT EIS

Vertical lines in the margin of a page indicate where text in the Draft EIS has been deleted, revised, or supplemented for this Final EIS, except for Volume III, which contains the public comments on the Draft EIS and DOE's responses. Additionally, revised and supplemental text in the Summary and Volumes I and II are shown in boldface text (as in this paragraph).

This page intentionally left blank.