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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT	NEW ASSIGNMENT			
NATURE OF CONVEYAN	ICE:	ASSIGNMENT				
CONVEYING PARTY D	٩TA					
		Name	Execution Date			
CHING-PANG LEE			10/09/2015			
JAE Y. UM			10/09/2015			
GERALD L. HILLIER	10/28/2014					
WAYNE J. MCDONALD	10/15/2015					
ZHENGXIANG PU	10/09/2015					
RECEIVING PARTY DA	 TA					
Name:		NS ENERGY, INC.				
Street Address:						
City:	ORLAN					
State/Country:		FLORIDA				
Postal Code:	32826					
PROPERTY NUMBERS	Total: 1					
Property Type	Number					
Application Number:		15508497				
CORRESPONDENCE D	ΔΤΔ					
		(402)040 0175				
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ASSIGNMENT

For good and valuable consideration, I (We),

Ching-Pang Lee, residing at 12 Camargo Pines Lane, Cincinnati, OH 45243, US, citizen of US Jae Y. Um, residing at 1601 Chandelle Lane, Winter Garden, FL 34787, US, citizen of US Gerald L. Hillier, residing at 1563 Wickham Pond Drive, Charlottesville, VA 22901, US, citizen of US

Wayne J. McDonald, residing at 9037 Country Barn Court, Charlotte, NC 28273, US, citizen of US

Zhengxiang Pu, residing at 2565 Dark Oak Court, Oviedo, FL 32766, US, citizen of CN

hereafter individually or collectively referred to as "Assignor(s)";

Hereby, (I) acknowledge having previously assigned, sold and transferred to **Siemens Energy, Inc.**, a corporation organized and existing under the laws of DELAWARE, having its principal place of business at 4400 Alafaya Trail, Orlando, FL, 32826-2399, hereinafter "Assignee", its successors, assigns and legal representatives, or to a predecessor of Assignee, pursuant to (A)(i) the laws of UNITED STATES OF AMERICA or (ii) a Patent & Secrecy Agreement or similar legal document such as, without limitation, an employee agreement executed at the time of entering into the employment of, or executed as a condition of continuing employment with, the Assignee or a predecessor of the Assignee, the entire right, (including any and all priority rights, and the right to sue and recover damages for past, present and future infringement) title and interest, in and for the United States and all foreign countries, in and to any and all inventions or improvements which are disclosed in an invention disclosure and/or in the below-identified documents currently filed with this Assignment, already filed or granted for Letters Patent (in which case, any provision of the subject Assignment that is in conflict with or is in addition to any provision in the prior agreement(s) or assignment(s) then this Assignment shall govern, take precedence, and be of legal effect), or

(B)(i) to the extent such laws of UNITED STATES OF AMERICA or such Patent & Secrecy Agreement or similar legal document failed or fails, in whole or part, to have assigned, sold or transferred the entire right (including priority rights), title and interest, in and for the United States and all foreign countries, in and to all inventions or improvements which are disclosed in the below-identified application(s) or pending application(s) or granted Letters Patent, or (ii) if no such agreement(s) exist assigning, selling or transferring any such right (including priority rights), title or interest; then for good and valuable consideration, Assignor(s) now and hereby, effective Nunc Pro Tunc on the filing date of the below identified patent application(s), pending patent application(s) or granted Letter Patent(s), assign, sell and transfer(s) to Assignee, its successors, assigns and legal representatives, the entire right, (including all priority rights), title and interest in and for the United States and all foreign countries, in and to any and all inventions and/or improvements which are disclosed in the following identified; patent application(s), pending patent application(s) or granted Letter Patent(s)

Patent Application Title: GAS TURBINE AIRFOIL INCLUDING INTEGRATED LEADING EDGE AND TIP COOLING FLUID PASSAGE AND CORE STRUCTURE USED FOR FORMING SUCH AN AIRFOIL Filing Date (MM/DD/YYYY): 09/18/2014 Filing Number: PCT/US2014/056188 Internal Case Number(s): 2014P07511WO

and in and to said application(s) or granted patents and all applications claiming priority to said application or granted patent, including, without limitation, and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of the inventions and/or improvements; and in and to all original and reissued patents which have been or shall be filed in the United States and all foreign countries on the inventions and/or improvements;

(II) Agree that said Assignee may apply for and receive Letters Patent for said inventions and/or improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said inventions and/or improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said inventions and/or improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions and/or improvements and for vesting title to said inventions and or improvements and all applications for patents and all patents on said inventions and/or improvements, in said Assignee, its successors, assigns and legal representatives; and

(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

In Loo

Witness Signature

Su-Ju Lee

Witness printed name

Ching-Pang Lee

Oct. 9, 2015

Date

Witness Signature	 Jae Y. Um	. <u></u>	
Witness printed name	Date		
Witness Signature	Gerald L. Hillier	<u></u>	
Witness printed name	Date		
	<u> </u>		
Witness Signature	Wayne J. McDonald	ander die der flege gegeneren is d	
Witness printed name	Date		
Witness Signature	Zhengxiang Pu		
Witness Signature	Zhengxiang Pu		
Witness Signature	Zhengxiang Pu Date		
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Witness printed name	Date Companies Represen	tative(s)	
Witness printed name	Date Companies Represen Siemens Energy, Inc. Signature		
Witness printed name	Date Companies Represen Siemens Energy, Inc. Signature		

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Wayne J. McDonald, residing at 9037 Country Barn Court, Charlotte, NC 28273, US, citizen of US

Zhengxiang Pu, residing at 2565 Dark Oak Court, Oviedo, FL 32766, US, citizen of CN

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PATENT REEL: 041565 FRAME: 0794

IDNR: 1930 / 15.07.2014

Patent Application Title: GAS TURBINE AIRFOIL INCLUDING INTEGRATED LEADING EDGE AND TIP COOLING FLUID PASSAGE AND CORE STRUCTURE USED FOR FORMING SUCH AN AIRFOIL Filing Date (MM/DD/YYYY): 09/18/2014 Filing Number: PCT/US2014/056188 Internal Case Number(s): 2014P07511WO

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(II) Agree that said Assignee may apply for and receive Letters Patent for said inventions and/or improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out In good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said inventions and/or improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said inventions and/or improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions and/or improvements and for vesting title to said inventions and or improvements and all applications for patents and all patents on said inventions and/or improvements, in said Assignee, its successors, assigns and legal representatives; and

(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Witness Signature

Ching-Pang Lee

Witness printed name

Date

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Witness Signature

DORND obe,

Witness printed name

Y. Um

<u>/3/9/15</u> Date

Witness Signature

Gerald L. Hillier

Wayne J. McDonald

Date

Witness printed name

Witness Signature

Witness printed name

Witness Signature

Zhengxiang Pu

Witness printed name

Date

Date

Companies Representative(s) Siemens Energy, Inc, / j Signature Name 0 Tille Ð Date 21

ASSIGNMENT

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Witness Signature

Ching-Pang Lee

Witness printed name

Date

J. All

Witness Signature

Jae Y Um

Witness printed name

Date

Witness Signature

Julie Rydlund

Witness printed name Quality managen

28/14 10 Date

Gerald L Hillier

Witness Signature

Wayne J McDonald

Witness printed name

Date

Witness Signature

Witness printed name

Zhengxiang Pu

Date

Companies Representative(s) Siemens Energy, Inc. Signature Name (362 TOLLO Title Assi 201025 18 Date

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Witness Signature

Ching-Pang Lee

Witness printed name

Date

Witness Signature		Jae Y. Um
Witness printed name		Date
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Witness Signature		Gerald L. Hillier
Witness printed name		Date
Uthess Signature		May M. Lech Wayne J. McDonald
Erick J. Deane Witness printed name		10/15/2015 Date
Witness Signature		Zhengxiang Pu
Witness printed name	an dan dan dari dari dari dari dari dari dari dari	Date
n an		
		Companies Representative(s) Siemens Energy, Inc Signature
		Name DAXIEL OF STACOT Title Assistant Secretary Date 10/30/15

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Ching-Pang Lee, residing at 12 Camargo Pines Lane, Cincinnati, OH 45243, US, citizen of US Jae Y. Um, residing at 1601 Chandelle Lane, Winter Garden, FL 34787, US, citizen of US Gerald L. Hillier, residing at 1563 Wickham Pond Drive, Charlottesville, VA 22901, US, citizen of US

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(B)(i) to the extent such laws of UNITED STATES OF AMERICA or such Patent & Secrecy Agreement or similar legal document failed or fails, in whole or part, to have assigned, sold or transferred the entire right (including priority rights), title and interest, in and for the United States and all foreign countries, in and to all inventions or improvements which are disclosed in the below-identified application(s) or pending application(s) or granted Letters Patent, or (ii) if no such agreement(s) exist assigning, selling or transferring any such right (including priority rights), title or interest; then for good and valuable consideration, Assignor(s) now and hereby, effective Nunc Pro Tunc on the filing date of the below identified patent application(s), pending patent application(s) or granted Letter Patent(s), assign, sell and transfer(s) to Assignee, its successors, assigns and legal representatives, the entire right, (including all priority rights), title and interest in and for the United States and all foreign countries, in and to any and all inventions and/or improvements which are disclosed in the following identified; patent application(s), pending patent application(s) or granted Letter Patent(s).

Patent Application Title: GAS TURBINE AIRFOIL INCLUDING INTEGRATED LEADING EDGE AND TIP COOLING FLUID PASSAGE AND CORE STRUCTURE USED FOR FORMING SUCH AN AIRFOIL Filing Date (MM/DD/YYYY): 09/18/2014 Filing Number: PCT/US2014/056188

Internal Case Number(s): 2014P07511WO

and in and to said application(s) or granted patents and all applications claiming priority to said application or granted patent, including, without limitation, and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of the inventions and/or improvements; and in and to all original and reissued patents which have been or shall be filed in the United States and all foreign countries on the inventions and/or improvements;

(II) Agree that said Assignee may apply for and receive Letters Patent for said inventions and/or improvements in its own name; and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing, substitute, renewal, reissue, and all other patent applications on any and all said inventions and/or improvements; execute all rightful oaths, assignments, powers of attorney and other papers; communicate to said Assignee, its successors, assigns, and legal representatives, all facts known to the undersigned relating to said inventions and/or improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or legal representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said inventions and/or improvements and for vesting title to said inventions and or improvements and all applications for patents and all patents on said inventions and/or improvements, in said Assignee, its successors, assigns and legal representatives; and

(III) Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Witness Signature

Ching-Pang Lee

Witness printed name

Date

Witness Signature	Jae Y. Um
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