504842829 03/29/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4889566

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	SECURITY AGREEMENT	

CONVEYING PARTY DATA

Name	Execution Date
AVANTECH, INC.	03/05/2018

RECEIVING PARTY DATA

Name:	SYNOVUS BANK
Street Address:	1221 MAIN STREET
Internal Address:	COMMERCIAL LENDING
City:	COLUMBIA
State/Country:	SOUTH CAROLINA
Postal Code:	29201

PROPERTY NUMBERS Total: 14

Property Type	Number	
Patent Number:	7645387	
Patent Number:	7708890	
Patent Number:	8114004	
Patent Number:	8753518	
Patent Number:	9218897	
Patent Number:	9263159	
Patent Number:	9783418	
Patent Number:	RE40943	
Application Number:	13468034	
Application Number:	13621897	
Application Number:	14153291	
Application Number:	14153277	
Application Number:	14274717	
Application Number:	14940960	

CORRESPONDENCE DATA

Fax Number:

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: 803-929-2245

PATENT REEL: 045762 FRAME: 0375

504842829

Email: billlamotte@synovus.com

Correspondent Name: SYNOVUS BANK Address Line 1: 1221 MAIN STREET

Address Line 2: ATTN: F. WILLIAM LAMOTTE, III

Address Line 4: COLUMBIA, SOUTH CAROLINA 29201

NAME OF SUBMITTER: F. WILLIAM LAMOTTE, III

SIGNATURE: /F. William LaMotte, III/

DATE SIGNED: 03/29/2018

Total Attachments: 12

source=Patent Cover Sheet#page1.tif

source=Patent Cover Sheet#page2.tif

source=IP Security Agreement (executed)#page1.tif

source=IP Security Agreement (executed)#page2.tif

source=IP Security Agreement (executed)#page3.tif

source=IP Security Agreement (executed)#page4.tif

source=IP Security Agreement (executed)#page5.tif

source=IP Security Agreement (executed)#page6.tif

source=IP Security Agreement (executed)#page7.tif

source=IP Security Agreement (executed)#page8.tif

source=IP Security Agreement (executed)#page9.tif

source=IP Security Agreement (executed)#page10.tif

RECORDATION FO	RM COVER SHEET		
PATENT	S ONLY		
To the Director of the U.S. Patent and Trademark Office: Pleas	e 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: Synovus Bank		
Avantech, Inc.	Internal Address: Commercial Lending		
Additional name(s) of conveying party(ies) attached? Yes No 3. Nature of conveyance/Execution Date(s): Execution Date(s) March 5, 2018 Assignment Merger Security Agreement Change of Name Joint Research Agreement Government Interest Assignment Executive Order 9424, Confirmatory License Other 4. Application or patent number(s): This A. Patent Application No.(s)	Street Address: 1221 Main Street City: Columbia State: SC Country: USA Zip: 29201 Additional name(s) & address(es) attached? Yes No No document serves as an Oath/Declaration (37 CFR 1.63). B. Patent No.(s)		
See attached Additional numbers att	See attached		
5. Name and address to whom correspondence concerning document should be mailed: Name: Synovus Bank	6. Total number of applications and patents involved: 7. Total fee (37 CFR 1.21(h) & 3.41) \$		
Internal Address: Commercial Lending Attn: F. William LaMotte, III Street Address: 1221 Main Street	Authorized to be charged to deposit account Enclosed		
	None required (government interest not affecting title)		
City: Columbia	8. Payment Information		
State: SCZip: 29201			
Phone Number: 803-929-2245	Danacit Account Number		
Docket Number:	Deposit Account Number		
Email Address:_billlamotte@synovus.com	Authorized User Name		
9. Signature:			
Signature	Date		
Name of Person Signing Documents to be recorded (including cover sheet Mail Stop Assignment Recordation Services, Director of	· · · · · · · · · · · · · · · · · · ·		

Attachment to Recordation Form Cover Sheet PATENTS ONLY

& ko & xo x d and d band x d and a consequent x d and x d an

PATENT TITLE	PATENT NUMBER	ISSUE DATE	PUBLICATION NUMBER	PUBLICATION DATE
METHOD OF UTILIZING ION	NONDER	DITTE	NONDER	DATE
EXCHANGE RESIN AND				
REVERSE OSMOSIS TO REDUCE				
ENVIRONMENTAL				
DISCHARGES AND IMPROVE				
EFFLUENT QUALITY TO				
PERMIT RECYCLE OF AQUEOUS	7645207	01/12/2010	20000125470	06/12/2000
OR RADWASTE FLUID	7645387	01/12/2010	20080135479	06/12/2008
METHOD OF RENDERING A				
RADIOACTIVE AND AQUEOUS				
HEAT TRANSFER LIQUID IN A				
NUCLEAR REACTOR TO A				
REDUCED RADWASTE				
QUANTITATIVE STATE AND				
RETURNING THE REMAINING				
WASTE WATER VOLUMES TO				
AN ENVIRONMENTAL RELEASE				
POINT FOR LIQUID EFFLUENTS	7708890	05/04/2010	20100020915	01/28/2010
METHOD AND DEVICE FOR				
EVAPORATE/REVERSE OSMOSIS				
CONCENTRATE AND OTHER				
LIQUID SOLIDIFICATION	8114004	02/14/2012	20100069700	03/18/2010
CONCENTRATE TREATMENT				
SYSTEM	8753518	06/17/2014	20130153473	06/20/2013
WASTEWATER TREATMENT				
AND RADIOACTIVE MATERIAL				
DISPOSAL CONTAINER	9218897	12/22/2015	NA	NA
HIGH RADIOACTIVITY FILTER	9263159	02/16/16	20120305458	12/06/2012
CONCENTRATE TREATMENT	,20010,	02,10,10	20120000100	12,00,2012
SYSTEM	9783418	03/15/2016	20150380117	12/31/2015
METHOD IN TREATING	3,00,120	00.10.2010		12.01.2010
AQUEOUS WASTE FEEDSTREAM				
FOR IMPROVING THE FLUX				
RATES, CLEANING AND THE				
USEFUL LIFE OF FILTER MEDIA	RE40943	10/27/2009	NA	NA
		10/2/1/2009	11/1	11/1
METHOD	Application #: 13/468,034 XX	NA	20120273418	11/01/2012
SANITARY COLD WATER	<u> </u>	NA	20120275+16	11/01/2012
TREATMENT SYSTEMS AND	Application #:			
	13/621,897	NT A	20140076808	03/20/2014
METHODS APPARATUS FOR REMOVAL OF	XX	NA	20140070606	03/20/2014
APPARATUS FOR REMOVAL OF	Application #:	NT A	201.402/2000	00/10/0014
RADIONUCLIDES IN LIQUIDS	14/153,291 XX	NA	20140263008	09/18/2014
METHOD FOR REMOVAL OF	Application #:	***	201.402.620=2	00/10/2011
RADIONUCLIDES IN LIQUIDS	14,153,277 _M A	NA	20140263073	09/18/2014
CONCENTRATE TREATMENT	Application #:		201702211	000000
SYSTEM	14/274,717 XX	NA	20150221404	08/06/2015
APPARATUS AND METHOD FOR	Application #:			
REMOVAL OF NUCLIDES FROM	14/940,960		***********	ا
HIGH LEVEL LIQUID WASTES	KK.	NA	20160141058	05/19/2016

INTELLECTUAL PROPERTY SECURITY AGREEMENT

This INTELLECTUAL PROPERTY SECURITY AGREEMENT (this "Agreement") is made and entered into as of March 5, 2018 by and between **AVANTECH**, **INC.**, a South Carolina corporation ("Borrower"), and **SYNOVUS BANK** ("Lender").

RECITALS

WHEREAS, Lender has agreed to make advances of money and to extend certain financial accommodations to Borrower (the "Loan"), pursuant to a certain Loan Agreement, Revolving Line of Credit Promissory Note, and related documents dated November 27, 2017 (collectively, the "Loan Agreement"); and

WHEREAS, as a condition to making the Loan, Lender required that Borrower grant to Lender a security interest in certain Copyrights, Trademarks, Patents, Intellectual Property Collateral, and other intellectual property assets, to secure the obligations of Borrower under the Loan Agreement; and

WHEREAS, the parties hereto desire to secure the obligations of the Borrower to the Lender.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of Borrower's obligations under the Loan Agreement, Borrower hereby represents, warrants, covenants and agrees as follows:

- 1. <u>Grant of Continuing Security Interest</u>. As collateral security for the prompt and complete payment and performance of all of Borrower's present or future obligations under the Loan Agreement, Borrower hereby grants a continuing security interest in all of Borrower's right, title and interest in, to and under their registered and unregistered intellectual property collateral (all of which shall collectively be called the "Intellectual Property Collateral"), including, without limitation, the following:
 - (a) Any and all copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work thereof, whether published or unpublished, registered or unregistered, and whether or not the same also constitutes a trade secret, now or hereafter existing, created, acquired or held (collectively, the "Copyrights");
 - (b) Any and all trade secret rights, including any rights to unpatented inventions, know-how, operating manuals, license rights and agreements, and confidential information, and any and all intellectual property rights in computer software and computer software products now or hereafter existing, created, acquired or held;
 - (c) Any and all design rights which may be available to Borrower now or hereafter, created, acquired or held;

- (d) All patents, non-provisional patent applications, provisional applications, and like protections including, without limitation, improvements, divisions, continuations, continuations-in-part, renewals, reissues, reexaminations, and extensions of the same, including without limitation the patents and patent applications set forth on Exhibit A attached hereto (collectively, the "Patents");
- (e) Any trademark and service mark rights, slogans, trade dress, and trade names, trade styles, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Borrower connected with and symbolized by such trademarks (collectively, the "Trademarks");
- (f) Any and all claims for damages by way of past, present and future infringements of any of the rights included above, with the right, but not the obligation, to sue for and collect such damages for said use or infringement of the intellectual property rights identified above;
- (g) All licenses or other rights to use any of the Copyrights, Patents, or Trademarks and all license fees and royalties arising from such use to the extent permitted by such license or rights (collectively, the "Licenses");
- (h) All amendments, extensions, and renewals of any of the Copyrights, Trademarks, or Patents; and
- (i) All proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

Notwithstanding the foregoing, the term "Intellectual Property Collateral" as used in this Agreement shall not include "intent-to-use" trademark applications at all times prior to the first use thereof, whether by the actual use thereof in commerce, the recording of a statement of use with the United States Patent and Trademark Office or otherwise, but only to the extent the granting of a security interest in such "intent to use" trademark applications would affect Borrower's rights to such trademarks under applicable law.

- 2. <u>Authorization and Request</u>. Borrower authorizes and requests that the Register of Copyrights and the Commissioner of Patents and Trademarks record this Agreement, and any amendments thereto, or copies thereof. Borrower further agrees to execute any power(s) of attorney and authorizes Lender to execute on Borrower's behalf and/or file any such power(s) of attorney and financing statement describing the Intellectual Property Collateral in any location deemed necessary and appropriate by the Lender.
- 3. <u>Covenants and Warranties</u>. Borrower represents, warrants, covenants and agrees as follows:
 - (a) Borrower is now the sole owner of the Intellectual Property Collateral, and except for non-exclusive licenses granted by Borrower to its customers in the ordinary course of business, Borrower has not entered into any agreement that transfers, assigns,

or conveys any right, title or interest in or to the Intellectual Property Collateral to a third party;

- (b) Performance of this Agreement does not conflict with or result in a breach of any material agreement to which Borrower is bound;
- (c) During the term of this Agreement, Borrower will not transfer or otherwise encumber any interest in the Intellectual Property Collateral, except for liens approved by Lender in writing and non-exclusive licenses granted by Borrower in the ordinary course of business or as otherwise permitted in the Loan Agreement, or this Agreement;
- (d) To its knowledge, each of the Patents is valid and enforceable, and no part of the Intellectual Property Collateral has been judged invalid or unenforceable, in whole or in part, and (except for ongoing litigation previously disclosed to Lender) no claim has been made in writing that any part of the Intellectual Property Collateral violates the rights of any third party;
- (e) Borrower shall advise Lender of any subsequent ownership right of Borrower in or to any Trademark, Patent, Copyright, or Intellectual Property Collateral specified in this Agreement;
- (f) Borrower shall (i) protect, defend and use reasonable commercial efforts to maintain the validity and enforceability of the Trademarks, Patents, and Copyrights material to its business, (ii) use reasonable commercial efforts to detect infringements of the Trademarks, Patents, and Copyrights, and promptly advise Lender in writing of material infringements detected and (iii) not allow any Trademarks, Patents, or Copyrights, material to its business to be abandoned, forfeited or dedicated to the public without the written consent of Lender, which shall not be unreasonably withheld;
- (g) Borrower shall take such further actions as Lender may reasonably request from time to time to perfect or continue the perfection of Lender's interest in the Intellectual Property Collateral;
- (h) This Agreement creates, and in the case of after acquired Intellectual Property Collateral this Agreement will create, at the time Borrower first has rights in such after acquired Intellectual Property Collateral and Lender has taken all actions required for perfection, in favor of Lender, in each case, a valid and perfected first priority security interest and collateral assignment in the Intellectual Property Collateral in the United States securing the payment and performance of the obligations evidenced by the Loan Agreement;
- (i) To its knowledge, except for, and upon, the filing of UCC financing statements, or other notice filings or notations in appropriate filing offices, if necessary to perfect the security interests created hereunder, no authorization, approval or other action by, and no notice to or filing with, any U.S. governmental authority or U.S. regulatory

body is required either (a) for the grant by Borrower of the security interest granted hereby, or for the execution, delivery or performance of this Agreement by Borrower in the U.S. or (b) for the perfection in the United States or the exercise by Lender of its rights and remedies thereunder;

- (j) All information heretofore, herein or hereafter supplied to Lender by or on behalf of Borrower with respect to the Intellectual Property Collateral is true and correct in all material respects;
- (k) Borrower shall not enter into any agreement that would materially impair or conflict with Borrower's obligations hereunder without Lender's prior written consent, which consent shall not be unreasonably withheld. Except as permitted under the Loan Agreement, Borrower shall not permit the inclusion in any material contract to which it becomes a party of any provisions that could or might in any way prevent the creation of a security interest in Borrower's rights and interest in any property included within the definition of the Intellectual Property Collateral acquired under such contracts; and
- (l) Borrower will notify Lender in writing of any event that materially adversely affects the value of the Intellectual Property Collateral, the ability of Borrower to dispose of any material Intellectual Property Collateral or the rights and remedies of Lender in relation thereto, including the levy of any legal process against any of the Intellectual Property Collateral.
- 4. <u>Lender's Rights</u>. Lender shall have the right, but not the obligation, to take, at Borrower's sole expense, any actions that Borrower is required under this Agreement to take but which Borrower fails to timely take, after fifteen (15) days' notice to Borrower. Borrower shall reimburse and indemnify Lender for all reasonable costs and reasonable expenses incurred in the reasonable exercise of its rights under this section 4.

5. Further Assurances; Attorney in Fact.

- (a) On a continuing basis, Borrower will, upon reasonable request by Lender, subject to any prior licenses, encumbrances and restrictions and prospective licenses, make, execute, acknowledge and deliver, and file and record in the proper filing and recording places in the United States, all such instruments, including appropriate financing and continuation statements and collateral agreements and filings with the United States Patent and Trademarks Office and the Register of Copyrights, and take all such action as may reasonably be requested by Lender, to perfect Lender's security interest in all Copyrights, Patents, and Trademarks and otherwise to carry out the intent and purposes of this Agreement, or for assuring and confirming to Lender the grant or perfection of a security interest in all Intellectual Property Collateral, provided that Borrower shall not be required to register, maintain or continue to prosecute any Intellectual Property Collateral that Borrower determines, consistent with reasonable business practice, need not be registered, maintained, or continued.
- (b) In addition to Section 5(a) above, Borrower shall not register any Copyrights in the United States Copyright Office unless it: (i) has given at least fifteen

- (15) days' prior written notice to Lender of its intent to register such Copyrights and has provided Lender with a copy of the application it intends to file with the United States Copyright Office (excluding exhibits thereto); (ii) executes a security agreement or such other documents as Lender may reasonably request in order to maintain the perfection and priority of Lender's security interest in the Copyrights proposed to be registered with the United States Copyright Office; and (iii) records such security documents with the United States Copyright Office contemporaneously with filing the Copyright application(s) with the United States Copyright Office. Borrower shall promptly provide to Lender evidence of the recording of the security documents necessary for Lender to maintain the perfection and priority of its security interest in such Copyrights. Borrower shall provide written notice to Lender of any application filed by Borrower in the United States Patent Trademark Office for a patent or to register a trademark or service mark within thirty (30) days of any such filing.
- (c) Borrower appoints Lender as Borrower's attorney-in-fact, with full authority in the place and stead of Borrower and in the name of Borrower, Lender or otherwise, from time to time in Lender's discretion, upon Borrower's failure or inability to do so, to take any action and to execute any instrument which Lender may deem reasonably necessary or advisable to accomplish the purposes of this Agreement, including:
 - (i) To modify, in its sole discretion, this Agreement without first obtaining Borrower's approval of or signature to such modification by amending Exhibit A hereof, as appropriate, to include reference to any right, title or interest in any Patents acquired by Borrower after the execution hereof or to delete any reference to any right, title or interest in any Patents in which Borrower no longer has or claims any right, title or interest; and
 - (ii) To file, in its sole discretion, one or more financing or continuation statements and amendments thereto, or other notice filings or notations in appropriate filing offices, relative to any of the Intellectual Property Collateral, without notice to Borrower, with all appropriate jurisdictions, as Lender deems appropriate, in order to perfect or protect Lender's interest in the Intellectual Property Collateral.
- 6. Events of Default. The occurrence of an Event of Default (as defined in the Loan Agreement) under the Loan Agreement shall constitute an Event of Default under this Agreement. Additionally, the occurrence of any of the following shall constitute an Event of Default under this Agreement: the transfer or disposition of any of the Intellectual Property Collateral other than in the ordinary course of business, except as permitted by this Agreement and the attachment, execution or levy on any of the Intellectual Property Collateral.
- 7. <u>Remedies</u>. Upon the occurrence and during the continuance of an Event of Default, Lender shall have the right to exercise all the remedies of a secured party under South Carolina law or in equity, including those available under the South Carolina Uniform Commercial Code, including without limitation the right to require Borrower to assemble the

Intellectual Property Collateral and any tangible property in which Lender has a security interest and to make it available to Lender at a place designated by Lender. Lender shall have a nonexclusive, royalty free license to use the Copyrights, Patents, and Trademarks to the extent reasonably necessary to permit Lender to exercise its rights and remedies upon the occurrence and during the continuance of an Event of Default. Borrower will pay any reasonable expenses (including reasonable attorney's fees) incurred by Lender in connection with the exercise of any of Lender's rights hereunder, including without limitation any expense incurred in disposing of the Intellectual Property Collateral in accordance with the terms hereof. All of Lender's rights and remedies with respect to the Intellectual Property Collateral shall be cumulative.

- 8. <u>Indemnity</u>. Borrower agrees to defend, indemnify and hold harmless Lender and its officers, employees, and agents (each an "Indemnified Person") against: (a) all obligations, demands, claims, and liabilities (collectively, "Claims") claimed or asserted by any other party in connection with the transactions contemplated by this Agreement, and (b) all losses or expenses in any way suffered, incurred, or paid by Lender as a result of or in any way arising out of, following or consequential to transactions between Lender and Borrower, under this Agreement (including without limitation, reasonable attorneys' fees and reasonable expenses), except for Claims and/or losses arising from or out of an Indemnified Person's gross negligence or willful misconduct.
- 9. <u>Termination</u>. At such time as Borrower shall completely satisfy all of the Obligations (other than inchoate indemnity obligations) secured by the Loan Agreement, Lender shall execute and deliver to Borrower all releases, terminations, and other instruments as may be necessary or proper to release the security interest hereunder.
- 10. <u>Course of Dealing</u>. No course of dealing, nor any failure to exercise, nor any delay in exercising any right, power or privilege hereunder shall operate as a waiver thereof.
- 11. <u>Amendments</u>. This Agreement may be amended only by a written instrument signed by all parties hereto.
- 12. <u>Counterparts</u>. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which together shall constitute the same instrument.
- Law and Jurisdiction. This Agreement shall be governed by and construed in 13. accordance with the laws of the State of South Carolina. BORROWER ACCEPTS UNCONDITIONALLY THE NON-EXCLUSIVE JURISDICTION OF ANY STATE OR FEDERAL COURT OF COMPETENT JURISDICTION IN THE STATE OF SOUTH CAROLINA IN ANY ACTION, SUIT, OR PROCEEDING OF ANY KIND, AGAINST IT OF THIS AGREEMENT. ARISES BYREASON WHICH OUT OF OR NOTWITHSTANDING THE FOREGOING, THE LENDER SHALL HAVE THE RIGHT TO BRING ANY ACTION OR PROCEEDING AGAINST THE BORROWER OR ITS PROPERTY IN THE COURTS OF ANY OTHER JURISDICTION WHICH THE LENDER DEEMS NECESSARY OR APPROPRIATE IN ORDER TO REALIZE ON THE COLLATERAL OR TO OTHERWISE ENFORCE THE LENDER'S RIGHTS AGAINST THE BORROWER OR ITS PROPERTY.

BORROWER AND LENDER EACH HEREBY WAIVE THEIR RESPECTIVE RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF ANY OF THE LOAN DOCUMENTS OR ANY OF THE TRANSACTIONS CONTEMPLATED THEREIN, INCLUDING CONTRACT CLAIMS, TORT CLAIMS, BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW OR STATUTORY CLAIMS. EACH PARTY RECOGNIZES AND AGREES THAT THE FOREGOING WAIVER CONSTITUTES A MATERIAL INDUCEMENT FOR IT TO ENTER INTO THIS AGREEMENT. EACH PARTY REPRESENTS AND WARRANTS THAT IT HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

Confidentiality. In handling any confidential information, Lender shall exercise the same degree of care that it exercises for its own proprietary information, and in any event, no less than reasonable care, but disclosure of information may be made: (i) to Lender's subsidiaries or affiliates in connection with their present or prospective business relations with Borrower; (ii) to prospective transferees or purchasers of any interest in the Loan; (iii) as required by law, regulation, subpoena, or other order; (iv) as required in connection with Lender's examination or audit; and (v) as Lender considers appropriate in exercising remedies under this Agreement. Confidential information does not include information that either: (a) is in the public domain or in Lender's possession when disclosed to Lender, or becomes part of the public domain after disclosure to Lender through no fault of Lender; or (b) is disclosed to Lender by a third party, if Lender reasonably does not know that the third party is prohibited from disclosing the information.

** SIGNATURE PAGE FOLLOWS **
Remainder of page intentionally left blank

IN WITNESS WHEREOF, this Agreement has been duly executed under due authorization on the day and year first set forth above.

WITNESS:	BORROWER:
	AVANTECH, INC.
Janga Junely Janga Klesson	By: Spary Claren Name: Approx Claren Title: Prox Let (E)
	LENDER:
	SYNOVUS BANK
	By:
	Name:
	Title:

IN WITNESS WHEREOF, this Agreement has been duly executed under due authorization on the day and year first set forth above.

WITNESS:	BORROWER:
	AVANTECH, INC.
	By: Name: Title:
	LENDER:
	SYNOVUS BANK
Miriain E. Fleming Rebon S. Teagree	By: Fleshim Colleges Title: SUP
Karry 21 cakin	

Exhibit A to Intellectual Property Security Agreement dated March 5, 2018

PATENT TITLE	PATENT	ISSUE	PUBLICATION	PUBLICATION
	NUMBER	DATE	NUMBER	DATE
METHOD OF UTILIZING ION				
EXCHANGE RESIN AND				
REVERSE OSMOSIS TO REDUCE				
ENVIRONMENTAL				
DISCHARGES AND IMPROVE				
EFFLUENT QUALITY TO		!		
PERMIT RECYCLE OF AQUEOUS				
OR RADWASTE FLUID	7645387	01/12/2010	20080135479	06/12/2008
METHOD OF RENDERING A				
RADIOACTIVE AND AQUEOUS				
HEAT TRANSFER LIQUID IN A				
NUCLEAR REACTOR TO A				
REDUCED RADWASTE				
QUANTITATIVE STATE AND				
RETURNING THE REMAINING				
WASTE WATER VOLUMES TO				
AN ENVIRONMENTAL RELEASE				
POINT FOR LIQUID EFFLUENTS	7708890	05/04/2010	20100020915	01/28/2010
METHOD AND DEVICE FOR				
EVAPORATE/REVERSE OSMOSIS				
CONCENTRATE AND OTHER				/ /
LIQUID SOLIDIFICATION	8114004	02/14/2012	20100069700	03/18/2010
CONCENTRATE TREATMENT		0.5/4.7/2.04.4	20120170170	0.5/0.0/0.04.0
SYSTEM	8753518	06/17/2014	20130153473	06/20/2013
WASTEWATER TREATMENT				
AND RADIOACTIVE MATERIAL	0010007	10/00/0015	274	3.7.4
DISPOSAL CONTAINER	9218897	12/22/2015	NA 20120205458	NA
HIGH RADIOACTIVITY FILTER	9263159	02/16/16	20120305458	12/06/2012
CONCENTRATE TREATMENT	0702410	02/17/2016	20150200117	10/21/2017
SYSTEM	9783418	03/15/2016	20150380117	12/31/2015
METHOD IN TREATING				
AQUEOUS WASTE FEEDSTREAM				
FOR IMPROVING THE FLUX RATES, CLEANING AND THE				
USEFUL LIFE OF FILTER MEDIA	RE40943	10/27/2009	NA	NA
BORON RECOVERY TREATMENT	Application #:	10/2//2009	INA	INA
METHOD	13/468,034 XX	NA	20120273418	11/01/2012
SANITARY COLD WATER	Application #:	INA	20120273410	11/01/2012
TREATMENT SYSTEMS AND	13/621,897			
METHODS	10/021,007 MX	NA	20140076808	03/20/2014
APPARATUS FOR REMOVAL OF	Application #:	INA	20140070000	03/20/2014
RADIONUCLIDES IN LIQUIDS	14/153,291 XX	NA	20140263008	09/18/2014
METHOD FOR REMOVAL OF	Application #:	11//1	20170203000	07/10/2014
RADIONUCLIDES IN LIQUIDS	14,153,277 XX	NA	20140263073	09/18/2014
CONCENTRATE TREATMENT	Application #:	11/21	201702030/3	J//10/2017
SYSTEM SYSTEM	14/274,717 XX	NA	20150221404	08/06/2015
APPARATUS AND METHOD FOR		11/1	20130221704	00/00/2013
REMOVAL OF NUCLIDES FROM	Application #:			
HIGH LEVEL LIQUID WASTES	14/940,960 XXX	NA	20160141058	05/19/2016