# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3441341

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

## **CONVEYING PARTY DATA**

Name	Execution Date
BWXT NUCLEAR ENERGY, INC.	06/30/2015

## **RECEIVING PARTY DATA**

Name:	BANK OF AMERICA, N.A., AS ADMINISTRATIVE AGENT
Street Address:	555 CALIFORNIA STREET, 4TH FLOOR
Internal Address:	MAIL CODE: CA5-705-04-09
City:	SAN FRANCISCO
State/Country:	CALIFORNIA
Postal Code:	94104

## **PROPERTY NUMBERS Total: 34**

Property Type	Number
Patent Number:	8681928
Patent Number:	8638898
Patent Number:	8526563
Patent Number:	8867690
Patent Number:	8746089
Patent Number:	D695677
Patent Number:	D691084
Patent Number:	D691085
Application Number:	13293899
Application Number:	14207140
Application Number:	12891317
Application Number:	12911572
Application Number:	12909252
Application Number:	13213389
Application Number:	13316826
Application Number:	13161078
Application Number:	13085527
Application Number:	13109120
Application Number:	13366909

PATENT REEL: 036108 FRAME: 0803

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Property Type	Number
Application Number:	13192735
Application Number:	13282217
Application Number:	13351940
Application Number:	13405405
Application Number:	13364769
Application Number:	13447655
Application Number:	13325603
Application Number:	13963630
Application Number:	14665341
Application Number:	14665291
Application Number:	14673087
Application Number:	12899739
Application Number:	61858106
Application Number:	14339826
Application Number:	62027511

#### **CORRESPONDENCE DATA**

**Fax Number:** (704)373-8822

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

**Phone:** (704) 373-4640

**Email:** bsmith@mcguirewoods.com

Correspondent Name: BETTY G. SMITH, SENIOR PARALEGAL

Address Line 1: MCGUIREWOODS LLP, 201 N. TRYON STREET

Address Line 2: SUITE 3000

Address Line 4: CHARLOTTE, NORTH CAROLINA 28202

ATTORNEY DOCKET NUMBER:	2068279-2003
NAME OF SUBMITTER:	BETTY G. SMITH
SIGNATURE:	/Betty G. Smith/
DATE SIGNED:	07/16/2015

# **Total Attachments: 7**

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# NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS

DATED: June 30, 2015

United States Patent and Trademark Office

Ladies and Gentlemen:

Please be advised that pursuant to the Pledge and Security Agreement dated as of June 30, 2015 (as amended, restated, supplemented or otherwise modified from time to time, the "Agreement") among the Grantor (as defined below), the other grantors party thereto and the Administrative Agent for the Secured Parties referenced therein, the undersigned Grantor has granted a continuing security interest in and continuing lien upon the patents and patent applications on Schedule 1 to the Administrative Agent for the ratable benefit of the Secured Parties.

The Grantors and the Administrative Agent, on behalf of the Secured Parties, hereby acknowledge and agree that the security interest in such patents and patent applications (a) may only be terminated in accordance with the terms of the Agreement and (b) is not to be construed as an assignment of any patent or patent application.

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Very truly yours,

GRANTOR:

BWXT Nuclear Energy, Inc. 11525 N. Community House Road, Suite 600 Charlotte, NC 28277

Jurisdiction of Organization: Delaware

BWXT NUCLEAR ENERGY, INC.

Name: David S. Black

Title: Treasurer

BWXT Nuclear Energy, Inc. Notice of Grant of Security Interest in Patents Signature Page

Acknowledged and accepted:

ADMINISTRATIVE AGENT:

Bank of America, N.A. Agency Management 555 California Street, 4<sup>th</sup> Floor Mail Code: CA5-705-04-09 San Francisco, CA 94104 BANK OF AMERICA, N.A.

Name: Bridgett J. Manduk Mowry

Title: Vice President

BWXT Nuclear Energy, LLC Notice of Grant of Security Interest in Patents Signature Page

# SCHEDULE 1

# <u>PATENTS</u>

THE C	EDIANC:	APP NO	ISSUE	PATENT	OWNER
	DATE		DATE	NO	
PRESSURIZER BAFFLE	16-May-2011	13/108734	25-Mar-	8681928	BWXT Canada Ltd.
PLATE AND PRESSURIZED			2014		
WATER REACTOR (PWR)					BWXT Nuclear
EMPLOYING SAME					Energy, Inc.
PRESSURIZED WATER	10-Nov-2011	13/293899			BWXT Canada Ltd.
REACTOR WITH UPPER					
PLENUM INCLUDING					BWXT Nuclear
CROSS-FLOW BLOCKING					Energy, Inc.
WEIR					
NON DESTRUCTIVE	12-Mar-2014	14/207140	-		BWXT Canada Ltd.
MAPPING OF SURFACE					
CONDITION TO					BWXT Nuclear
EVALUATE WEAR					Energy, Inc.
CONDITIONS				-	
COMPACT NUCLEAR	27-Sep-2010	12/891317			BWXT Canada Ltd.
REACTOR WITH					
INTEGRAL STEAM					BWXT Nuclear
GENERATOR					Energy, Inc.
·					BWXT Foreign
<u></u>				-	Holdings, LLC
EMERGENCY CORE	23-Mar-2011	13/069657	28-Jan-	8638898	BWXT Nuclear
COOLING SYSTEMS FOR			2014	·	Energy, Inc.
PRESSURIZED WATER					
REACTOR					
COMPACT NUCLEAR	25-Oct-2010	12/911572			BWXT Nuclear
REACTOR					Energy, Inc.
TERMINAL ELEMENTS	24-Aug-2010	12/862124	03-Sep-	8526563	BWXT Nuclear
FOR COUPLING			2013		Energy, Inc.
CONNECTING RODS AND		•			
CONTROL RODS IN					
CONTROL ROD					
ASSEMBLIES FOR A					
NUCLEAR REACTOR					
SUPPORT STRUCTURE	21-Oct-2010	12/909252			BWXT Nuclear
FOR A CONTROL ROD					Energy, Inc.
ASSEMBLY OF A					
NUCLEAR REACTOR					

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	FILING	APP NO	ISSUE		OWNER
	DALE		DATE	NO T	The first of the first form of the first of
NUCLEAR REACTOR	19-Aug-2011	13/213389			BWXT Nuclear
REFUELING METHODS					Energy, Inc.
AND APPARATUSES					
CONTROL ROD WITH	12-Dec-2011	13/316826			BWXT Nuclear
OUTER HAFNIUM SKIN		·			Energy, Inc.
INTEGRATED	15-Jun-2011	13/161078			BWXT Nuclear
EMERGENCY CORE					Energy, Inc.
COOLING CONDENSER					
FOR PRESSURIZED					
WATER REACTOR					
COMPACT INTEGRAL	13-Apr-2011	13/085527			BWXT Nuclear
PRESSURIZED WATER					Energy, Inc.
NUCLAR REACTOR					
PRESSURIZED WATER	17-May-2011	13/109120	·		BWXT Nuclear
REACTOR WITH UPPER	·				Energy, Inc.
VESSEL SECTION			·		
PROVIDING BOTH					
PRESSURE AND FLOW					
CONTROL					
PLANT LAYOUT	06-Feb-2012	13/366909			BWXT Nuclear
					Energy, Inc.
PRESSURIZED WATER	28-Jul-2011	13/192735			BWXT Nuclear
REACTOR WITH					Energy, Inc.
REACTOR COOLANT					
PUMPS OPERATING IN					
THE DOWNCOMER					
ANNULUS					
PRESSURIZED WATER	25-Aug-2011	13/217941	21-Oct-	8867690	BWXT Nuclear
REACTOR WITH			2014		Energy, Inc.
COMPACT PASSIVE				İ	
SAFETY SYSTEMS					
PRESSURIZED WATER	26-Oct-2011	13/282217			BWXT Nuclear
REACTOR WITH UPPER					Energy, Inc.
VESSEL SECTION					
PROVIDING BOTH					
PRESSURE AND FLOW					
CONTROL					
INTEGRAL PRESSURIZED	17-Jan-2012	13/351940			BWXT Nuclear
WATER REACTOR WITH					Energy, Inc.
EXTERNAL STEAM DRUM					
CONTROL ROD DRIVE	27-Feb-2012	13/405405			BWXT Nuclear
MECHANISM (CRDM)					Energy, Inc.
MOUNTING SYSTEM FOR					
I MOONTHAD BEBLEWE AND					

ANNERC TO THE PROPERTY OF THE	FILING	APP NO	ISSUE	PATENT	OWNER
	DATE		DATE	NO	And the second s
REACTORS				The state of the s	· ·
SPACER GRID	02-Feb-2012	13/364769			BWXT Nuclear
BI ACEK GIGIS	02-1 60-2012	15/504/07			Energy, Inc.
LOWER END FITTING	16-Apr-2012	13/447655			BWXT Nuclear
LOCKNUT FOR NUCLEAR	1				Energy, Inc.
FUEL ASSEMBLY					
EMERGENCY CORE	14-Dec-2011	13/325603			BWXT Nuclear
COOLING SYSTEM (ECCS)					Energy, Inc.
FOR NUCLEAR REACTOR					
EMPLOYING CLOSED					
HEAT TRANSFER					
PATHWAYS	14.1 2010	12/697261	10 T	0746000	DUZZALI
APPARATUS FOR	14-Jan-2010	12/687261	10-Jun-	8746089	BWXT Nuclear
AUTOMATED POSITIONING OF EDDY			2014		Energy, Inc.
CURRENT TEST PROBE	·				
APPARATUS FOR	09-Aug-2013	13/963630		-	BWXT Nuclear
AUTOMATED	05-Aug-2013	13/703030			Energy, Inc.
POSITIONING OF EDDY	·				Energy, me.
CURRENT TEST PROBE					
COMPACT NUCLEAR	23-Mar-2015	14/665,341			BWXT Nuclear
REACTOR					Energy, Inc.
PRESSURIZED WATER	23-Mar-2015	14/665,291			BWXT Nuclear
REACTOR WITH UPPER				·	Energy, Inc.
VESSEL SECTION				·	
PROVIDING BOTH					
PRESSURE AND FLOW					·
CONTROL	07 May 2011	29/386966	17 Dec	D(05/77	BWXT Nuclear
REACTOR VESSEL	07-Mar-2011	29/380900	17-Dec- 2013	D695677	Energy, Inc.
REACTOR VESSEL	15-Apr-2011	29/389704	08-Oct-	D691084	BWXT Nuclear
REACTOR VESSEE	13-Apr-2011	29/309/04	2013	10071004	Energy, Inc.
PRESSURIZED WATER	30-Mar-2015	14/673,087	2015		BWXT Nuclear
REACTOR WITH UPPER	30 1714 2013	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			Energy, Inc.
VESSEL SECTION		. •		<u> </u>	
PROVIDING BOTH					
PRESSURE AND FLOW				,	
CONTROL					
REACTOR VESSEL	21-Sep-2011	29/402102	08-Oct-	D691085	BWXT Nuclear
			2013		Energy, Inc.
CONTROL ROD/CONTROL	07-Oct-2010	12/899739			BWXT Nuclear
ROD DRIVE MECHANISM					Energy, Inc.
COUPLINGS	<u> </u>				

THIE	FILING	APP NO	ISSUE DATE	PATENT NO	OWNER
	DXID				BWXT Nuclear Operations Group, Inc.
MULTI-ANGLE SLUDGE LANCE	24-Jul-2013	61/858106			BWXT Nuclear Energy, Inc . BWXT Intech, Inc.
MULTI-ANGLE SLUDGE LANCE	24-Jul-2014	14/339826			BWXT Intech, Inc.  BWXT Nuclear Energy, Inc.
MULTI-ANGLE SLUDGE LANCE	22-Jul-2014	62/027511			BWXT Intech, Inc.  BWXT Nuclear Energy, Inc.

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