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June 16, 2017

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FILED

JUN 19 2017

MISS. PUBLIC SERVICE
COMMISSION

Katherine Collier, Executive Secretary
Mississippi Public Service Commission
501 North West Street
Suite 201-A
Jackson, MS 39201

Re: MISSISSIPPI POWER COMPANY COMPLIANCE RATE FILING
REQUESTING A CHANGE IN THE AMORTIZATION SCHEDULE FOR
CERTAIN REGULATORY ASSET ACCOUNTS ACCRUED IN
CONNECTION WITH THE KEMPER COUNTY IGCC PROJECT IN-
SERVICE ASSETS; Docket No.: 2015-UN-80

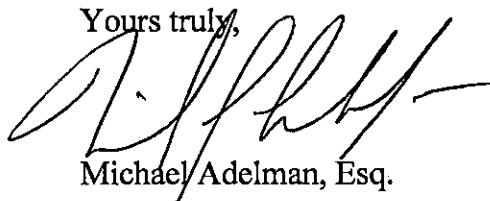
Dear Ms. Collier:

On behalf of Thomas A. Blanton, I am enclosing herewith original and twelve (12) copies of Motion to Deny any and all Further Rate Increases and/or Changes in the Amortization Schedule for Kemper County IGCC; Terminate the Lignite Portion of Kemper and Refund to Customers Certain Designated Rate Increases to be filed in the above-entitled and numbered matter. I have also included a copy of the first page of the Motion which I would appreciate your file-stamping and returning to me in the stamped, self-addressed envelope.

By copy of this letter, I am serving all parties listed in the Certificate of Service with a copy of the enclosed Motion.

Thanking you in advance for your anticipated consideration, and with best personal regards, I remain

Yours truly,



Michael Adelman, Esq.

MA:klj

Enclosure(s)

cc: Thomas A. Blanton

All parties listed on Certificate of Service

Before the Public Service Commission
of the State of Mississippi

FILED

JUN 19 2017

MISS. PUBLIC SERVICE
COMMISSION

NO . 2015-UN-80

MISSISSIPPI POWER COMPANY
EC - 120-0097-00

IN RE: MISSISSIPPI POWER COMPANY COMPLIANCE RATE
FILING REQUESTING A CHANGE IN THE
AMORTIZATION SCHEDULE FOR CERTAIN
REGULATORY ASSET ACCOUNTS ACCRUED IN
CONNECTION WITH THE KEMPER PROJECT IN-
SERVICE ASSETS

☆☆☆

MOTION TO DENY ANY AND ALL FURTHER RATE
INCREASES AND/OR CHANGES IN AMORTIZATION SCHEDULE FOR
KEMPER IGCC; TERMINATE THE LIGNITE PORTION OF KEMPER
AND REFUND TO CUSTOMERS CERTAIN DESIGNATED RATE
INCREASES

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NO. 2.1

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NO. 2-16

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSISSIPPI**

**MISSISSIPPI POWER COMPANY
EC-120-0097-00**

DOCKET NO.: 2015-UN-80

**IN RE: MISSISSIPPI POWER COMPANY COMPLIANCE RATE
FILING REQUESTING A CHANGE IN THE
AMORTIZATION SCHEDULE FOR CERTAIN
REGULATORY ASSET ACCOUNTS ACCRUED IN
CONNECTION WITH THE KEMPER PROJECT IN-
SERVICE ASSETS**

**MOTION TO DENY ANY AND ALL FURTHER RATE INCREASES
AND/OR CHANGES IN AMORTIZATION SCHEDULE FOR KEMPER IGCC;
TERMINATE THE LIGNITE PORTION OF KEMPER AND
REFUND TO CUSTOMERS CERTAIN DESIGNATED RATE INCREASES**

FACTUAL BACKGROUND

**RECENT STATEMENTS BY CEO TOM FANNING ALLEGING THAT THE
MISSISSIPPI PUBLIC SERVICE COMMISSION IS RESPONSIBLE FOR THE
KEMPER PROJECT ARE FALSE -- AND FANNING AND SOUTHERN KNOW THEY
ARE FALSE.**

I. What actually became the Kemper Project really began in 2006, when the United States Department of Energy approved a \$235 million grant to Southern Company to build a \$568 million coal-fueled power plant in Orlando, Florida. (See Exhibit "D - 1" through "D - 4").

Construction was cancelled in 2007 due to a change in Florida's policy toward coal-fired generating facilities. By then the budget for the Orlando project had already ballooned to \$844

million, with Department of Energy increasing its share to \$293 million, the maximum allowed by law.

Unlike Kemper, the Orlando plant was not conceived as a carbon capture and sequestration facility. Nor was the Orlando facility planning to manufacture and sell sulfuric acid and anhydrous ammonia. That plant had one gasifier train - Kemper has two. Doubling the size of the first commercial demonstration of a first-of-its kind technology added significant room for error.

HOW DID THE “KEMPER PROJECT” COME TO KEMPER COUNTY IF NOT BY REQUEST OF THE Public Service Commission?

II. During Southern’s February 22, 2017 earnings call, CEO Tom Fanning claimed, as he had before, that Southern built the Kemper energy facility because the Mississippi Public Service Commission wanted a coal facility as a “hedge” against potential “double-digit” gas prices.

However, documents obtained under a Freedom of Information Act request from the Department of Energy, which has to date provided a total of \$430 million in grants for Kemper, demonstrate that the impetus for building the facility came from Southern’s, then-chief operating Officer Fanning and from Mississippi Governor and longtime Southern Company lobbyist Haley Barbour. Barbour pressured first the Department of Energy, and then enlisted the Secretary of Energy himself, to pressure Mississippi’s three Public Service Commissioners into approving plans for the construction of Kemper.

The documents also reveal that while possible gas price volatility was cited, Southern Company’s proposal relied almost entirely on the plant’s promise as a test case for reducing CO₂ emissions from burning coal - especially lignite coal, a dirty, low-energy coal found in eastern

Mississippi and which also happens to be the most plentiful coal in the world. A process that could generate relative clean electricity from lignite could be extremely valuable and a commercial bonanza for the Southern Company.

Barbour was both governor of Mississippi and an active lobbyist for Southern Company when he and Southern officials launched an all-out campaign in early 2008 to convince the Department of Energy to transfer an existing grant to build a 285-megawatt coal-fired power plant in Orlando, Florida to a new site in Kemper County, near the Alabama border.

To make it harder for the Department of Energy to say no and hold onto hundreds of millions of dollars in Clean Coal Power Initiative funds, Southern doubled the size of the plant to 582 MW, and added carbon capture and sequestration technology to the Orlando design. Southern proposed to use a first-of-its-kind technology developed by Southern Company and Kellogg Brown & Root (KBR) called transport integrated gasification (TRIG) to heat coal under high pressure in a reactor and turn it into a syngas similar to natural gas to drive a turbine and generate electricity.

KBR and Southern hoped that licensing the TRIG technology in coal-reliant countries, such as Poland where lignite is common, would help pay back development costs.

WHAT SPECIFICALLY HAPPENED TO CAUSE THE ORLANDO PROJECT TO MOVE?

III. The Mississippi phase of the current Kemper project really began on February 6, 2008, when Eric Burgeson of BGR, Haley Barbour's lobbying firm, requested that then-Secretary of Energy Samuel Bodman meet with Burgeson, Barbour, and then-Southern CEO David Ratcliffe, as well as other Southern Company and Mississippi Power officials to discuss moving and

expanding the Department of Energy's commitment from the Orlando project to Kemper. The initial cost projection was \$1.2 billion. Department of Energy would put up \$270 million on top of the \$23 million spent so far in Orlando - where the project was already substantially over-budget.

"Front-end Engineering and Design (FEED) is underway to support operation in Kemper County in June 2013," Burgeson wrote, although Southern later admitted that very little FEED had been completed.

Barbour had personally lobbied for Southern Company for more than a decade before he became governor and went back to representing Southern upon leaving office in 2012. Despite the questionable ethics of a sitting governor working hand-in-glove with his own lobbying firm, to reel in more than a quarter of a billion dollars in Department of Energy money for Southern Company, his meeting with Department of Energy Secretary Bodman took place on February 26, 2008.

During the legislative session of 2008, Mississippi Power unleashed its considerable its considerable political influence to gain passage of Mississippi's Baseload Act. The act authorized the Public Service Commission to grant rates to Mississippi Power Company for the cost of construction of power plants prior to the plants going into electric generation. Pre-construction costs could be placed into the rate base even if the plant was never built. It was reported, at that time, that Mississippi Power Company hired every lobbyist in Jackson except for three who usually represented the Sierra Club and other environmental-social justice activists.

Mississippi Power Company refused to answer Tommy Blanton's data request regarding the amount spent on lobbying. As a result, only an estimate can be made. It is estimated that Mississippi Power Company spent approximately \$840,000.00 to secure passage of the so-called Baseload Act.

By the Fall of 2008, a funding package of almost a billion dollars in Department of Energy grants and federal tax credits was in place. By then, the cost for construction had already gone up to \$2.4 billion and the schedule had been pushed back to Spring 2014. Department of Energy also waived repayment obligations for what was supposed to have been a loan.

To get the project rolling, however, Southern needed a "Certificate of Convenience and Necessity" from the Mississippi Public Service Commission.

In its first vote in April, 2010, the Public Service Commission voted against the project. A few weeks later, it reversed course and approved Kemper.

The approval came only after an intense lobbying campaign that involved Haley Barbour, the sitting governor of Mississippi and Steven Chu, Secretary of Energy of the United States. James Markowsky, head of the Energy Department's Office of Fossil Energy, responsible for developing new coal technologies, also wrote the commissioners, begging them to reconsider. Markowsky was responsible for developing new coal technologies. There was a massive advertising campaign in newspapers and in other media beating the drum for the Kemper project. Many political strings were pulled. One Public Service Commission commissioner who voted for the project, Leonard Bentz, was rewarded with a lucrative job with South Mississippi Planning and Development District (SMPDD). Bentz's new job paid nearly twice his

Commissioner's salary. In order that Bentz could qualify and be hired for this position, the educational requirement for the job (i.e., a college degree) were changed. A college degree was eliminated as a requirement.

In the spring of 2012 Mississippi Power Company filed for a rate increase using the Baseload Act as its authority. The Public Service Commission refused to grant the rate increase in June, 2012, hardly the act of an agency "ordering" Mississippi Power Company to construct an experimental generation facility.

Mississippi Power Company appealed this rate denial by the Public Service Commission to the Mississippi Supreme Court. Thomas A. Blanton filed a cross appeal to the Supreme Court within the same cause. After the filing of briefs, and virtually on the eve of oral argument, Mississippi Power Company went into "overdrive" to secure its funding through a secretive, clandestine, and illegal settlement agreement that was ultimately set aside by the Mississippi Supreme Court.

Mississippi Power Company in secret, and without any public notice, met with attorneys for the Public Service Commission and Public Service Commission staff to hammer out a so called Settlement Agreement. The Settlement Agreement was attached to another massive legislative lobbying effort to obtain passage within two months of a Billion Dollar Bond Bill and the Seven Year Rate Mitigation Plan Bill. Both of these bills contain stringent procedural provisions which deny due process by making appeals virtually impossible. The Billion Dollar Bond Bill provides for the "taking" of private property as security for another private entity, an act which constitutes a violation of substantive due process.

The cost to gain passage of these bills in payment to lobbyists exceeded half a million dollars (estimated due to Mississippi Power Company's refusal to answer a data request) and used the services of more than two dozen lobbyists. Public Service Commission Chairman Lynn Posey was seen stalking the capital building presumably lobbying for the passage of these two badly designed financing packages.

These actions are not ones of a company being "ordered" to do anything, but instead exhibit a manic drive to secure a form of "non recourse" financing for an extremely risky project with the complicity of the regulators and its attorneys.

Mississippi Power Company refused to state how much money it has spent on public relations and advertising to "sell" the Kemper project to the public and elected public officials. However, a fair estimation is that Mississippi Power Company has spent in excess of \$20 million since 2008 to influence public opinion.

SUMMARY

The Kemper Project is part of a pattern of years of Southern Company deception – misbehavior that continues to the present day. State and federal regulators, including the Department of Energy, Mississippi Power Company customers and the public at large are its victims.

The Public Service Commission was deceived on numerous grounds by the Southern Company and its subsidiary, Mississippi Power Company, as they rushed to get all of the pieces of the deal with the Department of Energy in place. Simultaneously, Mississippi Power Company pushed along the state regulatory process and obtained passage of questionable

legislation to provide financing of an extremely risky project.

To make the claim that the Mississippi Public Service Commission in any way originated or called for anything remotely like the Kemper Project is a distortion. The Kemper project did not even originate in Mississippi, but in a separate project in Florida.

In 2008, when federal officials agreed to transfer Department of Energy funding from Orlando to Kemper, the Mississippi Public Service Commission was not seeking additional generating capacity nor was the Mississippi Public Service Commission looking for a coal-fueled power plant as a hedge against higher gas prices in 2008.

The record shows that the Public Service Commission's decision to approve Kemper was made in an atmosphere of intense political pressure, and was based on estimates of construction, O & M costs and an in service date that Southern Company and Mississippi Power knew or should have known were grossly unrealistic.

It is important to note that Mississippi Power Company has missed, and pushed back, its COD deadline twelve (12) times between late 2013 and 2017. These repeated delays fly in the face of the repeated assurances, from June 2012 until July 1, 2013 that the project was on schedule. These included monthly reports to the Public Service Commission as well as 10-Q and 8-K filings with the Securities and Exchange Commission (SEC). The absolute failure in prudence reflected by these numerous delays is described in detail in the *New York Times* article which was published on July 5, 2016. The total lack of prudence is reflected in the Independent Monitor's report of March 2013 which shows the estimated amount of concrete had increased 113%, the estimated amount of steel had increased 34%, the estimated plant piping had increased

41% and the estimated amount of cable had increased 269%. There is no way a reasonable observer of this process could conclude this project has been prudently constructed. See *Monroe County Employee's Retirement System, et al. v. The Southern Company, et al.*, United States District Court, Northern District of Georgia, Atlanta Division, Civil Action No.: 1:17-CV-000241-MHC. While this is reference to a pleading, Intervener Blanton would submit that this case sets forth in detail the misrepresentation, deceit and lack of prudence of the Kemper Lignite project.

MISREPRESENTATION OF O & M FOR KEMPER

Southern and Mississippi Power Company misled the Public Service Commission when they predicted that the plant's annual Operations and Maintenance cost would be \$50 million.

In the fall of 2016, that O & M estimate suddenly jumped to \$200 million per year - a 400% increase. The present O & M estimate in and of itself, makes full-time, baseload operation of the gasifier - - even with higher gas prices - - economically impossible for a 582-watt power plant.

In fact, the latest O & M numbers show that just staffing the plant with Southern Company personnel will cost well over \$50 million per year.

Given that fact alone, the Company knew or should have known that presenting \$50 million as a meaningful assessment of how much the plant would cost to run per year was indefensible. This estimate was just one falsehood out of the many that were presented to the Public Service Commission by Southern Company and Mississippi Power Company.

ARGUMENT

I. THE PUBLIC SERVICE COMMISSION SHOULD DENY ANY AND ALL FURTHER RATE INCREASES AND OR CHANGES IN AMORTIZATION SCHEDULE FOR KEMPER; THE LIGNITE PORTION OF KEMPER SHOULD BE TERMINATED AND THE PUBLIC SERVICE COMMISSION SHOULD ORDER A REFUND OF RATE INCREASES

1. As set forth in the Statement of Facts, it is beyond dispute that the Southern Co. And Mississippi Power Company aggressively fought to obtain the certificate allowing Mississippi Power Company to construct Kemper IGCC. It is an absolute distortion of fact for these companies to claim otherwise. Tom Fanning should be publicly chastised when he proclaims that the Public Service Commission “made us do it.” In *State ex rel Pittman v. Mississippi Public Service Commission*, 520 So. 2d 1355 (Miss. 1967), the Mississippi Supreme Court declared that no authority exists for the Public Service Commission to “grant a rate increase for power never delivered.” *Pittman*, 520 So. 2d at 1363. This principle was reaffirmed and forms the basis for the Supreme Court’s decision in *Mississippi Power Co. v. Miss. Public Service Commission (Blanton)*, 168 So. 3d 905, 908 (Miss. 2015). The Blanton decision resulted in refunds of over \$350 million dollars to customers of Mississippi Power Company. Ignoring the Supreme Court’s decisions in *Pittman* and *Blanton*, Mississippi Power Company now asks the Public Service Commission for precisely what those cases condemn, i.e. a rate increase to make Mississippi Power Company customers responsible for the failed Kemper gasification facility. That is wrong and the Public Service Commission should take a leadership role in rejecting any rate increase or any other assessment which results in the use of electric rates or public fund to pay for the misguided and failed scientific Kemper IGCC experiment. As a gasification facility, Kemper

IGCC has not delivered any significant electrical power to Mississippi Power Company customers. Again, it is a distortion of reality to claim that Mississippi Power Company is entitled to still another rate increase because the plant is running on natural gas.

The Public Service Commission's Final Order on Remand Granting a Certificate of Public Convenience and Necessity directly contradicts Mississippi Power Company's present position on two important points: First, Kemper was viewed as a "long-term, low stable-priced fuel," . . . providing "long-term fuel diversity," and as concrete alternative to "extremely volatile" (underlining original) natural gas prices. As Dr. Charles Grayson, PhD, points out in his testimony, the Public Service Commission was actually misled as to gas prices and their alleged volatility. But, clearly, Kemper was sold to the Public Service Commission as an alternative to natural gas and not, as presently put forth, a fuel partner. Second, and this is also addressed below, Kemper was portrayed to the Public Service Commission as an advancement in the capture and sequestration of CO₂ and a key factor in enhanced oil recovery (EOR). The testimony of Paul Johnson shows that there is no CO₂ sequestration in the oil fields of Mississippi as a result of the injection of CO₂ and that existing Class Two storage wells are not secure storage chambers for CO₂. They leak! In order to sequester CO₂, Class Six storage wells are required and even Mississippi Power Company admits that there are no Class Six wells in Mississippi. [See Mississippi Power Company's responses to Blanton -MPC Data Requests 2-1 and 2-16.]

2. Under *Pittman* and *Blanton*, at least 5 billion dollars of the cost for constructing Kemper should be assessed to Southern Co. and Mississippi Power Company. Any rate increases were

obtained either fraudulently or constitute a “rate increase for power never delivered.” Any and all existing rate increases, including the December 2015 rate increase, should be refunded. Kemper IGCC is not Used and Useful in the delivery of electrical power.

3. Kemper as a gasification facility is not Used and Useful. The gasification process at Kemper DOES NOT produce electricity. The CO₂ pipeline and gasifier DO NOT make electricity.

4. Charles Grayson, a retired PhD Chemist, with years of experience in both the engineering and business sides of process implementation and management, has testified that the lignite portions of the Kemper County IGCC plant are not economically Useful. His testimony is explicit and puts to rest any argument that the lignite portions of the plant are economically Useful in the foreseeable future. Dr. Grayson opines Mississippi Power Company customers should only have to pay for the Kemper NGCC portion of the facility. Dr. Grayson’s testimony is critical and destroys Mr. Fanning’s argument that somehow Mississippi Power Company should not be financially responsible for the lignite portions of the Kemper facility.

5. Kemper was sold to the Public Service Commission on a fraudulent basis. One of the essential arguments in favor of gasification is that the process would “capture and sequester” carbon dioxide by-products. The testimony of Paul Johnson III, an attorney with expertise in gas and oil litigation, puts to rest that “capture and sequestration” of carbon dioxide was ever a reality. In order to capture and fully sequester carbon dioxide, carbon dioxide must be stored in Class Six wells. At the time of the certification, particularly when it was issued after remand by the Supreme Court, and through the present, Class Six wells do not exist in Mississippi oil

fields, not in the Heidelberg field, not anywhere within the state. A Class Two well, the predominant storage well at present, is incapable of preventing leakage. Carbon dioxide cannot be captured and sequestered in Mississippi at the present time. Mississippi Power Company and its representatives knew that capture and sequestration was not possible, but nevertheless used this fraudulent concept to persuade the Public Service Commission to grant the certification. In terms of “capture and sequestration,” Kemper is not Useful. (See Appendix A and Exhibits “A” through “C”).

6. Further, Mississippi Power Company states that it is considering onsite carbon sequestration with the construction of Class 6 wells at Kemper. But, Mississippi Power Company admits in its response to data requests by Intervener Blanton, that Mississippi Power Company has done no site development. Mississippi Power Company has offered no geological data, maps or any engineering that supports any construction of Class 6 wells in Kemper County. Mississippi Power Company has provided no evidence that there is a geologic structure within Kemper County capable of containing carbon dioxide.

7. Kemper IGCC has become a fiasco endangering the economic well-being of Southern Mississippi. Had either the Public Service Commission or Mississippi Power Company listened to Thomas Blanton, none of us would be facing a problem of this magnitude. The world – Wall Street hedge funds, analysts in major cities such as Tokyo and London – are watching and waiting for the Mississippi Public Service Commission to do the right thing – pull the plug on Kemper as the public’s responsibility.

8. The duty of the Public Service Commission is to regulate not rubber-stamp, and the

failure of the Public Service Commission to fulfill that duty vis-a-vis Kemper has had monumentally bad consequences. As noted, supra, in *Pittman* and again in *Blanton*, the Mississippi Supreme Court declared that the Public Service Commission is not authorized to approve rate increases for “power never delivered.” Implicit in that mandate is the Public Service Commission’s obligation to closely scrutinize not only proposed rate increases but projects such as Kemper that would have a natural tendency to effect rates. From the outset, it should have been apparent to the Public Service Commission, because of the lack of engineering and advance testing, that Kemper IGCC was an inherently risky proposal. The failure and the disastrous financial impact of Kemper IGCC is a direct and proximate result of the Public Service Commission’s failure to thoroughly investigate and regulate. The victims of this failure are, of course, Mississippi Power Company customers but also Mississippi Power Company itself – i.e., the Public Service Commission has the duty to protect an important public utility such as Mississippi Power Company from its own folly.

9. While Mississippi Power Company’s present request to extend its Amortization Schedule for an additional eleven (11) months (beginning August 1, 2017) may seem modest at first blush, such an extension will have a pernicious effect on the regulatory process in this case. It will only “kick the can down the road,” ignoring the need for the Public Service Commission to determine prudence as well as “Used and Useful” now. Blanton submits, based on the attached testimony of Charles Grayson and Paul Johnson, that Kemper IGCC is not presently “Used and Useful” and will even be less so eleven (11) months from now or two (2) years from now.

10. The present request is disingenuous. It now only is calculated to avoid the prudence and

“Used and Useful” analysis, but is inconsistent with Mississippi Power Company’s own 8-K filing with the Securities and Exchange Commission (SEC) on June 5, 2017. In that filing Mississippi Power Company stated that it will require 18-24 months to replace the present syngas cooler super heaters and this will need to be done “sooner than originally expected.” (See Exhibit “E”) The beat simply goes on. When does enough become enough? When will the Public Service Commission put an end of this fiscal nightmare, now exceeding \$7,000,000,000.00 with no real end in sight.

11. Mississippi Power Company never considered solar power for its customers until the settlement of the Sierra Club. Now, Mississippi Power Company now “crows” about how economical over the long term the solar farms will be for its customers. Why was solar energy not considered in the 2008-2010 period as an alternative to both natural gas and lignite gasification. The technology has not advanced appreciably since 2008. Nevertheless, solar energy was not considered as a “alternative” fuel source at the time that the Kemper Lignite Plant was being proposed.

12. The justification of the Kemper IGCC Project on fuel diversity thus is another false argument. The economics of solar panel farms was not considered, nor was a biomass energy source such as timber harvesting considered as an alternative fuel source. The technology for each of these “fuel” sources is well established and reliable. From 2008 until the present, these technologies have proven to be reliable and profitable. Southern Company has benefitted greatly by acquiring large solar “farms” in partnership with Ted Turner’s alternative energy effort. Southern Company has built and operates a biomass energy power plant in Texas. This power

plant competes within the Austin, Texas market. It has been designed, built and started up successfully in the very same time while Kemper has been under construction and yielded little, if any, energy as a result of an alternative energy source. As noted, Mississippi Power Company never considered solar power for its customers until the Sierra Club settlement agreement. Now, Mississippi Power Company publicly brags about how economical, reliable and environmentally friendly this electric power is over the long term, providing even lower costs for Mississippi Power Company customers.

13. One of the great justifications for Kemper has been the creation of jobs. Then Lieutenant Governor Phil Bryant spoke during the public comment period in the Fall of 2009 about job creation. The 2016 report by Loyola University¹ shows that Kemper has been under construction, Mississippi has lost more than 39,000 jobs. In fact, during 2014 alone, the State's population shrank by more than 9,000. This downward trend continues to the present. Kemper may not be the sole cause of these falling economic metrics, but is undeniable that the higher electric rates have contributed to the economic decline.

14. Finally, it needs to be emphasized that Mississippi Power Company has developed its solar farms without any type of demand study by alleging that Mississippi Power Company is a Power Purchase Agreement recipient. Mississippi Power now claims in public media and in statements enclosed with its monthly bills claim that these solar "farms" represent "investments" by Mississippi Power Company. Whether solar farms work or do not work, it appears that Mississippi Power Company consistently follows a path whereby it refuses to study either

¹State of Working, Mississippi, 2016; Loyola University, New Orleans; see page 18.

demand or impact before it develops an alleged alternative fuel source. This omission is at the very heart of the failure of the lignite portion of the Kemper plant. It was done without adequate engineering or appropriate studies regarding demand and impact.

CONCLUSION

Thomas Blanton seeks the following relief:

1. Deny any and all present or future requests by Mississippi Power Company for rate increases or extensions of the amortization schedule as they pertain to Kemper's lignite mining and gasification process.
2. Terminate public responsibility for construction of Kemper as it pertains to Kemper's lignite mining and gasification process.
3. Refund Mississippi Power Company customers any payments which were the result of fraud, misrepresentation or misleading statements by agents and representatives of Mississippi Power Company.
4. Remove from the rate base anything regarding the lignite portion of the Kemper Plant as failing to meet requirements of "Used and Useful."
5. A final prudence review of assets in-service placed in the rate base in December 2015, with a view towards removing from the rate base the cost of transmission lines, natural gas pipeline, water lateral (pipeline) which extends from Meridian. Mississippi Power's response to Data Requests shows the NGCC power plant could have been built for much less money if it had been built at an "optimum" location, such as Sweat. This prudence review should result in a refund in monies collected pursuant to the interim rate

established in December 2015.

RESPECTFULLY SUBMITTED, this the 16TH day of June, A.D., 2017.

THOMAS A. BLANTON

BY:


MICHAEL ADELMAN, ESQ.

CERTIFICATE OF SERVICE

I, Michael Adelman, counsel for Thomas A. Blanton herein, do hereby certify that in compliance with the Commission's Public Utilities Rules of Practice and Procedure I have served copies of the above and foregoing **MOTION TO DENY ANY AND ALL FURTHER RATE INCREASES AND/OR CHANGES IN AMORTIZATION SCHEDULE FOR KEMPERIGCC; TERMINATE THE LIGNITE PORTION OF KEMPER AND REFUND TO CUSTOMERS CERTAIN DESIGNATED RATE INCREASES** *via email to:*


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All Parties of Record

THIS, the 16th day of June, A.D., 2017.



MICHAEL ADELMAN, ESQ.

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ATTORNEY FOR THOMAS A. BLANTON

APPENDIX A

EPA Underground Injection Control (UIC) Program Class VI Wells

1. EPA 816-R-16-005 - **Well Recordkeeping Reporting and Data Management**
(Pages 1 - 71)
2. EPA 816-R-13-001 - **Well Testing and Monitoring Guidance**
(Pages 1-115 and 8-1 through 8-12)
3. EPA 816-R-10-017 - **Financial Responsibility Requirements and Guidance**
(Pages 1- 98)
4. EPA 816-R-11-017 - **Well Project Plan Development Guidance**
(Pages 1- 58; Appendix A - F)
5. EPA 816-B-14-003 - **Manual for State Directors**
(Pages 1- 22; Appendix A - E)
6. EPA 816-R-13-004 - **Well Site Characterization Guidance**
(Pages 1 - 80; Appendix i - 89)
7. EPA 816-R-11-020 - **Well Construction Guidance**
(Pages i - 46)
8. EPA 816-R-13-005 - **Well Area of Review Evaluation and Corrective Action Guidance** (Pages i - 83)

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSISSIPPI

MISSISSIPPI POWER COMPANY
EC-120-0097-00

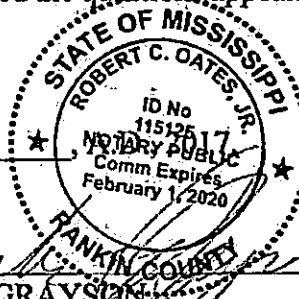
DOCKET NO.: 2015-UN-80

IN RE: MISSISSIPPI POWER COMPANY COMPLIANCE RATE
FILING REQUESTING A CHANGE IN THE
AMORTIZATION SCHEDULE FOR CERTAIN
REGULATORY ASSET ACCOUNTS ACCRUED IN
CONNECTION WITH THE KEMPER PROJECT IN-
SERVICE ASSETS

AFFIDAVIT OF CHARLES GRAYSON

PERSONALLY APPEARED before the undersigned officer authorized to administer oaths, CHARLES GRAYSON, who being duly sworn, deposes and says that the foregoing testimony was prepared by him to be submitted on behalf of the Motion filed by Thomas Blanton in the above-entitled and numbered proceeding; that the facts stated therein are true to the best of his knowledge, information and belief; and that if asked the questions appearing therein, his answers, under oath, would be the same.

THIS, the 15th day of June



CHARLES GRAYSON

SWORN TO AND SUBSCRIBED BEFORE ME on this the 15 day of June

A.D., 2017.

[Signature]
NOTARY PUBLIC

MY COMMISSION EXPIRES:

2-1-20

CHARLES GRAYSON TESTIMONY

1. Please state your educational and professional background.

ANSWER: I have a PhD in Chemistry from Rice University and attended the executive MBA program at Northeastern University. Work experience includes process implementation and improvement in billion pound year/scale plants at Rohm & Haas, now part of Dow Chemical. At Bayer Chemical I was in Corporate Business Development, was assistant production manager at Bayer's largest global manufacturing site in Germany and was Director of Organic Chemicals U.S.A. with profit and loss responsibility. For about 20 years I did merger and acquisitions which included extensive economic analysis of many businesses, along with investment bankers and with CPAs and attorneys.

2. What is purpose of your testimony?

ANSWER: My conclusion is that the lignite portions of the Kemper County IGCC plant are not Useful.

3. How do you substantiate that conclusion?

ANSWER: Based on MPC's own cost data from 2010, Kemper burning lignite is economically worse over 40 years than Kemper turbines on natural gas, even if natural gas prices were to escalate to over \$70/MMBTU during the last decades of plant operation. In addition, operating costs, maintenance and lignite fuel costs are such that gasifiers are unlikely to ever be dispatched unless MPC is forced to absorb huge losses for decades.

In addition, MPC analyses assume the lignite processing units achieve high reliability and availability over 40 years. While I have utilized MPC's assumptions for the above results, I do not believe the plant can achieve high operating rates and high availability for extended periods. If it does not, that will drive costs much, much higher than either they or I have calculated.

Unless and until the Kemper plant can achieve high operating rates and high availability, the plant should not be declared to be Useful. Until the plant reaches these goals, it should not be declared to be and it is not economically Useful. MPC and Southern Company are utility operators. The lignite processing part of Kemper is a chemical plant. Exceedingly poor management of the Kemper project and delay after delay in the start up of the lignite facilities suggest they do not understand complex chemical plants..

4. In your opinion, why did the Public Service Commission and the Mississippi Public Utilities Staff fail to anticipate the inherent weaknesses in the proposed Kemper gasification process?

ANSWER: The scale up from the Southern pilot plant to Kemper was a at least 5-10X too great. There should have been a much smaller commercial plant built to prove the technology. Despite the first kind nature of the plant coupled with the excessive scale up, there was no close

examination of the technology or how much engineering was completed. Further, the risks involved in the entire project were never revealed by the Southern Company and MPC and thus never fully considered by the PSC or the Staff. Again, outrageously high natural gas projections by the Southern Company and Mississippi Power were used to justify lignite gasification. There was gross mismanagement by Southern Company and gross lack of fiduciary responsibility by the Mississippi PSC and MPUS.

5. How did MPC and the Southern Co. mislead the PSC and the Staff regarding the lignite plant and natural gas prices?

ANSWER: MPC and the Southern Co. assumed and the PSC accepted natural gas prices that made it appear that the cost of power from a newly constructed, stand-alone natural gas fired combined cycle plant (NGCC) would be more expensive than a Kemper plant burning lignite. But, the projected costs for Kemper burning lignite, presented in 2010, were woefully inadequate and only a fraction of current reality. MPC and the Southern Co. based their cost estimates on the construction, operating and maintenance (O&M) and other cost estimates at the end of 2009. MPC now projects all those costs will be much higher. Financing costs, a major item, were excluded. Plus, most of the tax breaks and grants projected in 2009-2010 never materialized due to missed schedules. MPC and Southern Co. also made optimistic assumptions about availability and by-product revenues which were extremely unrealistic and now appear to have been unfounded.

6. How do these facts lead you to the conclusion that the lignite portions of the Kemper plant are not Useful.

ANSWER: PSC should use natural gas prices projected through 2035 by the U.S. Energy Information Agency (EIA). Using those projections, rather than the inflated figures put forth by MPC and Southern Co., the cost of Kemper on lignite is terrible when compared to the cost of a stand-alone natural gas fired combined cycle plant (NGCC), so bad that even assuming natural gas prices at or over \$70/MMBTU during the last 30 years of plant operation, the Kemper plant on lignite cannot generate enough discounted savings for customers in the latter years of operation to offset earlier losses. Kemper burning lignite can never be economically beneficial to MPC customers.

7. Based on these facts and factors, what conclusion did you reach?

ANSWER: The lignite processing, gasification and scrubbing investments should be declared Not Useful. MPC customers should only have to pay for the Kemper NGCC portion. MPC and the Southern Company should do what good management would have done years ago – admit their mistake and write off the lignite portions of Kemper. If Southern wants to continue with the Kemper lignite experiment, Southern should be required to permanently absorb all costs associated with proving the lignite assets are economically Useful.

8. Does this conclude your testimony?

ANSWER: Yes.

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OF THE STATE OF MISSISSIPPI

MISSISSIPPI POWER COMPANY
EC-120-0097-00

DOCKET NO.: 2015-UN-80

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FILING REQUESTING A CHANGE IN THE
AMORTIZATION SCHEDULE FOR CERTAIN
REGULATORY ASSET ACCOUNTS ACCRUED IN
CONNECTION WITH THE KEMPER PROJECT IN-
SERVICE ASSETS

AFFIDAVIT OF PAUL B. JOHNSON, III

PERSONALLY APPEARED before the undersigned officer authorized to administer oaths, PAUL B. JOHNSON, III, who being duly sworn, deposes and says that the foregoing testimony was prepared by him to be submitted on behalf of the Motion filed by Thomas Blanton in the above-entitled and numbered proceeding; that the facts stated therein are true to the best of his knowledge, information and belief; and that if asked the questions appearing therein, his answers, under oath, would be the same.

THIS, the 15th day of June, A.D., 2017.

Paul B. Johnson III
PAUL B. JOHNSON, III

SWORN TO AND SUBSCRIBED BEFORE ME on this the 15th day of June, A.D., 2017.

MY COMMISSION EXPIRES



Carrie E. Logan
NOTARY PUBLIC

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSISSIPPI**

**MISSISSIPPI POWER COMPANY
EC-120-0097-00**

DOCKET NO.: 2015-UN-80

**IN RE: MISSISSIPPI POWER COMPANY COMPLIANCE RATE
FILING REQUESTING A CHANGE IN THE
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TESTIMONY OF PAUL B. JOHNSON, III

1. Please state your educational/professional background.

ANSWER: I have been a member of the Mississippi Bar since 1975. I have extensive experience before the Mississippi Oil and Gas Board and I have been in the oil and gas business for approximately thirty-five (35) years.

2. List each oilfield in Mississippi in which CO₂ injection has occurred.

ANSWER:

Brookhaven	Little Creek	McComb	Smithville
Cranfield	E. Mallalieu	W. McComb	Soso
E. Eucutta	W. Mallalieu	Olive	Summerland
Heidelberg	Martinville	Raleigh	Tinsley

3. Which fields have ceased CO₂ injection and/or ceased Production?

ANSWER: Olive has ceased production but is not plugged out. Some zones in other fields have ceased injection and recompleted in other zones. Several fields have been abandoned due to low oil recovery which may be due to pressure loss by leaking.

4. Which oilfields have experienced uncontrolled “blowouts” either at the surface or underground?

ANSWER: To my knowledge there have been no surface blowouts at any of the fields. However, many, if not all of the CO₂ fields have experienced surface mechanical failure from improper plugging or equipment failure. To my knowledge, Brookhaven, Cranfield, Heidelberg, Little Creek, East and West Mallalieu, Soso and Tinsley have experienced underground blowouts caused from bad prior plugging or abandoned wells or poor cement jobs in old wells used either as injection wells or production wells. Some underground blowouts were from pressure migration into abandoned wells in the field affected. Such is the case in Tinsley.

5. Describe remediation or efforts to regain control of the above instances by field.

ANSWER: I do not know what efforts are being made by company officials in the above instances. They are required to report all blowouts to the Mississippi State Oil and Gas Board.

6. Does CO₂ cycle back to the surface as the Oil is produced?

ANSWER: Yes. CO₂ is used to pressure the particular oil zone and cycles back to the

surface along with the oil. This CO₂ is recaptured and recycled along with fresh CO₂ from the source pipeline.

7. What percentage of CO₂ injected comes back to the surface through production under normal operations?

ANSWER: I have no knowledge of the percentages of CO₂ that cycles back through production. This information is proprietary to Denbury or other companies that inject CO₂. I do know that the percentage of CO₂ recycled varies from field to field and production zone to production zone because of the mechanics of the zones.

8. Does CO₂ chemically bond with minerals present within the reservoir rock?

ANSWER: Yes. It is my understanding that the CO₂ chemically bonds with the oil, water and sand and drives the oil and water through the production zone. This is how it works. The chemicals added to the injected CO₂ and into the reservoir rock are also proprietary secrets of the Producers.

9. Are there facilities at Heidelberg field and other fields which require special breathing equipment for the workers?

ANSWER: I do not have information to answer this question. However, I believe that OSHA requires special breathing equipment for workers.

10. What are the volumetric capacities of the various Heidelberg segments and reservoirs for CO₂? Is this data filed within the permitting dockets?

ANSWER: I do not have information to answer this question.

11. Is the State Oil and Gas Board delegated by U.S. EPA to regulate Class Six CO₂ injection wells?

ANSWER: Yes.

12. Are all oilfield CO₂ injection wells regulated by the Oil and Gas Board Class Two wells?

ANSWER: Yes.

13. Is the Oil and Gas Board aware of any other State agency which has been delegated to regulate Class Six injection wells?

ANSWER: I cannot answer for the Oil and Gas Board. However, the MDEQ which is not delegated to regulate Class Six injection wells, may have an advisory role.

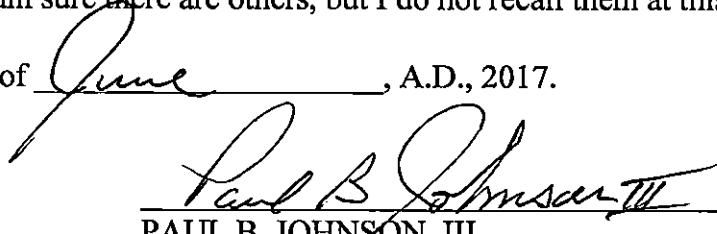
14. Is the staff of the Oil and Gas Board aware of the differences in Class Two and Class Six well engineering, monitoring, etc.?

ANSWER: I am sure they are aware of the difference in the two classes of injection wells as well as all engineering requirements.

15. Have there been disputes before the Oil and Gas Board regarding various factors due to CO₂ injection?

ANSWER: Yes, regarding Mallalieu - Bill Simmons' well; Johnny Logan's well at Eucutta; I am sure there are others, but I do not recall them at this time.

THIS, the 15th day of June, A.D., 2017.



PAUL B. JOHNSON, III

SWORN TO AND SUBSCRIBED BEFORE ME on this the 15th day of June

A.D., 2017.



Carrie E. Logan
NOTARY PUBLIC



Underground Injection Control (UIC) Program Requirements for Geologic Sequestration of Carbon Dioxide Final Rule

In November 2010, the Administrator of the Environmental Protection Agency (EPA) signed the *Federal Requirements Under the Underground Injection Control (UIC) for Carbon Dioxide (CO₂) Geologic Sequestration (GS) Wells*, Final Rule, as authorized by the Safe Drinking Water Act (SDWA). The final rule establishes new federal requirements for the underground injection of carbon dioxide for the purpose of long-term underground storage, or geologic sequestration, and a new well class – Class VI – to ensure the protection of underground sources of drinking water (USDWs) from injection related activities.

Why is the geologic sequestration rule needed?

The capture and injection of CO₂, produced by human activities, for long-term storage is one of a portfolio of options that can reduce CO₂ emissions to the atmosphere and help to mitigate climate change. Ensuring that GS is performed in a manner that is protective of underground sources of drinking water (USDWs) supports the Administration's goal to facilitate the commercial development of safe, affordable, and broadly deployable "carbon capture and storage," or CCS technologies.

While the elements of the final rule are based on the existing regulatory framework of EPA's Underground Injection Control (UIC) Program, the requirements are tailored to address the unique nature of CO₂ injection for GS. The relative buoyancy of CO₂, its corrosivity in the presence of water, the potential presence of impurities in captured CO₂, its mobility within subsurface formations, and large injection volumes anticipated at full scale deployment warrant specific requirements tailored to this new practice.

What is geologic sequestration?

GS is the process of injecting CO₂ captured from an emission source (e.g., a power plant or industrial facility) into deep subsurface rock formations for long-term storage.

CO₂ is captured from flue gas produced by fossil-fueled power plants or industrial facilities, typically compressed to convert it from a gaseous state to a supercritical fluid, and transported to the sequestration site, usually by pipeline. The CO₂ is then injected into a deep subsurface rock formation through a Class VI well, using new technologies that have been informed by several decades of experience in oil and gas recovery and storage.

When injected in an appropriate receiving formation, CO₂ is sequestered by a combination of physical and geochemical trapping processes. Naturally-occurring CO₂ deposits have been physically and geochemically trapped in geologic formations for millions of years.

The United States has CO₂ storage potential in onshore and offshore deep saline formations, depleted oil and gas fields, and deep, unmineable coal seams. These formations are present

EXHIBIT "A"

across the country and 95 percent of the 500 largest stationary sources in the nation that emit CO₂ are within 50 miles of a candidate CO₂ storage reservoir.

Who will be affected by the final rule?

The final rule applies to owners or operators of wells that will be used to inject CO₂ into the subsurface for the purpose of long-term storage. It will also affect state agencies that choose to administer the Class VI Program in their state. The rule is voluntary and does not require any entity to capture and/or sequester CO₂.

What does the final rule require?

The elements of the final GS rule build upon the existing UIC Program regulatory framework, with modifications to address the unique nature of CO₂ injection for GS, including:

- Geologic site characterization to ensure that GS wells are appropriately sited;
- Requirements for the construction and operation of the wells that include construction with injectate-compatible materials and automatic shutoff systems to prevent fluid movement into unintended zones;
- Requirements for the development, implementation, and periodic update of a series of project-specific plans to guide the management of GS projects;
- Periodic re-evaluation of the area of review around the injection well to incorporate monitoring and operational data and verify that the CO₂ is moving as predicted within the subsurface;
- Rigorous testing and monitoring of each GS project that includes testing of the mechanical integrity of the injection well, ground water monitoring, and tracking of the location of the injected CO₂ using direct and indirect methods;
- Extended post-injection monitoring and site care to track the location of the injected CO₂ and monitor subsurface pressures until it can be demonstrated that USDWs are no longer endangered;
- Clarified and expanded financial responsibility requirements to ensure that funds will be available for corrective action, well plugging, post-injection site care, closure, and emergency and remedial response;
- A process to address injection depth on a site-specific basis and accommodate injection into various formation types while ensuring that USDWs at all depths are protected;
- Considerations for permitting wells that are transitioning from Class II enhanced recovery (ER) to Class VI that clarify the point at which the primary purpose of CO₂ injection transitions from ER (i.e., a Class II well) to long-term storage (i.e., Class VI).

The Class VI requirements are designed to promote transparency and national consistency in permitting of GS projects while also allowing flexibility, where appropriate. Many components of the rule provide flexibility by allowing the permitting authority discretion to set certain permit criteria that are appropriate to local geologic settings.

What is EPA's timeframe for implementing this regulation?

Under section 1421(b), SDWA mandates that EPA develop minimum Federal requirements for state UIC primary enforcement responsibility, or primacy, programs to ensure protection of USDWs. In order to implement the UIC Program, states must apply to EPA for primacy approval. EPA will allow independent primacy for Class VI wells and will accept applications from states for independent primacy under section 1422 of the SDWA for managing UIC GS projects under Class VI.

States will have 270 days following final promulgation of the GS rule to submit a complete primacy application that meets the requirements of the *Code of Federal Regulations* under 40 CFR 145.22 or 145.32. If a state chooses not to submit a complete application during the 270-day period, or EPA has not approved a Class VI program, then EPA will establish a Federal UIC Class VI program in that state after the 270-day application period closes. If a state submits a primacy application after the 270-day deadline and the application is approved, EPA will publish a subsequent notice of the approval. States may not issue Class VI permits until their Class VI UIC Programs are approved. During the first 270-days and prior to EPA approval of a Class VI primacy application, states with existing SDWA Section 1422 primacy programs may issue permits.

States without existing Section 1422 primacy programs must direct all Class VI GS permit applications to the appropriate EPA Region. EPA Regions will issue permits using existing authorities and well classifications (e.g., Class I or Class V), as appropriate.

How did EPA consult with stakeholders in evaluating GS and developing the final GS requirements?

EPA conducted extensive coordination to engage stakeholders. The Agency has convened seven stakeholder workshops since 2005 to discuss various technical issues associated with GS and convened two public stakeholder meetings in December 2007 and February 2008 to identify and discuss questions relevant to the effective management of CO₂ GS. Each workshop was attended by more than 200 stakeholders representing a broad range of interests including state, local and tribal governments; industry; public interest groups; and the general public.

EPA also worked closely with four state co-regulators affiliated with the Ground Water Protection Council and the Interstate Oil and Gas Compact Commission. EPA has coordinated with the Department of Energy, the lead U.S. Agency conducting GS field research, to monitor the progress of pilot GS projects and inform the rulemaking process. The Agency considered hundreds of public comments submitted in response to the proposed GS rule (73 FR 43492; July 25, 2008) and a supplemental Notice of Data Availability and Request for Comment (74 FR 44802; August 31, 2009).

How much will the final rule cost?

EPA estimates the total incremental annual cost associated with the implementation of the final rule to be \$38.1 million and \$31.7 million using 3 percent and 7 percent discount rates, respectively. The costs attributed to the rulemaking (costs associated with the sequestration but not the capture or transport of CO₂) represent less than 3 percent of the total cost of carbon capture and storage.

How can I get more information?

The final rule and supporting information are available on EPA's Web site at http://water.epa.gov/type/groundwater/uic/wells_sequestration.cfm. The rulemaking docket includes more extensive supporting information and EPA's responses to all public comments at www.regulations.gov (docket I.D.: EPA-HQ-OW-2008-0390). For additional information, contact the Safe Drinking Water Hotline toll free Monday through Friday, 10:00 am to 4:00 pm eastern time (except federal holidays) at 1-800-426-4791.



Underground Injection Control (UIC)

Class VI - Wells used for Geologic Sequestration of CO2

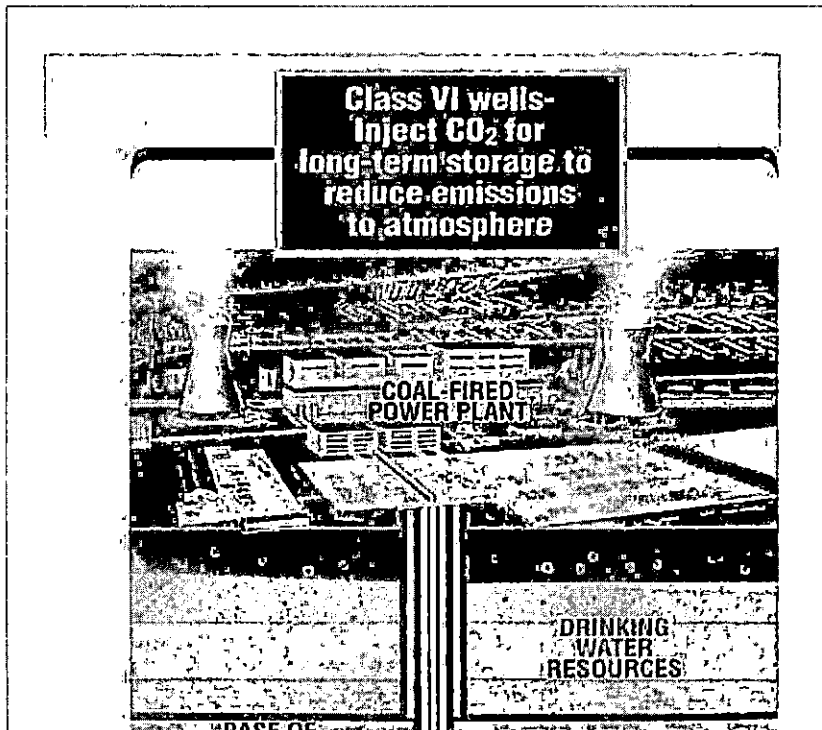
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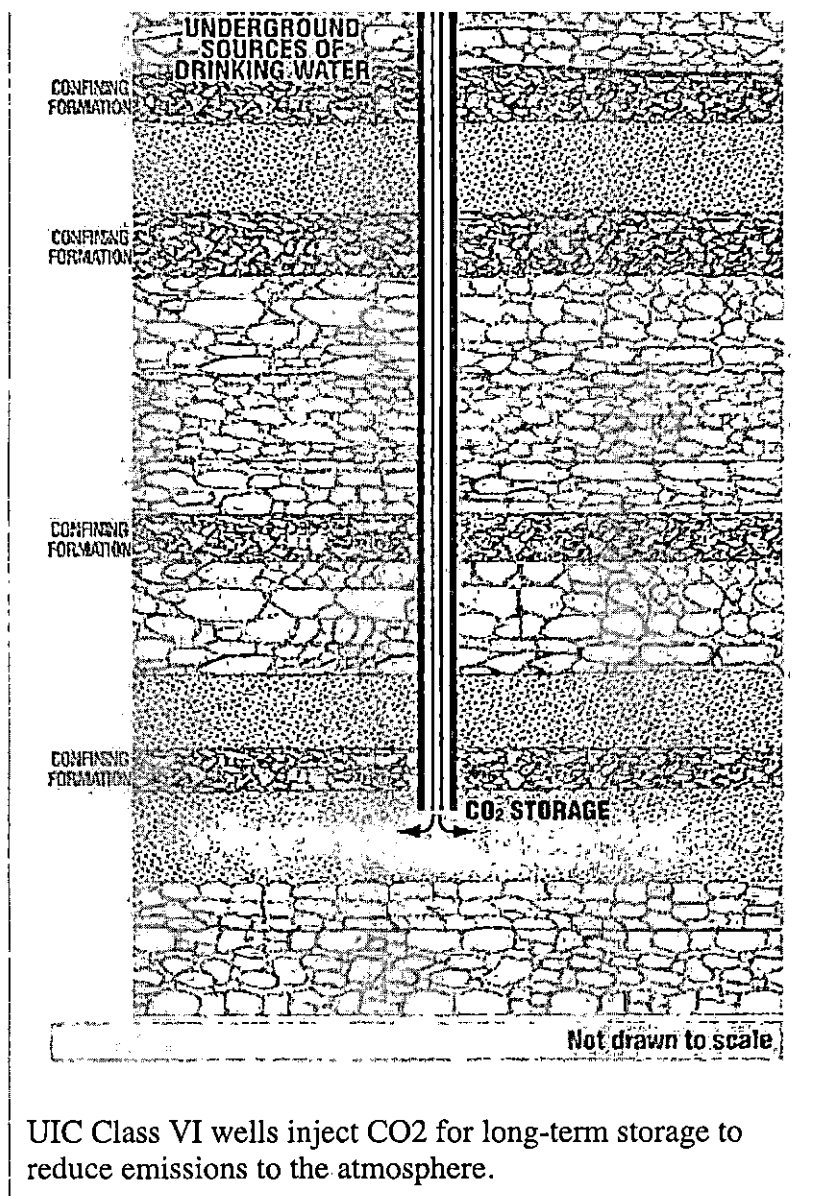
- Definition of Class VI wells
- Protecting drinking water resources
- Requirements for Class VI wells
- Background information about geologic sequestration
- Additional information

Definition of Class VI wells

Class VI wells are used to inject carbon dioxide (CO₂) into deep rock formations. This long-term underground storage is called geologic sequestration (GS). Geologic sequestration refers to technologies to reduce CO₂ emissions to the atmosphere and mitigate climate change.

Protecting drinking water resources





Class VI well requirements are designed to protect underground sources of drinking water (USDWs). Requirements address:

- Siting
- Construction
- Operation
- Testing
- Monitoring
- Closure

The regulations address the unique nature of CO₂ injection for GS, including the:

- Relative buoyancy of CO₂
- Subsurface mobility

- Corrosivity in the presence of water
- Large injection volumes anticipated at GS projects

In December 2010, EPA published the Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO2) Geologic Sequestration (GS) Wells Final Rule (Class VI Rule).

Review the Final Rule for Class VI wells.

Requirements for Class VI wells

EPA developed specific criteria for Class VI wells:

- Extensive site characterization requirements
- Injection well construction requirements for materials that are compatible with and can withstand contact with CO2 over the life of a GS project
- Injection well operation requirements
- Comprehensive monitoring requirements that address all aspects of well integrity, CO2 injection and storage, and ground water quality during the injection operation and the post-injection site care period
- Financial responsibility requirements assuring the availability of funds for the life of a GS project (including post-injection site care and emergency response)
- Reporting and recordkeeping requirements that provide project-specific information to continually evaluate Class VI operations and confirm USDW protection

Review Class VI guidance documents.

Background information about geologic sequestration

Geologic sequestration is the process of injecting carbon dioxide, captured from an industrial (e.g., steel and cement production) or energy-related source (e.g., a power plant or natural gas processing facility), into deep subsurface rock formations for long-term storage. This is part of a process frequently referred to as “carbon capture and storage” or CCS.

Underground injection of CO2 for purposes such as enhanced oil recovery (EOR) and enhanced gas recovery (EGR) is a long-standing practice. CO2 injection specifically for GS involves different technical issues and potentially much larger volumes of CO2 and larger scale projects than in the past.

EPA has finalized requirements for GS, including the development of a new class of wells, Class VI, under the authority of the SDWA's UIC program. These requirements, also known as the Class VI rule, are designed to protect underground sources of drinking water.

The Class VI rule builds on existing UIC program requirements, with extensive tailored requirements that address carbon dioxide injection for long-term storage to ensure that wells used for geologic sequestration are appropriately:

- Sited
- Constructed
- Tested
- Monitored
- Funded and closed

The rule provides owners or operators injection depth flexibility in different geologic settings across the United States. The flexibility includes deep formations and oil and gas fields transitioned to carbon dioxide storage sites.

In a separate rulemaking under authority of the Clean Air Act, EPA has finalized reporting requirements under the Greenhouse Gas Reporting program for all facilities that inject CO2 underground. Information obtained under the Greenhouse Gas Reporting program will enable EPA to track the amount of carbon dioxide received by these facilities.

Additional information

Additional information on climate change and sequestration can be found at EPA's Global Warming and the Department of Energy websites.

Additional information on supporting documents relating to the development of the GS rule can be found at Regulations.gov.

- EPA's Climate Change site
 - EPA's Greenhouse Gas Reporting Rule Information
 - Climate Change - Greenhouse Gas Emissions: Geologic Sequestration
 - Department of Energy Carbon Sequestration Program^{Exit}
 - US Geologic Survey^{Exit}

Last updated on October 6, 2016

Code of Federal Regulations

Title 40 - Protection of Environment

Volume: 23

Date: 2014-07-01

Original Date: 2014-07-01

Title: PART 144 - UNDERGROUND INJECTION CONTROL PROGRAM

Context: Title 40 - Protection of Environment. CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY (CONTINUED). SUBCHAPTER D - WATER PROGRAMS (CONTINUED).

Pt. 144

PART 144—UNDERGROUND INJECTION CONTROL PROGRAM

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- 144.4 Considerations under Federal law.
- 144.5 Confidentiality of information.
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- 144.65 Use of State-required mechanisms.
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Code of Federal Regulations

Title 40 - Protection of Environment

Volume: 23

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Title: PART 146 - UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

Context: Title 40 - Protection of Environment. CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY (CONTINUED). SUBCHAPTER D - WATER PROGRAMS (CONTINUED).

Pt. 146

PART 146—UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS

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- 146.51** Applicability.

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<u>146.61</u>	Applicability.
<u>146.62</u>	Minimum criteria for siting.
<u>146.63</u>	Area of review.
<u>146.64</u>	Corrective action for wells in the area of review.
<u>146.65</u>	Construction requirements.
<u>146.66</u>	Logging, sampling, and testing prior to new well operation.
<u>146.67</u>	Operating requirements.
<u>146.68</u>	Testing and monitoring requirements.
<u>146.69</u>	Reporting requirements.
<u>146.70</u>	Information to be evaluated by the Director.
<u>146.71</u>	Closure.
<u>146.72</u>	Post-closure care.
<u>146.73</u>	Financial responsibility for post-closure care.

Subpart H—Criteria and Standards Applicable to Class VI Wells

<u>146.81</u>	Applicability.
<u>146.82</u>	Required Class VI permit information.
<u>146.83</u>	Minimum criteria for siting.
<u>146.84</u>	Area of review and corrective action.
<u>146.85</u>	Financial responsibility.
<u>146.86</u>	Injection well construction requirements.
<u>146.87</u>	Logging, sampling, and testing prior to injection well operation.
<u>146.88</u>	Injection well operating requirements.
<u>146.89</u>	Mechanical integrity.
<u>146.90</u>	Testing and monitoring requirements.
<u>146.91</u>	Reporting requirements.
<u>146.92</u>	Injection well plugging.
<u>146.93</u>	Post-injection site care and site closure.
<u>146.94</u>	Emergency and remedial response.
<u>146.95</u>	Class VI injection depth waiver requirements.

Authority: Safe Drinking Water Act, 42 U.S.C. 300f et seq.; Resource Conservation and Recovery Act, 42 U.S.C. 6901 et seq.

Source: 45 FR 42500, June 24, 1980, unless otherwise noted.

Subpart A—General Provisions

§ 146.1 Applicability and scope.

(a) This part sets forth technical criteria and standards for the Underground Injection Control Program. This part should be read in conjunction with 40 CFR parts 124, 144, and 145, which also apply to UIC programs. 40 CFR part 144 defines the regulatory framework of EPA administered permit programs. 40 CFR part 145 describes the elements of an approvable State program and procedures for EPA approval of State participation in the permit programs. 40 CFR part 124 describes the procedures the Agency will use for issuing permits under the covered programs. Certain of these procedures will also apply to State-administered programs as specified in 40 CFR part 145.

(b) Upon the approval, partial approval or promulgation of a State UIC program by the Administrator, any underground injection which is not authorized by the Director by rule or by permit is unlawful.

(Clean Water Act, Safe Drinking Water Act, Clean Air Act, Resource Conservation and Recovery Act: 42 U.S.C. 6905, 6912, 6925, 6927, 6974)

[45 FR 42500, June 24, 1980, as amended at 48 FR 14293, Apr. 1, 1983]

§ 146.2 Law authorizing these regulations.

The Safe Drinking Water Act, 42 U.S.C. 300f *et seq.* authorizes these regulations and all other UIC program regulations referenced in 40 CFR part 144. Certain regulations relating to the injection of hazardous waste are also authorized by the Resource Conservation and Recovery Act, 42 U.S.C. 6901 *et seq.*

[58 FR 63898, Dec. 3, 1993]

U. S. DEPARTMENT OF ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

FINANCIAL ASSISTANCE NEGOTIATION MEMORANDUM

SECTION 1 - GENERAL

1. Recipient: Southern Company Services, Inc.
Address: 600 North 18th Street, P.O. Box 2641, Birmingham, AL 35291
Business Point of Contact: Charles Henderson Phone: (205) 992-7313
E-mail address: cwhender@southernco.com

3. Grant/Cooperative Agreement No: DE-FC26-06NT42391 Amendment No: A004

2. Requisition No: 09NT011635 Funding Opportunity Announcement No: DE-PS26-04NT42061

Recipient ☐ is ☒ is not participating in the Federal Demonstration Partnership (FDP) Program.
Project Title: "Demonstration of a Coal-based Transport Gasifier"

4. Type of Recommended Action: ☐ New Award ☐ Renewal ☒ Continuation ☐ Revision

5. Project Period For this Award: From: 02/01/2006 Thru: 05/01/2018

6. Current Budget Period: From: 11/17/2008 Thru: 05/01/2018

7. Estimated Cost: TOTAL ESTIMATED PROJECT COST: \$1,622,905,779

Budget Period 1 -- Phase I -- Project Definition

DOE Share	\$ 9,285,033	50%
Recipient Share	\$ 9,285,033	50%
	\$18,570,066	

Budget Period 2a -- Phase IIa -- Detailed Design (Orlando, FL) and Phase IIIa Construction (Orlando, FL)

DOE Share	\$14,248,983	45.0%
Recipient Share	\$17,415,424	55.0%
	\$31,664,407	

Budget Period 2b -- Phase IIb* -- Detailed Design (Kemper County, MS); Phase IIIb -- Construction (Kemper County, MS); and Phase IV -- Demonstration

*Phase IIb is a \$0 phase (NEPA activities).

DOE Share	\$ 270,215,984	17.2%
Recipient Share	\$1,302,455,322	82.8%
	\$1,572,671,306	

Total Project

DOE Share	\$293,750,000	18.1%
Recipient Share	\$1,329,155,779	81.9%
	\$1,622,905,779	

8. Carryover Amount: \$50,000

9. Preaward Costs: N/A

10. Capital Equipment Dollars: \$30,119,018. Final amount to be determined once detailed budget is submitted and reviewed. It is noted that Clean Coal projects have special legislation that allows for Recipients to retain automatic title of equipment with no further obligation to DOE. The award document contains Clause 2.12, entitled Property Management and Disposition, which recognizes this authority.

11. Obligation Amount: \$0

SECTION 2 - BACKGROUND

A complete discussion of the selection data for the original award is contained within the pre-award file, A000. The original project was selected under the Clean Coal Power Initiative – Round 2.

The purpose of this amendment is to re-issue the original cooperative agreement to reflect all changes that have been made as a result of the approved site relocation from Orlando, FL to Kemper County, MS. Significant changes include the addition of CO₂ capture to the project, revised project costs, a revised Statement of Project Objectives, restructured budget periods and phases, a revised project period end date, and an amendment to the amended and restated repayment agreement. Furthermore, Southern Company is now authorized to proceed from Budget Period 2a (Orlando) to Budget Period 2b (Kemper County).

Background for this amendment: In December 2007, Southern Company Services announced it was discontinuing the Orlando project due to Florida's new requirement for carbon capture and storage (CCS) technology on coal-based power plants. Addition of CCS at Orlando was not technically or economically practical. Southern requested and obtained DOE approval to relocate the project to Kemper County, Mississippi, on a site owned by Southern Power subsidiary Mississippi Power. The Kemper project utilizes the same technology as Orlando except that Kemper will be configured with two gasification trains, two combustion turbines and one steam turbine contrasted with Orlando's single train configuration. Kemper will generate approximately twice the power output of Orlando. Additionally, CO₂ capture has been integrated into the Kemper project.

Southern currently estimates the cost at \$1.6 billion not including Southern labor (Kemper County only), financing charges, or the addition of CO₂ capture. Approximately \$23 million of DOE's ~\$293 million contribution was spent for Orlando leaving ~\$270 million for Kemper. DOE's absolute contribution for Orlando and Kemper will not exceed ~\$293 million while DOE's proportionate share will be reduced from 35% to 18% with the site change approval. The revised project costs represent a total increase of \$778,638,458 over the Orlando project.

Approval for the site change was granted in an April 29, 2008 memorandum for the Secretary. James A. Slutz, Acting Principal Deputy Assistant Secretary for the Office of Fossil Energy, stated, "I have approved the site change as reasonable and necessary to accomplish program objectives."

Also of note – Southern Company has requested the Secretary to waive repayment associated with this CCPI project. Without the waiver, DOE funds are subject to federal taxation resulting in a \$121 million reduction (2013 dollars) in available project funds. Southern believes the additional private sector investment to offset the tax burden could jeopardize the Kemper project's ability to incorporate CCS technology and receive a certificate of public convenience from the Public Services Commission.

On May 22, 2008, the Secretary of Energy signed a conditional waiver of the repayment. There are certain conditions where repayment will be re-instated. These conditions are captured in Amendment 2 to the Amended and Restated Repayment Agreement (DE-FR26-06NT42392).

SECTION 3 - ADVISORY REPORTS

Technical Evaluation: The DOE Project Manager evaluated the qualitative aspects of the offeror's site relocation application and prepared comments in the technical evaluation of budget memo dated October 31, 2008. In the memo, the Project Manager states, "I have reviewed all the site relocation information and concur on the request to perform the demonstration project at the Kemper County, MS site. The technical configuration of the Kemper County site will be very similar to the configuration planned for the Orlando site and all of the original project demonstration objectives will be met with the new site."

The Project Manager has also updated the Statement of Project Objectives to distinguish between work at Orlando and work at Kemper. Additionally, the SOPO also incorporates the addition of CO₂ capture.

Furthermore, because the site relocation/continuation is considered to be a "significant event" as defined by the Federal Project Management Center's Project Management Guidelines, the Project Manager has completed a project risk assessment. The results of the risk assessment have been concurred upon by the Division Director and Contract Specialist. Further risk analysis, including a risk register, is not required.

Cost/Price Analysis Report: A cost/price report was not obtained for this action since the federal dollar value being authorized at this time is \$0. Per the conditions placed on the award in the "Conditions on Award" clause, the Recipient agrees to absorb all costs expended in Phase IIb. DOE agrees to share costs in Phase IIIb and IV upon Recipient's submission and DOE's approval of an updated detailed cost breakdown for those phases. The costs are expected to be submitted to DOE mid-2009. A Cost/Price Report will be obtained before DOE issues approval to proceed into Phases IIIb and IV.

Other Advisory Reports: Because project costs have increased \$778,638,458, all at Southern's expense, the DOE requires assurance that Southern Company has the financial capability to cover those costs. Consequently, Langhammer and Company, LLC, a financial consultant for NETL, has reviewed Southern's audited financial statements, including the balance sheets, income statements, and cash flow statements for Southern Company and for its subsidiary Mississippi Power Company for the year ended December 31, 2007. They have also reviewed current financial analyses of Southern Company and Mississippi Power Company prepared separately by the three principal credit rating agencies: (a) Standard & Poor's, (b) Moody's, and (c) Fitch Ratings. In a memo dated April 10, 2008, Frank Langhammer, President - Langhammer and Company LLC, stated "In our opinion, Southern Company and Mississippi Power Company have the capacity to provide the non-Federal cost share portion of the overall project costs." His memo is contained within a separate folder entitled *Site Relocation and Conditional Repayment Memos*. Financial ratings and credit opinions from Fitch, Standard's & Poor and Moody's Investor Services are available and contained in the amendment file under Tab 18.

SECTION 4 - RECIPIENT RESPONSIBILITY/ELIGIBILITY

Debarred List Check: The General Services Administration (GSA) "List of Parties Excluded from Federal Procurement and Nonprocurement Programs" was checked via the Internet at <http://epls.arnet.gov/> on December 1, 2008 and neither the Recipient nor the Recipient's Principal Investigator/Business Officer or any identified key personnel were listed.

Financial Management System: The recipient has the ability to provide reliable cost information, and its financial management system is in compliance with the prescribed standards in 10 CFR 600.311 and is adequate to protect the Government's interests. The Recipient has demonstrated that they have an acceptable financial management system and management capability, including an adequate accounting system and financial controls for accumulating and recording costs under financial assistance awards. This determination is based on prior DOE experience under this cooperative agreement. Additionally, Standard's and Poor, a credit rating agency, has given Southern Company a Corporate Credit Rating of "Stable" and noted in their research that "Southern's financial statements are in accordance with U.S. GAAP and are

audited by Deloitte & Touche, which has issued unqualified opinions on the company's financial statements and internal controls for 2006."

Performance Review: In accordance with the Guide to Financial Assistance, the Recipient's performance was assessed to determine whether the Recipient has adequately performed under, and complied with, reporting requirements under this award. Southern Company has an excellent performance history under this award. The company is diligent in submitting reports on time and keeping the DOE informed of important issues that arise during the project.

Responsibility Determination: By signing this document, the Contracting Officer has made an affirmative determination of responsibility. This determination includes the financial management system assessment above and review of activities under this award, specifically performance of reporting deliverables.

A Dun and Bradstreet Report was obtained for the Recipient. This report indicates that the Recipient has a "limited" credit appraisal. However, the report also indicates that the company has a clear history and secured financing. Because of the "limited" rating, the Contract Specialist reviewed other credit opinions and found that three credit rating agencies, Fitch, Moody's, and Standard's and Poor, have given Southern Company a "Stable" credit rating and outlook. Moody's Investor Services provides the following narrative regarding Southern Company's rating outlook:

"The rating outlook is stable, reflecting financial and cash flow coverage metrics that are expected to remain adequate for its current rating category, despite declining trends exhibited over the last several years. It is Moody's expectation that the core regulated utility business will continue to remain the primary source of consolidated earnings and cash flow and that Southern Power's growth strategy will not diverge from its historical, contracted focus. The stable outlook also incorporates the expectation that the core utility subsidiaries will continue to benefit from constructive, above average regulation and continue to receive timely recovery of costs through rate adjustments."

Fitch Ratings has affirmed, "SPC's ratings are supported by the low-risk, contracted business strategy, membership in the Southern power pool and current internal funding of capital needs. The cancellation of the Orlando IGCC project evidenced management's aversion to risk. Risks include debt refinancing risk in 2012, re-marketing risk at the expiry of current long-dated contracts, and regulatory risks."

Given the above information, it can be reasonably determined that Southern Company is a responsible Recipient with a good performance history and stable financial condition to warrant cost sharing over \$1B on this project.

SECTION 5 - OTHER ITEMS OR CONSIDERATIONS

National Environmental Policy Act (NEPA) Compliance:

- () A Categorical Exclusion (CX) signed by the NEPA Compliance Officer is contained in the award file or filed in the Procurement Policy Division.
- () NEPA Compliance Review via an Environmental Evaluation Form has been coordinated with the NEPA Compliance Officer and the results are contained in the file.
- (X) The NEPA Compliance Review is in process, and the NEPA special term and condition is included in the cooperative agreement.

Limited Rights Data/Restricted Computer Software: The re-issued cooperative agreement, effective this amendment, has addressed changes to both Limited Rights Data and Restricted Computer Software. The changes are necessary due to a slightly revised technical approach on the Kemper County project as opposed to the Orlando project. All changes have been reviewed and approved by Southern Company and are incorporated into the Intellectual Property Provisions of the re-issued Cooperative Agreement.

Method of Payment: The Recipient's current method of payment is ASAP Reimbursement. However, the Recipient submits an SF-270 with supporting documentation directly to the DOE Contract Specialist and Project Manager for review and approval prior to drawing down the funds in ASAP. This method of payment will not change on this amendment. Because Southern Company is not authorized to bill DOE for any work

beyond Budget Period 2a, the Recipient's ASAP account has been capped at \$23,534,016, which is the amount of DOE funds through Phase IIb. Thus, Southern Company may only draw down funds up to this amount. Once DOE approval is given to bill for Phases IIIb and IV of Budget Period 2b, the capped amount in ASAP will be amended pursuant to the DOE cost share listed in the "Budget Periods and Estimated Project Costs" clause and, for Phase IV, the Withholding of Funds clause.

Cost Sharing: The total Recipient cost share has increased from \$550,517,321 (65.2%) to \$1,329,155,779 (81.9%), which exceeds the mandatory cost share requirement of 50% for the Clean Coal Program.

Fee Determination: Fee to Southern Company is unallowable under this project. However, certain subcontractors (ie: equipment vendors, construction contractors, etc.) may charge fee under the project if the subcontractors are not team members whose technology is being demonstrated or who otherwise have a financial interest in the outcome of the project. Subcontractors or vendors who are providing commercially available goods or services may be paid fee or profit.

Laboratory Participation: None.

Deviations to Regulations and Required Approval: The Recipient did not propose any deviations to the regulations and the Government did not anticipate any deviations to the regulations.

Exceptions Taken by the Recipient: None.

Special Award Conditions: No special award conditions are necessary as prescribed in 10 CFR 600.304.

Other Issues to be Discussed:

- This project is divided into major categories of work (e.g., project definition, design, construction, demonstration, etc.) called phases for project management planning and control. Additionally, as of this amendment, sub-phases have been established to distinguish between work completed at the Orlando site and work proposed for the Kemper County site. The designation of 'a' signifies Orlando work/costs while 'b' is associated with the Kemper County effort/budget. The phases and sub-phases are aligned to specific budget periods and correspond to specific tasks in the Statement of Project Objectives.
- As a result of the demonstration site relocation from Orlando, FL to Kemper County, MS, total project costs have increased \$778,638,458. Since DOE previously reached its maximum participation in support of cost overruns on Amendment A003, all additional project costs will be fully borne by Southern Company. Notwithstanding the increased project costs, the phase for which Southern is being allowed to proceed into, Phase IIb, is a \$0 phase; therefore no cost review and budget approval is being done at this time. Phase IIb includes detailed design engineering, continuing environmental permitting activities and completion of a NEPA Record of Decision for the Kemper County site. Assuming a NEPA Record of Decision supports the project at Kemper, DOE will then share costs for the remainder of the project: Phase IIIb - Construction and Phase IV - Operation/Demonstration. Under the Orlando project, DOE paid for NEPA; for the Mississippi project, SCS is paying for all NEPA-related costs.
- At this time, DOE is authorizing continuation from Budget Period 2a (Orlando) to Budget Period 2b (Kemper County), which includes Phases IIb, IIIb, and IV. It is anticipated that Budget Period 2b will be fully funded in the first or second quarter of FY2009 when NETL receives funding through the financial plan. The Recipient may not bill DOE for work associated with Phases IIb, IIIb, or IV until Southern has submitted and DOE has approved the costs for those phases. To convey this requirement, the clause entitled "Conditions on Award" is included in the re-issued cooperative agreement.
- While the previous host site for the Orlando project was Orlando Utilities Commission, Mississippi Power Company is the new host site for the Kemper County demonstration project. An executed host site agreement between Mississippi Power Company and Southern Company Services has

been reviewed by NETL Legal Counsel and found to be adequate. A copy of this agreement is contained in a separate contract file entitled *Miscellaneous Correspondence*.

- As a result of the site relocation, the key personnel clause has been modified to remove one KBR individual (Nicola Salazar) and add one Mississippi Power individual (Tommy Anderson). The Project Manager has reviewed the change and approves. The Contract Specialist ensured that all key personnel are not debarred.
- Letters from the CEO of Mississippi Power Company, the COO of Southern Company, and Governor Barbour of Mississippi describing their commitment to the project are contained within the site relocation application.
- To ensure unobligated funding for Phase IV of the project does not get taken away in future years, the decision was made to combine Budget Periods 2b and 3. Combining the Construction and Operations phases into one budget period is not uncommon in Clean Coal projects. The remaining amount of funds to be obligated, \$50,363,889, will likely be obligated in the first or second quarter of FY 2009.
- Because the DOE cost share to the project is relatively small in the last phase of the project, a "Withholding of Funds" clause has been added to the cooperative agreement. The inclusion of this clause allows DOE to defer \$25,000,000 for payment during Phase IV of Budget Period 2b.
- The project period end date is hereby being extended from Nov. 28, 2014 to May 1, 2018 thus making the total project period slightly over twelve years. In accordance with the Department of Energy's Financial Assistance Guide, Chapter 3, Article 3.3 "Budget and Project Periods," the Head of the Contracting Activity (HCA) must approve a determination and finding (D&F) to extend a project performance period beyond five years. HCA approval of this time extension will be sought through a D&F concurrent with Independent Review of this amendment.
- HQ Business Clearance waived review of this amendment in an email dated 04/15/2008.
- The project objectives for Kemper have been modified to include a requirement for at least 25% carbon capture and compression at no additional DOE cost contribution. The Recipient will transport and sequester the captured carbon for enhanced oil recovery off-line of the DOE budget.
- There are no outstanding subcontracts that will require DOE approval prior to execution. Consequently, clause 2.36 entitled "Subcontracts and Other Agreements" has been deleted and identified as "Reserved".
- The listing of Protected Data identified in the Cooperative Agreement under Part III – Intellectual Property Provisions has been amended consistent with the addition of CO₂ capture to the scope.
- Southern Company signed a contract for a steam turbine (for Budget Period 2b) on 11/17/2008. In order that those costs are allowable and recognizable to the budget period, the start date for Budget Period 2b is being established at 11/17/2008.

SECTION 6 - NEGOTIATIONS

Government Negotiators:

Recipient Negotiators:

Negotiation Dates:

December 2007 – December 2008

Negotiated Changes to the Applicant's Application Which Have Not Been Submitted in Writing by the Recipient are Identified as Follows and are Included in the Award:

None

Budget Review/Cost Analysis:

Upon receipt of a detailed budget for Phase IIIb and Phase IV of Budget Period 2b, the costs will be reviewed for reasonableness, allowability and allocability of costs.

Negotiation Summary of SF 424A Budget:

Object/Class Categories	Orlando Project Costs	Adjustments due to site relocation	Kemper County Project Costs
Personnel	66,518,215	(60,037,637)	6,480,578
Fringe Benefits	0	0	0
Travel	3,607,395	(3,374,213)	233,182
Equipment	92,303,008	(64,111,518)	28,191,490
Supplies	0	0	0
Contractual	676,389,052	911,018,780	1,587,407,832
Construction	0	0	0
Other	5,449,652	(4,856,956)	592,696
Total Direct Charges	844,267,321	778,638,456	1,622,905,779
Indirect Charges	0	0	0
Total Direct and Indirect Costs	844,267,321	778,638,456	1,622,905,779
Recipient's Cost Participation	550,517,321	778,638,456	1,329,155,779
DOE Share	293,750,000	0	293,750,000

The Recipient will not be counting Southern Company labor or travel costs as project costs under the Kemper County project because it is too expensive to bill and account for those costs in accordance with government cost principles. The only labor (\$6,480,578) and travel (\$233,182) costs that are included in the Kemper County budget above are the actual costs associated with the Orlando project in Budget Periods 1 and 2a.

Cost Sharing The Recipient proposed \$1,329,155,779 in cost share. The \$1,329,155,779 cost share is 81.9% of the total project costs which exceeds both the previous and mandatory cost share requirement for this award. A determination regarding whether the cost share meets all of the following 10 CFR 600.313 requirements, will be made upon receipt of the detailed costs for subsequent phases.

Source (Complete name of Organization below)	Amount of Cost Share	Nature/Description of Cost Share	Reference Notes
Recipient: Southern Company	\$1,329,155,779	Cash	(1) Cost is shared on a

			dollar for dollar invoice basis.
Third Party*	None	N/A	N/A
Total Recipient Cost Share	\$1,329,155,779	-----	

* Third Party-a non-federal legal entity other than the recipient (i.e., sub-recipient, participant)

Budget Period Summary:

This project is anticipated to be completed in three budget periods summarized as follows:

	BP 1	BP 2a (Orlando)	BP 2b (Kemper County)	Total
DOE Share	\$9,285,033	\$14,248,983	\$270,215,984	\$293,750,000
Recipient Share	\$9,285,033	\$17,415,424	\$1,302,455,322	\$1,329,155,779
In-Kind Contributions	\$0	\$0	\$0	\$0
Total	\$18,570,066	\$31,664,407	\$1,572,671,306	\$1,622,905,779
Budget Period Duration in Months	15	18.5	113.5	147

The table below reflects the period of performance for each phase. Phases marked with an asterisk (*) reflect estimated dates.

	BP 1	BP 2a (Orlando)	BP 2b (Kemper County)
Phase I – Project Definition	02/01/2006 – 04/30/2007	-----	-----
Phase IIa – Detailed Design (Orlando)	-----	05/02/2007 – 11/14/2007	-----
Phase IIIa – Construction (Orlando)	-----	05/02/2007 – 11/14/2007	-----
Phase IIb* – Detailed Design (Kemper County)	-----	-----	11/17/2008 – 12/31/2009
Phase IIIb* – Construction (Kemper County)	-----	-----	01/01/2010 – 11/06/2013
Phase IV* – Demonstration/ Operations	-----	-----	11/07/2013 – 05/01/2018

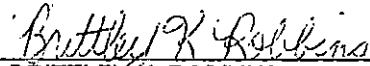
Note: The time between the end of Phase IIIa and start of Phase IIb lags by about a year because the project was on hold pending DOE approval of the site relocation and signature of the Cooperative Agreement amendment.

SECTION 7 - RECOMMENDATION AND APPROVALS

Based on the information provided above and appropriate conditions placed on the award, it is recommended that modified project costs of \$1,622,905,779 be authorized and the Recipient be allowed to

proceed into Budget Period 2b (Kemper County). The DOE share is estimated at \$293,750,000 and the Recipient's share is estimated at \$1,329,155,779.

Upon review of the documents submitted by Southern Company with concurrence from the Secretary of Energy and Assistant Secretary for Fossil Energy, approval to increase the project costs, authorize a site relocation, provide for conditional waiver of repayment, and extend the project is considered to be reasonable.

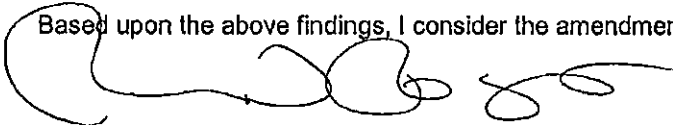


BRITTLEY K. ROBBINS
Contract Specialist

12/5/2008

DATE

Based upon the above findings, I consider the amendment to be in the best interest of the government.



RICHARD D. ROGUS
Contracting Officer

12/5/08

DATE

Southern Company's Mississippi Project

Answering the Department of Energy's Call for Action



A SOUTHERN COMPANY

EXHIBIT "D-2"

David M. Ratcliffe
Chairman, President and
Chief Executive Officer

Bin SC1500
30 Ivan Allen, Jr. Boulevard NW
Atlanta, Georgia 30308
Tel 404.508.0855
Fax 404.508.0858



February 13, 2008

The Honorable Samuel W. Bodman
Secretary of Energy United States
Department of Energy Room 7A-257
1000 Independence Avenue, SW
Washington, DC 20585

Dear Secretary Bodman:

As I discussed with you earlier in our phone conversation, I am forwarding you the proposal we will be discussing on February 26. I believe that this proposal is a tangible dramatic demonstration of the new direction for clean coal research you outlined in our recent conversation.

The key to making this happen is in the partnership that must exist among the Department of Energy, the State of Mississippi and Southern Company. Governor Barbour, who will also attend our meeting, is a progressive leader committed to developing clean, secure, domestic energy for our nation.

The partnership between the Department and Southern Company has already produced the most advanced gasification technology in the world, and with your continued support, we will commercially demonstrate that capability. I look forward to our meeting and the opportunity for us to take a significant step in achieving your vision for our nation's energy future.

Sincerely,

A handwritten signature in black ink, appearing to read "David Ratcliffe", written over a horizontal line.

David M. Ratcliffe

Enclosure



STATE OF MISSISSIPPI
OFFICE OF THE GOVERNOR

HALEY BARBOUR
GOVERNOR

February 8, 2008

The Honorable Samuel Bodman
United States Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Secretary Bodman:

I enthusiastically support Mississippi Power's proposed Integrated Gasification Combined Cycle facility in Kemper County, Mississippi.

The jobs and economic opportunity brought to East Mississippi by this generating plant can result in a much needed economic catalyst for this region's development and prosperity. In addition to serving its citizens, Mississippi will gain a new reputation as a leader in advanced, efficient clean coal technology. The realization of this facility would place Mississippi at the helm of America's ongoing effort to achieve energy independence through increased domestic production of alternative and traditional energy sources.

Mississippi is committed to lead the way in supporting the Administration's goal of pursuing energy supply options as part of a national energy strategy mix. In this endeavor, I believe clean coal technologies must play a major role. The proposed IGCC facility and the very impact of this technology can be a tremendous positive force on the nation's energy policy.

As you consider your support for the proposed facility, be mindful of the remarkable impact a state-of-the-art project of this magnitude will have not only in power generation, but in serving the country to achieve energy independence and dramatically enhancing the quality of life for our state. I feel strongly this project is in the very best interest for the United States and the State of Mississippi and ask that you extend the necessary federal support to move this project boldly forward.

Sincerely,

A handwritten signature in black ink, reading "Haley Barbour".

Haley Barbour

1. Introduction

This memorandum requests:

1. Approval to modify DOE's Clean Coal Power Initiative Cooperative Agreement DE-FC26-06NT42391 with Southern Company Services (Southern) to change the site from Orlando, Florida to Mississippi Power's Kemper County, Mississippi site; and,
2. A Secretarial waiver of the repayment agreement associated with the Cooperative Agreement.

Based on the continued programmatic need to demonstrate Southern's gasification technology at commercial scale and NETL's of Southern's supporting material, believes approval of site relocation and repayment waiver are warranted.

2. Background

Southern was selected in October 2004 under the second CCPI solicitation. CCPI is a government/industry partnership that implements the President's National Energy Policy recommendation to increase investment in clean coal technology. This commitment to clean coal is in response to the Nation's challenge of enhancing its electricity supply and availability brought on by the growing electricity demand. For the CCPI Round 2 Solicitation, DOE's priorities were technology advancements for gasification-based electricity production, advanced mercury control, and sequestration and sequestration-readiness. The CCPI Round 2 solicitation was seeking projects that (1) demonstrated advanced coal-based technologies that have progressed beyond the research and development stage to a point of readiness for operation at a scale that can be readily replicated into commercial practice within the electric power industry, and (2) accelerate the likelihood of deploying the demonstrated technologies for widespread commercial use within the electric power sector. The solicitation may be found at:

http://www.netl.doe.gov/technologies/coalpower/cctc/ccpi/bibliography/program/solicitations/ccpi_2_solicitation.html

In January 2006, DOE awarded a cost-shared cooperative agreement to Southern for the full-scale demonstration of the Kellogg Brown and Root (KBR) Transport Reactor Integrated Gasification (TRIGTM) technology at the Orlando Utility Commission (OUC) facility in Florida. The initial project cost estimate was \$568 million with a DOE/Southern split of \$235/\$333 million. The agreement was amended in March 2007 to increase the cost estimate to \$844 million with a DOE/Southern split of \$293/\$551. DOE's additional contribution was the maximum allowed by law for the CCPI program.¹ Project work was proceeding well at Orlando. Preliminary design and NEPA activities were completed. Orders were placed for long-lead time items. Permitting was nearly

¹ By statute, DOE may contribute not more than 25 percent of the original DOE share toward project cost increases.

EXHIBIT "D-3"

Justification for Waiver of Repayment

Southern Company Services (SCS) has submitted a request to the Department of Energy (DOE) to change the site associated with Cooperative Agreement DE-FC26-06NT42391. That request is currently under review by DOE. A condition associated with these funds is that they would be repaid out of future licensing fees for the TRIG™ technology. However, the repayment agreement included a stipulation that the repayment agreement could be terminated by the Secretary of Energy. SCS and Mississippi Power Company (MPC) have requested the Secretary to waive the repayment provisions based on the discussion below.

1. Because of the repayment provision, the CCPI funds would have to be treated by MPC as taxable income. The result is that of the CCPI funds to be applied to the Mississippi IGCC, \$103M would have to be paid in taxes.
2. The Orlando site did not include any provision for carbon capture. MPC desires to enhance the project scope to include the capture of the CO₂ inherent in the syngas stream. Adding CO₂ capture increases the capital cost of the project by an estimated \$125M and would decrease the projects output capability by an estimated 40MW. A 25% to 30% reduction (~1 million TPY) in the CO₂ emissions from the project would be realized.
3. Since there are currently no legislative or regulatory mandates to capture carbon, MPC likely will not be able to pass the additional costs of carbon capture to its ratepayers.
4. The base case in the table below shows the net present value (NPV) of the revenue requirements for a natural gas combined cycle plant. The NPV for each IGCC case is the difference between the IGCC revenue requirement and the revenue requirement for the natural gas combined cycle case. IGCC is preferred when the difference in revenue requirements is negative.

When the uncertainty associated with climate change legislation is considered, the additional economic benefits associated with the tax savings that result from waiver of the repayment agreement are required for the project to be the best choice for MPC's ratepayers. The risks to the project economics associated with CO₂ regulation were determined by evaluating the effects of CO₂ tax rates of \$10 and \$20/ton. The values in the table below show that the additional repayment waiver benefits are required to help mitigate the risks associated with CO₂. The \$0/ton case is based on the project view prior to increased risks associated with CO₂ regulation. Since the project was initiated, the probability of CO₂ regulation has increased significantly and the risks associated with CO₂ must be considered in the economic evaluation. Several coal based projects, including the Orlando project, have been canceled due to the risks associated with CO₂.

All Values are 2013 NPV of Costs in Millions of Dollars	CO2 Legislation/Regulation		
	(0\$/Ton)	Esc @ 5%	Esc @ 5%
Natural Gas Combined Cycle (NGCC)			
(Values from here down reflect change from NGCC Case. Negative values reflect savings.)			
Kemper IGCC1			
Transfer of Orlando CCPI Funds2			
25% Capture – No EOR Revenue3			
Loan Guarantee4			
Repayment Waiver5			
EOR Revenues6			

Includes ITC.

1. Assumes CCPI Funds are taxable.
2. Assumes cost increase and 40MW capacity decrease; capacity replaced with CT equivalent
3. Traditional Debt applied to project costs; Debt cost = Treasury Bill + 25 basis points;
4. Assumes waiver renders CCPI funds non-taxable
5. Assumes \$7.50 /Ton CO2

b4

Randall E. Rush
General Manager
Gasification Technology

Southern Company Generation
42 Inverness Center Parkway
Bin B228
Birmingham, AL 35242

Tel 205.992.6319
Fax 205.992.6005



February 12, 2008

National Energy Technology Laboratory
Attn: Diane R. Madden, M/S 922-342C
626 Cochran's Mill Road
P. O. Box 10940
Pittsburgh, PA 15236-0940

Dear Ms. Madden:

Subject: Site Change Request for DE-FC26-06NT42391

Southern Company Services, Inc. (SCS) is pleased to submit the attached documents in support of our request to change the site for the project under Cooperative Agreement DE-FC26-06NT42391 from Orlando, FL to Kemper County, MS. The relocated plant will be owned by Mississippi Power Company (MPC), a subsidiary of Southern Company. Originally the commercial operating date (COD) for the Mississippi facility was to follow the COD for the Orlando site by three years. With the termination of the Orlando site, the Mississippi site will now host the first full-scale demonstration of the Transport Integrated Gasification (TRIGTM) technology with COD scheduled for June, 2013.

The technical configuration of the Mississippi plant will be very similar to the configuration that was planned for the Orlando site and, therefore, all of the original project demonstration objectives will be met with the new site at no cost increase to DOE. Differences between the two sites that are relevant to the TRIGTM technology are as follows.

- The Mississippi IGCC is based on a 2x1 combined cycle with two gasification trains instead of a 1x1 combined cycle with a single gasification train. Each gasification train fuels a GE 7FA+e combustion turbine, the same turbine planned for Orlando, so the gasification trains are similar in size to the Orlando design. GE has completed combustion testing with the expected syngas and found that the same burner design can be utilized for the lignite and PRB derived syngas.
- The Mississippi IGCC will use Mississippi lignite instead of PRB coal as its primary fuel. Mississippi lignite coal has been tested at the Power Systems Development Facility with good results. Southern Company plans to conduct a test with PRB coal in the Mississippi facility during the DOE supported Demonstration Phase of the project, resulting in a wider range of fuel testing than the original Orlando site.
- The sulfur removal and recovery system is different due to the higher sulfur content of the lignite coal. In both cases, selection of the sulfur removal and recovery system was based on commercially available technology and the best economics for each case.
- The coal drying system has been modified to include a commercially available fluid bed dryer for efficient removal of the higher moisture content of the lignite coal.

Thomas A. Fanning
Chief Operating Officer

Southern Company
30 Ivan Allen, Jr. Blvd., NW
Bin SC1505
Atlanta, GA 30308

Tel 404.506.0600
Fax 404.505.0394
tafanning@southernco.com



February 11, 2008

Mr. Carl Bauer
Director, National Energy Technology Laboratory
U.S. Department of Energy/NETL
626 Cochrans Mill Road
Pittsburgh, Pennsylvania 15236

Dear Mr. Bauer:

Southern Company is prepared to demonstrate the advanced coal gasification technology, TRIGTM, previously proposed in Orlando, Florida, developed in partnership with the Department of Energy, in Kemper County, Mississippi. Southern believes that the continuation of this project in Mississippi will be a clear and dramatic response to the Department's goals of clean, secure, domestic energy for America. The relocated plant will be owned by Mississippi Power Company, a subsidiary of Southern Company.

The Mississippi project has been under development for over a year and with its 2013 commercial operation date, will confront the first-of-a-kind risks that the Orlando project was going to bear and help resolve. The Mississippi Project now becomes the first commercial demonstration of TRIGTM, and requires the Department's approval of the site change from Orlando to Kemper County in order to proceed. All of the original project demonstration objectives will be met with the new site at no cost increase to the Department. In fact, the objectives will be exceeded with the new site, since it will allow not only PRB coal to be tested, but also lignite. Demonstrating the use of lignite will open up the opportunity to use this largely underutilized resource which runs from Texas to Alabama to meet our nation's energy requirements.

Southern is strongly committed to moving the project forward and believes the Mississippi site provides the opportunity for achievement of the Department's goals for America. In addition, the Governor and State of Mississippi are committed to the project because of its economic impact in a depressed region of Mississippi, the use of the indigenous lignite and for the opportunity to participate in technology development.

Southern Company looks forward to continuing to work with the Department in advancing the TRIGTM technology.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom", is written below the word "Sincerely,".

The Recipient considers the material furnished herein to contain confidential business information which is to be withheld from disclosure outside the U.S. Government to the extent permitted by law.

Anthony J. Topazl 2992 West Beach Blvd
President and Post Office Box 4079
Chief Executive Officer Gulfport, Mississippi 39502-4079

Tel 228-865-5320



February 11, 2008

Mr. Carl Bauer
Director, National Energy Technology Laboratory
U.S. Department of Energy/NETL
626 Cochran's Mill Road
Pittsburgh, Pennsylvania 15236

Dear Mr. Bauer:

Mississippi Power Company (MPC) began working on a project in 2006 to build a lignite-fueled 2x1 integrated gasification combined cycle (IGCC) facility using the air-blown Transport Integrated Gasification (TRIGTM) technology. In addition to utilizing lignite in an affordable, efficient and environmentally friendly manner, MPC believes this project will help address key strategic objectives for MPC of increased fuel diversity, geographical diversity of generation and enhanced reliability while providing an economic and reliable resource to meet customer needs.

As President and CEO of Mississippi Power Company, I want to express our commitment to the execution of the proposed project. With the Department's approval for changing the site to Kemper County under Southern Company Services' CCPI Round 2 project, and the project continuing to be the best economic option for the customers of MPC, we will move forward with obtaining regulatory approval in the form of a certification of need and necessity, and upon regulatory approval, full execution of the project.

MPC is enthusiastic about the opportunity to further the commercialization of the TRIGTM technology using Mississippi lignite coal and believes that this technology supports the Department's goal to ensure that the United States has and maintains secure, clean, reliable and affordable electric power. MPC appreciates the consideration of this site change request and looks forward to working with the Department.

Sincerely,

W. P. Bowers
President

Southern Company Generation
600 North 18th Street/15N-8170
Post Office Box 2841
Birmingham, Alabama 35291

Tel 205.257.5355
Fax 205.257.0526
[wpowers@southernco.com](mailto:wpbowers@southernco.com)



March 13, 2007

Mr. Samuel W. Bodman
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Secretary Bodman:

The purpose of this letter is to advise you of a serious problem that has arisen on the Orlando transport gasification demonstration project. We were advised last week that the Internal Revenue Service (IRS) has determined that the Department of Energy (DOE) funds being provided to the project are now deemed to be taxable, and therefore will be treated as income, creating an additional expense for the project. I am sure that your staff can apprise you of the details behind the IRS' view on taxability and on the unexpected nature of this determination.

We are nearing completion of Phase I -- Project Definition of the project and have submitted a Continuation Application to DOE to begin Phase II -- Design and Construction. The Phase I work was completed during an unprecedented period of inflation in the cost of materials and labor that has increased the cost of all major energy and infrastructure projects world-wide. Working cooperatively with our partners and the Department of Energy (DOE) we had devised a plan that we believe can allow the project to go forward in spite of a 60% capital cost increase. However, the effect of this decision by the IRS when added to these unprecedented capital cost increases makes it unlikely that Southern can continue with the project.

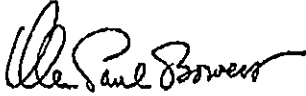
Southern and KBR have an aggressive program to commercialize Transport Integrated Gasification (TRIGTM), but a mid-2010 commercial operating date for the Orlando project is a critical aspect of this program. A key aspect of TRIGTM is its ability to process high ash, high moisture and low rank coals such as sub-bituminous and lignite more cost-effectively than other gasification technology. These coals make up half the coal supply in both the U. S. and the world. Without a timely, commercial demonstration of TRIGTM options for future coal-based power will decrease and cost will increase.

The Orlando project is the cornerstone of Southern Company's and our partner KBR's ability to deliver the TRIGTM technology to both the power and the coal-to-liquids markets. At least two key customers have expressed a clear requirement that the Orlando unit must become operational for them to consider use of TRIGTM at their facilities. The inability to execute the Orlando project will require us to seriously rethink our ability to continue in the gasification technology supply market.

Therefore, in an effort to keep the project moving forward towards demonstration of this important new gasification technology, I request that you or your designee waive the repayment plan related to DOE funding on the Orlando project to avoid creating a competitive disadvantage for TRIGTM in domestic and international markets. We expect that this will allow DOE project funding to be treated as a "contribution to capital" and render these funds non-taxable as income. If the DOE funds are later determined to be non-taxable without the waiver Southern and KBR agree to reinstatement of the repayment agreement as originally negotiated.

I thank you in advance for your consideration of this request. The world badly needs new methods of using our abundant coal reserves. Southern and KBR are moving aggressively to provide TRIGTM as one such improved method. Please do not hesitate to contact me if I can offer clarification or answer any questions you may have.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Paul Bowers". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

W. Paul Bowers

NOTICE OF FINANCIAL ASSISTANCE AWARD

Under the authority of Public Law 95-91 DOE Organization Act and PL 102-486 Energy Policy Act 1992

1. PROJECT TITLE "Demonstration of a Coal-based Transport Gasifier"		2. INSTRUMENT TYPE <input type="checkbox"/> GRANT <input checked="" type="checkbox"/> COOPERATIVE AGREEMENT															
3. RECIPIENT (Name, address, zip code) Southern Company Services, Inc. 600 North 18 th Street P.O. Box 2641 Birmingham, AL 35291		4. INSTRUMENT NO. DE-FC26-06NT42391	5. AMENDMENT NO. A004														
8. RECIPIENT PROJECT DIRECTOR (Name, phone and E-mail) [REDACTED]		10. TYPE OF AWARD <input type="checkbox"/> NEW <input checked="" type="checkbox"/> CONTINUATION <input type="checkbox"/> RENEWAL <input type="checkbox"/> REVISION <input type="checkbox"/> INCREMENTAL FUNDING															
9. RECIPIENT BUSINESS OFFICER (Name, phone and E-mail) [REDACTED]		12. DOE AWARD ADMINISTRATOR (Name, address, phone and E-mail) National Energy Technology Laboratory ATTN: Brittley K. Robbins, M/S 921-107 626 Cochran's Mill Road, P. O. Box 10940 Pittsburgh, PA 15236-0940 (412) 386-5430 Brittley.Robbins@netl.doe.gov															
11. DOE PROJECT OFFICER (Name, address, phone and E-mail) National Energy Technology Laboratory ATTN: Diane R. Madden, M/S 922-342C 626 Cochran's Mill Road, P. O. Box 10940 Pittsburgh, PA 15236-0940 (412) 386-5931 Diane.Madden@netl.doe.gov		13. RECIPIENT TYPE <input type="checkbox"/> STATE GOV'T <input type="checkbox"/> INDIAN TRIBAL GOV'T <input type="checkbox"/> HOSPITAL <input checked="" type="checkbox"/> FOR PROFIT ORGANIZATION <input type="checkbox"/> INDIVIDUAL <input type="checkbox"/> LOCAL GOV'T <input type="checkbox"/> INSTITUTION OF HIGHER EDUCATION <input type="checkbox"/> OTHER NONPROFIT ORGANIZATION <input checked="" type="checkbox"/> CORPORATION <input type="checkbox"/> PARTNERSHIP <input type="checkbox"/> SOLE PROPRIETOR <input type="checkbox"/> OTHER (Specify) _____															
14. ACCOUNTING AND APPROPRIATIONS DATA:		15. EMPLOYER I.D. NUMBER a. TIN: 63-0274273 b. DUNS: 137519547															
16. BUDGET AND FUNDING INFORMATION <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">a. CURRENT BUDGET PERIOD INFORMATION</th> <th style="width:50%;">b. CUMULATIVE DOE OBLIGATIONS</th> </tr> </thead> <tbody> <tr> <td>(1) DOE Funds Obligated This Action \$ 0</td> <td>(1) This Budget Period \$ 0 [Total of lines a.(1) and a.(3)]</td> </tr> <tr> <td>(2) DOE Funds Authorized for Carry Over \$ 50,000</td> <td>(2) Prior Budget Periods \$ 243,386,111</td> </tr> <tr> <td>(3) DOE Funds Previously Obligated in this Budget Periods \$ 0</td> <td>(3) Project Period to Date \$ 243,386,111 [Total of lines b.(1) and b.(2)]</td> </tr> <tr> <td>(4) DOE Share of Total Approved Budget \$ 270,216,984</td> <td></td> </tr> <tr> <td>(5) Recipient Share of Total Approved Budget \$ 1,302,455,322</td> <td></td> </tr> <tr> <td>(6) Total Approved Budget \$ 1,572,671,308</td> <td></td> </tr> </tbody> </table>				a. CURRENT BUDGET PERIOD INFORMATION	b. CUMULATIVE DOE OBLIGATIONS	(1) DOE Funds Obligated This Action \$ 0	(1) This Budget Period \$ 0 [Total of lines a.(1) and a.(3)]	(2) DOE Funds Authorized for Carry Over \$ 50,000	(2) Prior Budget Periods \$ 243,386,111	(3) DOE Funds Previously Obligated in this Budget Periods \$ 0	(3) Project Period to Date \$ 243,386,111 [Total of lines b.(1) and b.(2)]	(4) DOE Share of Total Approved Budget \$ 270,216,984		(5) Recipient Share of Total Approved Budget \$ 1,302,455,322		(6) Total Approved Budget \$ 1,572,671,308	
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(5) Recipient Share of Total Approved Budget \$ 1,302,455,322																	
(6) Total Approved Budget \$ 1,572,671,308																	
17. TOTAL ESTIMATED COST OF PROJECT, INCLUDING DOE FUNDS TO FRFDC: \$ 1,622,906,779 (DOE: \$293,750,000 Recipient: \$1,329,155,779) <i>(This is the current estimated cost of the project. It is not a promise to award nor an authorization to expend funds in this amount.)</i>																	
18. AWARD AGREEMENT TERMS AND CONDITIONS This award/agreement consists of this form plus the following: a. Special terms and conditions. b. Applicable program regulations (specify) _____ (Date) _____ c. DOE Assistance Regulations, 10 CFR Part 600 at http://ecfr.gpoaccess.gov and if the award is for research and to a university or non-profit, the Research Terms & Conditions and the DOE Agency Specific Requirements at http://www.nsl.gov/bfa/dias/policy/rtr/index.jsp d. DOE and Southern Company Services (SCS) agree that SCS's application dated June 10, 2004, as amended by continuation application dated January 2007 and site relocation applications dated 2/14/2008 and 3/14/2008, has been approved by DOE and is incorporated into the cooperative agreement. e. National Policy Assurances to Be Incorporated as Award Terms in effect on date of award at http://management.energy.gov/business_doe/1374.htm .																	
19. REMARKS See continuation pages.																	
20. EVIDENCE OF RECIPIENT ACCEPTANCE [REDACTED] (Signature of Authorized Recipient Official) _____ (Date) _____ [REDACTED] (Name) _____ [REDACTED] (Title) _____		21. AWARDED BY [Signature] _____ 12/5/08 (Signature) _____ (Date) Richard D. Rogus (Name) Contracting Officer (Title)															

EXHIBIT "D-4"

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) June 5, 2017

<u>Commission File Number</u>	<u>Registrant, State of Incorporation, Address and Telephone Number</u>	<u>I.R.S. Employer Identification No.</u>
1-3526	The Southern Company (A Delaware Corporation) 30 Ivan Allen Jr. Boulevard, N.W. Atlanta, Georgia 30308 (404) 506-5000	58-0690070
001-11229	Mississippi Power Company (A Mississippi Corporation) 2992 West Beach Boulevard Gulfport, Mississippi 39501 (228) 864-1211	64-0205820

The names and addresses of the registrants have not changed since the last report.

This combined Form 8-K is filed separately by two registrants: The Southern Company and Mississippi Power Company. Information contained herein relating to each registrant is filed by each registrant solely on its own behalf. Each registrant makes no representation as to information relating to the other registrant.

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrants under any of the following provisions:

- ☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- ☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- ☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- ☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). (Response applicable to each registrant.)

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

EXHIBIT "E"

The Southern Company ("Southern Company") and Mississippi Power Company ("Mississippi Power") are filing this Current Report on Form 8-K to provide information regarding the schedule and cost estimate for Mississippi Power's integrated coal gasification combined cycle project in Kemper County, Mississippi (the "Kemper IGCC").

The information in Item 7.01 in this Current Report on Form 8-K, including the exhibit attached hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities under that Section. Furthermore, such information, including the exhibit attached hereto, shall not be deemed to be incorporated by reference in any filing under the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference in such filing.

Item 7.01. Regulation FD Disclosure.

On June 5, 2017, Mississippi Power submitted its Kemper County Integrated Coal Gasification Combined Cycle Project Monthly Status Report through April 2017 (the "April PSC Report") to the Mississippi Public Service Commission (the "Mississippi PSC") pursuant to Docket No. 2009-UA-14. A copy of the April PSC Report is furnished as Exhibit 99.01 to this Current Report on Form 8-K.

Item 8.01. Other Matters.

See MANAGEMENT'S DISCUSSION AND ANALYSIS - FINANCIAL CONDITION AND LIQUIDITY - "Capital Requirements and Contractual Obligations" and FUTURE EARNINGS POTENTIAL - "Construction Program - Integrated Coal Gasification Combined Cycle" of Southern Company, MANAGEMENT'S DISCUSSION AND ANALYSIS - FUTURE EARNINGS POTENTIAL - "Integrated Coal Gasification Combined Cycle" and - FINANCIAL CONDITION AND LIQUIDITY - "Capital Requirements and Contractual Obligations" of Mississippi Power, and Note 3 to the financial

statements of Southern Company and Mississippi Power under "Integrated Coal Gasification Combined Cycle" in each company's Annual Report on Form 10-K for the year ended December 31, 2016 (the "Form 10-K"). See also MANAGEMENT'S DISCUSSION AND ANALYSIS - FINANCIAL CONDITION AND LIQUIDITY - "Capital Requirements and Contractual Obligations" and FUTURE EARNINGS POTENTIAL - "Construction Program - Integrated Coal Gasification Combined Cycle" of Southern Company, MANAGEMENT'S DISCUSSION AND ANALYSIS - FUTURE EARNINGS POTENTIAL - "Integrated Coal Gasification Combined Cycle" and FINANCIAL CONDITION AND LIQUIDITY - "Capital Requirements and Contractual Obligations" of Mississippi Power, and Note (B) to the Condensed Financial Statements under "Integrated Coal Gasification Combined Cycle" in each company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2017 for additional information regarding the construction of the Kemper IGCC, including: (1) the cost cap set by the Mississippi PSC of \$2.88 billion, net of \$245 million of grants awarded to the project by the U.S. Department of Energy under the Clean Coal Power Initiative Round 2 (the "Initial DOE Grants") and excluding the cost of the lignite mine and equipment, the cost of the carbon dioxide pipeline facilities, allowance for funds used during construction ("AFUDC"), and certain general exceptions, including change of law, force majeure, and beneficial capital (which exists when Mississippi Power demonstrates that the purpose and effect of the construction cost increase is to produce efficiencies that will result in a neutral or favorable effect on customers relative to the original proposal for the Certificate of Public Convenience and Necessity) (the "Cost Cap Exceptions"); (2) the expected in-service date and related cost estimate; and (3) rate recovery for costs associated with the Kemper IGCC, including the order issued in December 2015 by the Mississippi PSC authorizing rates related to the combined cycle and associated common facilities portion of the Kemper IGCC assets

previously placed in service (the “In-Service Asset Rate Order”), the project economic viability analysis, the requirement to file a rate case with the Mississippi PSC to address Kemper IGCC cost recovery by June 3, 2017, and Mississippi Power’s probable filing strategy.

Kemper IGCC Schedule and Cost Estimate

Southern Company’s and Mississippi Power’s Current Report on Form 8-K dated May 1, 2017 disclosed an expected in-service date by the end of May 2017 for the remainder of the Kemper IGCC. During May, Mississippi Power completed work to repair a leak in one of the particulate control devices for gasifier “A,” to make other minor modifications to each gasifier’s ash removal systems, and to repair the sour water system. However, Mississippi Power also experienced leaks in the syngas coolers on gasifier “B” which required an outage to address the leaks and to make modifications to the syngas coolers on both gasifiers. Mississippi Power has completed this outage, is evaluating any potential warranty claims, and is in the process of resuming production of electricity using syngas from the gasifiers. Mississippi Power now expects the remainder of the Kemper IGCC, including both gasifiers, will be placed in service by the end of June 2017. The schedule reflects the expected time needed to establish sustained operation of both gasifiers to produce electricity from syngas.

In addition, after gaining experience through startup and operational testing over nearly 200 days of coal operation, Mississippi Power has completed its evaluation of certain of the potential post-in-service improvement projects related to plant performance, safety, and/or operations. Specifically, achievement of long-term sustained operations is expected to require the redesign and eventual replacement of the syngas cooler superheaters sooner than originally expected, primarily as a result of the leaks experienced (estimated to be an 18 to 24

month process). Long-term operations are also expected to require relocation of the ash loading process and other minor enhancements. These additional capital projects are expected to be subject to the \$2.88 billion cost cap established by the Mississippi PSC as they are undertaken over the next several years and may further negatively impact certain economic aspects of the Kemper IGCC. Mississippi Power's evaluation of additional post-in-service improvement projects is expected to continue.

The April PSC Report contains further increases in the cost estimate subject to the cost cap for the Kemper IGCC of approximately \$22 million reflecting the cost of extending the projected schedule through June 30, 2017 and lower-than-expected start-up and fuel costs, and approximately \$164 million related to the expected post-in-service operational improvement projects described above (and exclusive of any potential warranty claim recoveries), for a total increase of \$186 million.

Further cost increases and/or extensions of the expected in-service date may result from factors including, but not limited to, difficulties integrating the systems required for sustained operations, sustaining nitrogen supply, continued issues with ash removal systems or syngas coolers, major equipment failure, unforeseen engineering or design problems including any repairs and/or modifications to systems, and/or operational performance (including additional costs to satisfy any operational parameters ultimately adopted by the Mississippi PSC). Furthermore, additional improvement projects to enhance plant performance, safety, and/or operations (in addition to those described above) ultimately may be completed after the remainder of the Kemper IGCC is placed in service. These additional projects have yet to be fully evaluated, have not been included in the current cost estimate, and may be subject to the \$2.88 billion cost cap. Any further changes in the estimated costs of the Kemper IGCC subject to the \$2.88 billion cost cap, net of the Initial DOE Grants and

excluding the Cost Cap Exceptions, will be reflected in Southern Company's and Mississippi Power's statements of income and these changes could be material.

Any extension of the in-service date beyond June 30, 2017 is currently estimated to result in additional base costs of approximately \$25 million to \$35 million per month, which includes maintaining necessary levels of start-up labor, materials, and fuel, as well as operational resources required to execute start-up activities. However, additional costs may be required for remediation of any further equipment and/or design issues identified. Any extension of the in-service date would also increase costs for the Cost Cap Exceptions, which are not subject to the \$2.88 billion cost cap established by the Mississippi PSC. These costs include AFUDC, which is currently estimated to total approximately \$16 million per month, as well as carrying costs and operating expenses on Kemper IGCC assets placed in service and consulting and legal fees of approximately \$3 million per month.

The ultimate outcome of these matters cannot be determined at this time.

Kemper IGCC Rate Recovery

The In-Service Asset Rate Order provided for retail rate recovery of approximately \$126 million annually, including amortization of certain regulatory assets over periods ranging from two to ten years, with the two-year amortization expiring in July 2017.

Mississippi Power and the Mississippi Public Utilities Staff have been discussing the status of the Kemper IGCC project and the nature and timing of a rate filing to address recovery of the approximately \$3.4 billion in Kemper IGCC costs not currently in rates. In light of these discussions and to comply with the In-Service Asset Rate Order, on June 5, 2017, Mississippi Power made a rate filing with the Mississippi PSC solely to address the expiring two-year amortization by accelerating the amortization schedule, beginning August 2017, of the remaining regulatory asset balances, which were previously reviewed and

determined prudent, to be recovered through June 2018. If approved by the Mississippi PSC, the proposal would maintain the current annual revenue requirement of approximately \$126 million with no change in customer rates. Mississippi Power expects the Mississippi PSC to make a decision on this matter during the third quarter of 2017.

As previously disclosed in the Form 10-K and the Form 10-Q, Mississippi Power continues to develop both a traditional rate case and a rate mitigation plan to address the recovery of the remainder of the Kemper IGCC project costs not currently in rates; however, the timing of that filing is uncertain. Mississippi Power also continues to expect that timely resolution of such filing will likely require a settlement between Mississippi Power and the Mississippi Public Utilities Staff (and other parties) and may include other operational or cost recovery alternatives. Although the ability to achieve a negotiated settlement is uncertain, Mississippi Power intends to pursue any available settlement alternatives and will also continue to consider other possible operational and cost recovery options. The ultimate outcome of these matters cannot be determined at this time and could result in further material charges.

Exhibit

Exhibit 99.01 Kemper County Integrated Coal Gasification Combined Cycle Project Monthly Status Report through April 2017 to the Mississippi Public Service Commission submitted by Mississippi Power Company pursuant to Docket No. 2009-UA-14.

Cautionary Note Regarding Forward-Looking Statements

Certain information contained in this Current Report on Form 8-K and the April PSC Report is forward-looking information based on current expectations and plans that involve risks and uncertainties. Forward-looking information includes, among other things, statements concerning the projected cost and schedule for the completion of construction and start-up of the Kemper IGCC, expected post-in-service costs, Mississippi Power's June 5, 2017 rate filing and future regulatory filings. Southern Company and Mississippi Power caution that there are certain factors that could cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put

undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are outside the control of Southern Company and Mississippi Power; accordingly, there can be no assurance that such suggested results will be realized. The following factors, in addition to those discussed in the Form 10-K and subsequent securities filings, could cause actual results to differ materially from management expectations as suggested by such forward-looking information: changes in tax and other laws and regulations to which Mississippi Power is subject, including potential tax reform legislation, as well as changes in application of existing laws and regulations; the ability to control costs and avoid cost overruns during the development, construction and operation of facilities, which include the development and construction of generating facilities with designs that have not been finalized or previously constructed, including changes in labor costs and productivity, adverse weather conditions, shortages and inconsistent quality of equipment, materials, and labor, sustaining nitrogen supply, continued issues with ash removal systems or syngas coolers, contractor or supplier delay, non-performance under operating or other agreements, operational readiness, including specialized operator training and required site safety programs, unforeseen engineering or design problems, start-up activities (including major equipment failure and system integration), and/or operational performance (including additional costs to satisfy any operational parameters ultimately adopted by the Mississippi PSC); the ability to construct facilities in accordance with the requirements of permits and licenses, to satisfy any environmental performance standards and the requirements of incentives, and to integrate facilities into the Southern Company system upon completion of construction; advances in technology; actions related to cost recovery for the Kemper IGCC, including the ultimate impact of the 2015 decision of the Mississippi Supreme Court and related legal or regulatory proceedings, Mississippi PSC review of the prudence of Kemper IGCC costs and approval of further permanent rate recovery plans, actions relating to proposed securitization, satisfaction of requirements to utilize grants, and the ultimate impact of the termination of the proposed sale of an interest in the Kemper IGCC to South Mississippi Electric Power Association (now known as Cooperative Energy); and the ability of counterparties of Mississippi Power to make payments as and when due and to perform as required. Southern Company and Mississippi Power expressly disclaim any obligation to update any forward-looking information.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, each of the registrants has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: June 5, 2017

THE SOUTHERN COMPANY

By /s/Melissa K. Caen
Melissa K. Caen
Assistant Secretary

MISSISSIPPI POWER COMPANY

By /s/Melissa K. Caen
Melissa K. Caen
Assistant Secretary

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Please admit that the original proposal by Southern Company to the Department of Energy for a demonstration grant was for the purpose of demonstrating "Carbon Capture and Sequestration" at an electric generating facility.

RESPONSE: See Below (X) and/or See Attached (X)
RESPONSE DATE: January 23, 2017

This response is intended to address the following data requests from Mr. Blanton: 2-1, 2-2, 2-3, 2-9, 2-14, 2-15, 2-20, 2-23, 2-25, and 2-26. In addition to answering Mr. Blanton's requests, the following write-up will also identify, in brackets, which of Mr. Blanton's data requests have been addressed by the immediately preceding information:

Carbon capture and enhanced oil recovery were both elements of the Kemper Project presented in its certificate filing. [2-3]. Since the Kemper Project's inception, MPC has carefully considered and communicated the risks and opportunities related to its Kemper Project technology. These include risks and opportunities related to the Kemper Project's carbon capture capabilities, both of which are addressed below.

As a result of the Kemper Project's opportunities, the Project has been supported by a number of stakeholders—including the Department of Energy ("DOE")—for many years. In fact, the DOE submitted three separate filings in the Kemper Project's certificate case specifically supporting the Project and indicating its important role in developing clean coal technology for the nation. In addition to publicly supporting the Kemper Project before the Mississippi Public Service Commission ("Commission"), the DOE also awarded Round 2 Clean Coal Power Initiative funds ("CCPI2") to the Project in 2010. Through a cooperative agreement with Southern Company Services, Inc., the DOE agreed to fund \$270 million of the Kemper Project through CCPI2 grants. [2-2]. CCPI2 funds were intended to "develop and demonstrate a new generation of power plant technologies" by achieving substantial reductions in sulfur, nitrogen and mercury compound emissions—some of the CCPI2 projects were also expected to lessen the release of carbon dioxide.¹ [2-1]. The cooperative agreement which governs the CCPI2 funds requires that MPC design, construct, and operate the Project "with the intent to capture and geologically sequester [CO₂] by enhanced oil recovery or otherwise." MPC has executed the Project in accordance with its CCPI2 agreement as amended.

As of December 31, 2016, MPC had received grant funds of \$245 million, used for the construction of the Kemper Project, which are reflected in the Company's financial statements as a reduction to the Kemper Project capital costs. An additional \$25 million is expected to be received for its initial operation. Further, in April 2016, MPC received approximately \$137 million in additional grants from the DOE for the Kemper Project, which is also expected to be used to reduce future rate impacts for customers. [2-2].

The risks related to MPC's plan to capture and sell a portion of the Kemper Project's CO₂ emissions were considered by the Commission and, ultimately, approved in Project's certificate of public convenience and necessity, [2-3] as well as in the separate certificate of public convenience and necessity issued in Docket No. 2011-UA-0290 (authorizing MPC's

¹ "CCPI Round 2 Selections," Office of Fossil Energy, *available at* <https://energy.gov/fe/ccpi-round-2-selections> (last accessed January 17, 2017).

EXHIBIT "F"

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construction and ownership of a CO₂ pipeline). Much of the Commission's discussion is contained in paragraphs 108 through 110 of the Final Order on Remand, wherein the Commission discusses the Company's and intervenor's testimony related to various carbon capture processes, technological risks, and the Company's post-capture plans to dispose of CO₂. Section F of the Final Order on Remand, titled "Potential Risks of Kemper Project," also recognized that "the revenue stream from by-product sales contained in the Company's economics [was] uncertain." Neither the Commission nor the DOE documents related to the Kemper Project, however, support Mr. Blanton's belief that "Carbon Capture and Sequestration" was a central purpose of the Kemper Project.² [2-1]. The Final Order on Remand references "sequestration" only once, in relation to a potential federal concern.

Throughout the Project's life, MPC has continued to explore options to mitigate the Project's risks, including the risk of changing environmental regulations and evolving relationships with counterparties. While EPA began the rulemaking process leading towards the adoption of Class Six UIC well regulation in 2010, and while EPA adopted Class Six UIC well regulations in the 2012, [2-15] Mr. Blanton's beliefs that (i) MPC is unaware of potential regulatory changes, that (ii) MPC "has not prepared a contingency plan," and that (iii) MPC has "no other facility, plan, or idea" related to CO₂ capture are simply untrue.

As discussed in response to data request GCS 1-53, filed in this docket, MPC is currently aware of the potential regulation of certain CO₂ injection wells under the Class VI UIC program. Further, as noted in Attachment A to GCS 1-53, the EPA has indicated that Subpart RR's requirements are consistent with EOR operations and will not force transition of UIC Class II wells to Class VI wells. Required compliance with Subpart RR would create a monitoring and reporting requirement, rather than any required transition of wells, and Subpart RR reporting would be a requirement only in the event that MPC hoped to take credit under the Clean Power Plan, which is currently under appeal and has not yet been fully implemented. In any case, and regardless of the outcome on appeal, MPC's offtaker's wells will not be subject to RR at least until 2022. [2-14].

MPC has also pursued independent plans to dispose of CO₂ captured by the Kemper Project. MPC's efforts to date include considerable CO₂ storage pre-feasibility work, conducted in partnership with the Southern States Energy Board ("SSEB") and other research and development partners. Recent efforts culminated in the SSEB's submittal of a Phase II Storage Complex Feasibility Study, as defined in the U.S. Department of Energy/National Energy Technology Laboratory ("DOE/NETL") Funding Opportunity Announcement ("FOA"), DE-FOA-0001450, accepted by the DOE/NETL on November 16, 2016. A copy of the acceptance letter is provided as Attachment A to this response. [2-23] [2-25].

The SSEB's proposal will establish a commercial-scale (300 million metric tons of capacity) CO₂ storage complex adjacent to the Kemper County IGCC Plant. As part of this effort, MPC intends to establish a CO₂ Storage Complex three years earlier than the proposed year 2025 target date discussed by DOE/NETL for a fully characterized, permitted, and constructed CO₂ storage complex able to accept commercial scale CO₂ injection. [2-23] [2-25]

² MPC's understanding of CO₂ and the geologic formations required to undertake CO₂ sequestration is generally consistent with the Mississippi Geologic Sequestration of Carbon Dioxide Act, and the definitions provided therein. Miss. Code Ann. §§ 53-11-1, et seq. [2-9].

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[2-26].

MPC has kept the Commission apprised of these efforts, and has advised the PSC that the EPA has adopted new rules which could impact the Kemper Project. This communication has generally, if not exclusively, occurred on an informal basis. [2-20].

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Please admit that the Class Six UIC rules require an injection reservoir-facility site characterization study which is set forth within the rules for Class Six UIC wells.

RESPONSE: **See Below (X)** **and/or** **See Attached ()**
RESPONSE DATE: **January 23, 2017**

The Class Six UIC rules speak for themselves. Nevertheless, MPC does not have any permitted Class Six UIC wells at the Kemper Energy Facility, and therefore, is not required to conduct an injection reservoir-facility site characterization study. As originally stated in the project Environmental Impact Statement, the Project's captured carbon dioxide is intended to be sold for beneficial use and geologic storage in existing enhanced oil recovery (EOR) operations.

EXHIBIT "G"