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PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT5566254

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JEFFREY FROLIK	05/15/2019
PAUL HINES	06/10/2019
MADS ALMASSALKHI	05/23/2019

RECEIVING PARTY DATA

Name:	UNIVERSITY OF VERMONT AND STATE AGRICULTURAL COLLEGE	
Street Address:	GIVEN BUILDING E201, 89 BEAUMONT AVENUE	
City:	BURLINGTON	
State/Country:	VERMONT	
Postal Code:	05405	

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	62397393
Application Number:	15712089

CORRESPONDENCE DATA

Fax Number: (802)862-7512

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: 802-863-2375 Email: patip@drm.com

Correspondent Name: KEVIN C. MCGRATH, ESQ.

Address Line 1: 199 MAIN STREET

Address Line 4: **BURLINGTON, VERMONT 05401**

ATTORNEY DOCKET NUMBER:	02962-143USU1	
NAME OF SUBMITTER:	KEVIN C. MCGRATH	
SIGNATURE:	/Kevin C. McGrath/	
DATE SIGNED:	06/11/2019	

Total Attachments: 6

source=20190515_Frolik_Assignment#page1.tif source=20190515 Frolik Assignment#page2.tif source=20190610_Hines_Assignment#page1.tif

> **PATENT** REEL: 049435 FRAME: 0567 505519449

source=20190610_Hines_Assignment#page2.tif source=20190523_Almassalkhi_Assignment#page1.tif source=20190523_Almassalkhi_Assignment#page2.tif

> PATENT REEL: 049435 FRAME: 0568

Attorney Docket No.: 02962-143USPI 02962-143USU1

CONFIRMATORY ASSIGNMENT

Whereas, I, Jeffrey Frolik, residing in Essex Junction, Vermont, have invented one or more new and useful inventions and have filed therefor:

United States Provisional Patent Application Serial No. 62/397,393, filed on September 21, 2016, entitled "Systems and Methods for Random-Access Power Management of Thermostatically-Controlled Loads and Bi-Directional Electric Energy Systems;"

United States Non-Provisional Patent Application Serial No. 15/712,089, filed on September 21, 2017, entitled "Systems and Methods for Randomized, Packet-Based Power Management of Conditionally-Controlled Loads and Bi-Directional Distributed Energy Storage Systems;" and

International Patent Application No. PCT/US2017/052828, filed on September 21, 2017, entitled "Systems and Methods for Randomized, Packet-Based Power Management of Conditionally-Controlled Loads and Bi-Directional Distributed Energy Storage Systems"

(hereinafter, "Application(s)");

And whereas, University of Vermont and State Agricultural College, of Given Building E201, 89 Beaumont Avenue, Burlington, Vermont 05405 (hereinafter called Assignee), desires to confirm that it has acquired the entire right, title and interest in the Application(s) and all inventions disclosed therein, and to any United States and foreign patents to be obtained therefor, and to any United States, international, and foreign patent applications to be filed thereon;

Now therefore, for good and valuable consideration, receipt whereof is hereby acknowledged, I, the above-named inventor, hereby (i) confirm that I sold, assigned and transferred to Assignee on or before September 21, 2016, by virtue of the assignment provisions of my employment agreement with Assignee, and do hereby sell, assign, and transfer to Assignee, its successors and assigns, the entire right, title and interest in the Application(s) and inventions therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of the Application(s), and I hereby (ii) confirm that as of such date Assignee had, and continues to have, the right to file one or more international applications and apply for foreign Letters Patent on said inventions; (iii) request the Commissioner for Patents of the United States Patent and Trademark Office and the authorized official in each respective foreign patent office to issue any Letters Patent granted upon the inventions set forth in the Application(s) to Assignee; and (iv) confirm that I will execute all papers necessary in connection with the United States, international, and foreign applications when called upon to do so by Assignee.

02962-143USUI

I, the above-named, hereby covenant that this Confirmatory Assignment is filed for the purposes of confirming such assignment as being effective on or before September 21, 2016, and that no assignment, sale, agreement, or encumbrance had been made as of such date, or will be made or entered into thereafter, which would conflict with this Assignment.

Executed at SAN June (city/town), Vermont, this Say of May, 2019.

STATE OF VERMONT

COUNTY of CHITTENDEN, SS.

On this 15 day of May, 2019, before me, the undersigned notary public, personally appeared Jeffrey Frolik, proved to me through satisfactory evidence of identification, which were 10/1/c/4 4/cense , to be the person who signed the preceding or attached document in my presence and swore to me that the contents of the document are truthful and accurate to the best of his knowledge and belief and acknowledged to me that he signed it voluntarily for its stated purpose.

SEAL

ZLATA CAVXA
Notary Public - State of Vermont
Commission # 157.0005519
My Commission Expires Jan 31, 2021

Before me.

Notary Public

My commission expires:

o#131/2021

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02962-143USU1

CONFIRMATORY ASSIGNMENT

Whereas, I, **Paul Hines**, residing in Burlington, Vermont, have invented one or more new and useful inventions and have filed therefor:

United States Provisional Patent Application Serial No. 62/397,393, filed on September 21, 2016, entitled "Systems and Methods for Random-Access Power Management of Thermostatically-Controlled Loads and Bi-Directional Electric Energy Systems;"

United States Non-Provisional Patent Application Serial No. 15/712,089, filed on September 21, 2017, entitled "Systems and Methods for Randomized, Packet-Based Power Management of Conditionally-Controlled Loads and Bi-Directional Distributed Energy Storage Systems;" and

International Patent Application No. PCT/US2017/052828, filed on September 21, 2017, entitled "Systems and Methods for Randomized, Packet-Based Power Management of Conditionally-Controlled Loads and Bi-Directional Distributed Energy Storage Systems"

(hereinafter, "Application(s)");

And whereas, University of Vermont and State Agricultural College, of Given Building E201, 89 Beaumont Avenue, Burlington, Vermont 05405 (hereinafter called Assignee), desires to confirm that it has acquired the entire right, title and interest in the Application(s) and all inventions disclosed therein, and to any United States and foreign patents to be obtained therefor, and to any United States, international, and foreign patent applications to be filed thereon;

Now therefore, for good and valuable consideration, receipt whereof is hereby acknowledged, I, the above-named inventor, hereby (i) confirm that I sold, assigned and transferred to Assignee on or before September 21, 2016, by virtue of the assignment provisions of my employment agreement with Assignee, and do hereby sell, assign, and transfer to Assignee, its successors and assigns, the entire right, title and interest in the Application(s) and inventions therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of the Application(s), and I hereby (ii) confirm that as of such date Assignee had, and continues to have, the right to file one or more international applications and apply for foreign Letters Patent on said inventions; (iii) request the Commissioner for Patents of the United States Patent and Trademark Office and the authorized official in each respective foreign patent office to issue any Letters Patent granted upon the inventions set forth in the Application(s) to Assignee; and (iv) confirm that I will execute all papers necessary in connection with the United States, international, and foreign applications when called upon to do so by Assignee.

02962-143USU1

I, the above-named, hereby covenant that this Confirmatory Assignment is filed for the purposes of confirming such assignment as being effective on or before September 21, 2016, and that no assignment, sale, agreement, or encumbrance had been made as of such date, or will be made or entered into thereafter, which would conflict with this Assignment.

Executed at 15/11/10/10 (city/town), Vermont, this 10 day of June, 2019.

STATE OF VERMONT

COUNTY of CHITTENDEN, SS.

On this _______day of June, 2019, before me, the undersigned notary public, personally appeared Paul Hines, proved to me through satisfactory evidence of identification, which were Vr Mirer's his # 92575 3421 to be the person who signed the preceding or attached document in my presence and swore to me that the contents of the document are truthful and accurate to the best of his knowledge and belief and acknowledged to me that he signed it voluntarily for its stated purpose.

SEMpary Public State of Vermont

April F. Hathaway

Commission * No. 157,0009194*

Before me, April 2 Hathaway
Notary Public

My commission expires: //3//2021

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02962-143USU1

CONFIRMATORY ASSIGNMENT

Whereas, I, Mads Almassalkhi, residing in South Burlington, Vermont, have invented one or more new and useful inventions and have filed therefor:

United States Provisional Patent Application Serial No. 62/397,393, filed on September 21, 2016, entitled "Systems and Methods for Random-Access Power Management of Thermostatically-Controlled Loads and Bi-Directional Electric Energy Systems;"

United States Non-Provisional Patent Application Serial No. 15/712,089, filed on September 21, 2017, entitled "Systems and Methods for Randomized, Packet-Based Power Management of Conditionally-Controlled Loads and Bi-Directional Distributed Energy Storage Systems;" and

International Patent Application No. PCT/US2017/052828, filed on September 21, 2017, entitled "Systems and Methods for Randomized, Packet-Based Power Management of Conditionally-Controlled Loads and Bi-Directional Distributed Energy Storage Systems"

(hereinafter, "Application(s)");

And whereas, University of Vermont and State Agricultural College, of Given Building E201, 89 Beaumont Avenue, Burlington, Vermont 05405 (hereinafter called Assignee), desires to confirm that it has acquired the entire right, title and interest in the Application(s) and all inventions disclosed therein, and to any United States and foreign patents to be obtained therefor, and to any United States, international, and foreign patent applications to be filed thereon;

Now therefore, for good and valuable consideration, receipt whereof is hereby acknowledged, I, the above-named inventor, hereby (i) confirm that I sold, assigned and transferred to Assignee on or before September 21, 2016, by virtue of the assignment provisions of my employment agreement with Assignee, and do hereby sell, assign, and transfer to Assignee, its successors and assigns, the entire right, title and interest in the Application(s) and inventions therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of the Application(s), and I hereby (ii) confirm that as of such date Assignee had, and continues to have, the right to file one or more international applications and apply for foreign Letters Patent on said inventions; (iii) request the Commissioner for Patents of the United States Patent and Trademark Office and the authorized official in each respective foreign patent office to issue any Letters Patent granted upon the inventions set forth in the Application(s) to Assignee; and (iv) confirm that I will execute all papers necessary in connection with the United States, international, and foreign applications when called upon to do so by Assignee.

02962-143USU1

I, the above-named, hereby covenant that this Confirmatory Assignment is filed for the purposes of confirming such assignment as being effective on or before September 21, 2016, and that no assignment, sale, agreement, or encumbrance had been made as of such date, or will be made or entered into thereafter, which would conflict with this Assignment.

Executed at Kir (vigital (city/town), Vermont, this 23eday of May, 2019.

STATE OF VERMONT

COUNTY of CHITTENDEN, SS.

On this Africa day of May, 2019, before me, the undersigned notary public, personally appeared Mads Almassalkhi, proved to me through satisfactory evidence of identification, which were _VT Drive's Listage , to be the person who signed the preceding or attached document in my presence and swore to me that the contents of the document are truthful and accurate to the best of his knowledge and belief and acknowledged to me that he signed it voluntarily for its stated purpose.

Notary Public State of Vermont SEAL. April F. Hathaway Commission * No. 157.0009194*

Before me, April 3 Harlian and Notary Public

My commission expires: //3//2/2/

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