Form PTO-1595 (Rev. 07/05) U.S. DEPARTMENT OF COMMERCE OMB No. 0651-0027 (exp. 6/30/2008) United States Patent and Trademark Office RECORDATION FORM COVER SHEET PSL S-119,451 **PATENTS ONLY** To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below. 1. Name of conveying party(ies) 2. Name and address of receiving party(ies) Name: United States Department of Energy Southern Services Company, Inc. Internal Address: Additional name(s) of conveying party(ies) attached? Yes 🗹 No 3. Nature of conveyance/Execution Date(s): Street Address: 1000 Independence Ave., S.W Execution Date(s) September 1, 2010 Assignment Merger City: Washington Security Agreement Change of Name Joint Research Agreement State: D.C. Government Interest Assignment Zip:20585 Country: USA Executive Order 9424, Confirmatory License Other Additional name(s) & address(es) attached? ☐ Yes ☑ No 4. Application or patent number(s); This document is being filed together with a new application. A. Patent Application No.(s) B. Patent No.(s) Serial No. 12/833,023 Additional numbers attached? Yes V No 5. Name and address to whom correspondence 6. Total number of applications and patents concerning document should be malled: involved: 1 Name: Mark P. Dvorscak 7. Total fee (37 CFR 1.21(h) & 3.41) \$___ Internal Address: U. S. Dept. of Energy, IPLD Authorized to be charged by credit card Authorized to be charged to deposit account **Enclosed** Street Address: 9800 S. Cass Ave ✓ None required (government interest not affecting title) 8. Payment Information City: Argonne a. Credit Card Last 4 Numbers State: IL _____Zip:60439 Expiration Date Phone Number: 630-252-2393 b. Deposit Account Number Fax Number: 630-252-2779 Authorized User Name _ Email Address: 9. Signature: Signature Total number of pages including cover Michael J. Dobbs #58.093 sheet, attachments, and documents: Name of Person Signing

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PATENT REEL: 025582 FRAME: 0080

CONFIRMATORY LICENSE

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Title of Invention: CARBON DIOXIDE ADSORBER AND REGENERATION

ASSEMBLIES USEFUL FOR POWER PLANT FLUE GAS

Inventor(s):

Guohai Liu, et al.

Patent Application Serial No: 12/833,023

Filing Date: 07/09/2010

Patent Number:

Issue Date:

Name of Contractor (i.e. Contractor, Subcontractor, Grant, or Cooperative Agreement, as applicable): Southern Company Services, Inc.

DOE Contract No. (i.e. Contract, Subcontract, Grant, or Cooperative Agreement, as applicable): **DE-NT0000749**

DOE Case No.: S-119,451

Contractor Docket No.:

The Contractor has reported the above-identified invention as a Subject Invention to DOE and has elected to retain title thereto.

Accordingly, this document is confirmatory of the nonexclusive, nontransferable, irrevocable, paid-up, worldwide license in this subject invention, patent application and any resulting patent, including any continuation, divisional, reissue, or supplemental application thereof, to practice or to have practiced for or on behalf of the United States throughout the world; and of all other rights acquired by the Government by the patent rights clause in the above-identified contract.

It is understood and agreed that this license does not preclude the Government from asserting rights under the provisions of said contract or of any other agreement between the Government and the Contractor, or from asserting any other rights of the Government with respect to the above-identified subject invention.

The Government is hereby granted an irrevocable power to inspect and make copies of the aboveidentified patent application.

Signed this da	y of September, 2010
Southern Services	Company Inc.
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PATENT REEL: 025582 FRAME: 0081

RECORDED: 12/13/2010