

# PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT												
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT												
<b>CONVEYING PARTY DATA</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Name</th> <th style="width: 30%;">Execution Date</th> </tr> </thead> <tbody> <tr> <td>Guohai Liu</td> <td>08/02/2011</td> </tr> <tr> <td>Pannalal Vimalchand</td> <td>08/02/2011</td> </tr> <tr> <td>WanWang Peng</td> <td>08/02/2011</td> </tr> </tbody> </table>		Name	Execution Date	Guohai Liu	08/02/2011	Pannalal Vimalchand	08/02/2011	WanWang Peng	08/02/2011				
Name	Execution Date												
Guohai Liu	08/02/2011												
Pannalal Vimalchand	08/02/2011												
WanWang Peng	08/02/2011												
<b>RECEIVING PARTY DATA</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"><b>Name:</b></td> <td>Southern Company</td> </tr> <tr> <td><b>Street Address:</b></td> <td>600 North 18th Street</td> </tr> <tr> <td><b>Internal Address:</b></td> <td>Bin 7N-8374</td> </tr> <tr> <td><b>City:</b></td> <td>Birmingham</td> </tr> <tr> <td><b>State/Country:</b></td> <td>ALABAMA</td> </tr> <tr> <td><b>Postal Code:</b></td> <td>35203-2206</td> </tr> </table>		<b>Name:</b>	Southern Company	<b>Street Address:</b>	600 North 18th Street	<b>Internal Address:</b>	Bin 7N-8374	<b>City:</b>	Birmingham	<b>State/Country:</b>	ALABAMA	<b>Postal Code:</b>	35203-2206
<b>Name:</b>	Southern Company												
<b>Street Address:</b>	600 North 18th Street												
<b>Internal Address:</b>	Bin 7N-8374												
<b>City:</b>	Birmingham												
<b>State/Country:</b>	ALABAMA												
<b>Postal Code:</b>	35203-2206												
<b>PROPERTY NUMBERS Total: 2</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Property Type</th> <th style="width: 70%;">Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13198745</td> </tr> <tr> <td>PCT Number:</td> <td>US1146765</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13198745	PCT Number:	US1146765						
Property Type	Number												
Application Number:	13198745												
PCT Number:	US1146765												
<b>CORRESPONDENCE DATA</b>													
<p>Fax Number: (404)962-6849</p> <p>Phone: (404) 885-2773</p> <p>Email: ryan.schneider@troutmansanders.com</p> <p><i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: Ryan A. Schneider</p> <p>Address Line 1: 600 Peachtree Street, NE, Suite 5200</p> <p>Address Line 2: Bank of America Plaza</p> <p>Address Line 4: Atlanta, GEORGIA 30308-2216</p>													
<b>ATTORNEY DOCKET NUMBER:</b>	SCS9 & SCS9PCT												

501658743

**PATENT**  
**REEL: 026909 FRAME: 0579**

CH \$80.00 13198745

NAME OF SUBMITTER:

Candice P. Dysart

Total Attachments: 5

source=SCS9 ASSIGNMENT#page1.tif

source=SCS9 ASSIGNMENT#page2.tif

source=SCS9 ASSIGNMENT#page3.tif

source=SCS9 ASSIGNMENT#page4.tif

source=SCS9 ASSIGNMENT#page5.tif

## **ASSIGNMENT**

WHEREAS, We, Guohai Liu, Pannalal Vimalchand, and WanWang Peng (collectively referred to as "ASSIGNOR"), have invented certain improvements in Ash And Solids Cooling In High Temperature And High Pressure Environment, for which a U.S. Provisional patent application Number 61/372,008 was filed on 9 August 2010, (the "Application"), and for which future US, Foreign, and International applications may be filed, and whereas

**SOUTHERN COMPANY  
600 NORTH 18TH STREET  
BIN 7N-8374  
BIRMINGHAM AL 35203-2206 US**

**NOW THEREFORE**, in consideration of the sum of One Dollar (\$1.00) and other good and valuable considerations paid by the said Assignee, the receipt and sufficiency of which are hereby acknowledged, Assignor has and by these presents does hereby sell, assign, transfer and convey unto said Assignee all of Assignor's rights, title, and interest in and to said Application, including in and to any conventional, division, continuation, continuation-in-part, substitution, reissue, renewal, reexam, continued prosecution application ("CPA"), or request for continued examination ("RCE") thereof, and in and to all inventions and improvements thereon (herein collectively referred to as "Related US Applications"), preparatory to obtaining Letters Patent of the United States therefor; and Assignor hereby requests the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States resulting from said Application and Related US Applications, to Assignee, for its interest and for the sole use and benefit of Assignee and its assigns and legal representatives.

**For the same consideration**, Assignor, by these presents does sell, assign, and transfer to Assignee all of Assignor's rights, title and interest in and to any foreign and international applications related to and/or seeking benefit of said Application and Related US Applications, and in and to all inventions and improvements thereon (herein collectively referred to as "Related Foreign Applications"), in and to any Letters Patent and similar protective rights granted on said Related Foreign Applications, and in and to the right to claim any applicable priority rights arising from or required for said Related Foreign Applications under the terms of any applicable conventions, treaties, statutes, or regulations, said Related Foreign Applications to be filed and issued in the name of Assignee or its designee, insofar as permitted by applicable law.

**For the same consideration**, Assignor agrees, without charge to Assignee, but at Assignee's expense, to sign all lawful papers, execute said Application, Related US Applications and Related Foreign Applications, make all assignments and rightful oaths, assist in prosecution of said Application, Related US Applications and Related Foreign Applications, assist in prosecution of legal proceedings, and generally do everything reasonably possible to aid Assignee its successors, assigns, and nominees, to obtain and enforce proper protection for all said inventions and improvements in all countries throughout the world.

AND, for the same consideration, Assignor also hereby sells, assigns and transfers unto Assignee all of Assignor's rights and claims to sue for damages and other remedies with respect to any and all past infringement of all said Application, Related US Applications, and Related Foreign Applications, including said inventions and improvements which may have occurred before the date of this Assignment.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 2 day of August, 2011.

Guohai Liu (SEAL)  
Guohai Liu

Witnessed by: [Signature]  
Signature

Date: 8-2-2011

WENJUN WANG  
Printed Name of Witness

Witnessed by: [Signature]  
Signature

Date: 8-2-2011

RICHARD HAINBUCKLE  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
(SEAL)  
Guohai Liu

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 2011, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

(SEAL)

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires:

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 2<sup>nd</sup> day of August, 2011.

Pannalal Vimalchand (SEAL)  
Pannalal Vimalchand

Witnessed by: [Signature]  
Signature

Date: 8-2-2011

WENJUN WANG  
Printed Name of Witness

Witnessed by: [Signature]  
Signature

Date: 8-2-2011

RICHARD HORNBUCKLE  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
Pannalal Vimalchand (SEAL)

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_\_ day of \_\_\_\_\_, 2011, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

\_\_\_\_\_  
NOTARY PUBLIC

(SEAL)

My Commission Expires:

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 2 day of August, 2011.

WanWang Peng (SEAL)  
WanWang Peng

Witnessed by: [Signature]  
Signature

Date: 8-2-2011

WENJUN WANG  
Printed Name of Witness

Witnessed by: [Signature]  
Signature

Date: 8-2-2011

RICHARD HORNBUCKLE  
Printed Name of Witness

SECTION BELOW IS FOR USE ONLY IF SIGNING IN PRESENCE OF A NOTARY

IN WITNESS WHEREOF, I have hereunto set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
WanWang Peng (SEAL)

State of \_\_\_\_\_

County of \_\_\_\_\_

On this \_\_\_\_ day of \_\_\_\_\_, 2011, before me, a notary public, came to me known and known to be the individual described in and who executed the foregoing assignment, and he duly acknowledged the same to be his free act and deed.

\_\_\_\_\_  
NOTARY PUBLIC

(SEAL)

My Commission Expires:

In Witness Whereof, Assignee hereby accepts from Assignor the sale, assignment, transfer and conveyance unto said Assignee of the full, exclusive and entire right, title, and interest in and to said Application, Related US Applications and Related Foreign Applications, by its duly authorized officer this 8<sup>th</sup> day of August, 2011.

SOUTHERN COMPANY

(Assignee)

By:

Name:

Title:

Claire H. Barnett

Claire H. Barnett

Authorized Signatory

Witnessed by:

[Signature]  
Signature

Date:

8-8-11

Renee A. Chiles  
Printed Name of Witness

Witnessed by:

Cynthia W. Kidd  
Signature

Date:

8-8-11

Cynthia W. Kidd  
Printed Name of Witness