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OMB No. 0651-0027 (exp. 6/30/2008)

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<b>PSL</b>	<b>RECORDATION FORM COVER SHEET PATENTS ONLY</b>	<b>S-119,961</b>
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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)**

SOUTHERN COMPANY SERVICES, INC

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

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Execution Date(s) 06/15/2012

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**2. Name and address of receiving party(ies)**

Name: United States Department of Energy

Internal Address: \_\_\_\_\_

Street Address: 1000 Independence Ave., S.W

City: Washington

State: D.C.

Country: USA Zip: 20585

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)

12/969,997

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

**5. Name and address to whom correspondence concerning document should be mailed:**

Name: Mark P. Dvorscak

Internal Address: U. S. Dept. of Energy, IPLD

Street Address: 9800 S. Cass Ave

City: Argonne

State: IL Zip: 60439

Phone Number: 630-252-2393

Fax Number: 630-252-2779

Email Address: \_\_\_\_\_

**6. Total number of applications and patents involved: 1****7. Total fee (37 CFR 1.21(h) & 3.41) \$ \_\_\_\_\_**

- ☐ Authorized to be charged by credit card
- ☐ Authorized to be charged to deposit account
- ☐ Enclosed
- ☒ None required (government interest not affecting title)

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**9. Signature:**



Signature

12-11-2012

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Mark C. Lang #55,356

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Total number of pages including cover sheet, attachments, and documents:

**2**

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**PATENT**

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**Department of Energy**  
**Office of Science • Chicago Office • Intellectual Property Law Division**  
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### **CONFIRMATORY LICENSE**

**Title of Invention:** An Apparatus, Components and Operating Methods for Circulating Fluidized Bed Transport Gasifiers and Reactors  
**Inventor(s):** Guohai Liu, Wan Wang Peng, Pannalal Vimalchand  
**Patent Application Serial No:** 12/969,997 **Filing Date** 12/16/2010  
**Patent Number:** **Issue Date:**  
**Name of Contractor (i.e. Contractor, Subcontractor, Grant, or Cooperative Agreement, as applicable):**  
**Name of Contractor:** Southern Company Services, Inc.  
**DOE Contract No. (i.e. Contract, Subcontract, Grant, or Cooperative Agreement, as applicable):**  
**DE-FC21-90MC25140**  
**DOE Case No.: S-119,961** **Contractor Docket No.: 141905-1070**

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 above-identified patent application.

Roxann F. Laird

Signed on: June 15, 2012

**Contractor Name** Southern Company Services, Inc.  
**Official's Name** Roxann F. Laird  
**Official's Title** Director NCCC  
**Business Address** 31800 Highway 25 N. Wilsonville, AL 35186