

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5863461

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
THOMAS A. BUSCHECK	12/11/2019
RAVINDRA SHRIKRISHNA UPADHYE	12/11/2019
RECEIVING PARTY DATA	
Name:	LAWRENCE LIVERMORE NATIONAL SECURITY, LLC
Street Address:	7000 EAST AVENUE
City:	LIVERMORE
State/Country:	CALIFORNIA
Postal Code:	94550
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16711288
CORRESPONDENCE DATA	
Fax Number:	(248)641-0270
<i>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.</i>	
Phone:	(248) 641-1600
Email:	cshelby@hdp.com
Correspondent Name:	HARNESS, DICKEY & PIERCE, P.L.C.
Address Line 1:	P.O. BOX 828
Address Line 4:	BLOOMFIELD HILLS, MICHIGAN 48303
ATTORNEY DOCKET NUMBER:	16336-000086-US-CPB
NAME OF SUBMITTER:	MARK D. ELCHUK
SIGNATURE:	/Mark D. Elchuk/
DATE SIGNED:	12/12/2019
Total Attachments: 2	
source=IL-13279B Assignment Signed -Thomas A. Buscheck#page1.tif	
source=IL-13279B Assignment Signed -Ravindra Upadhye#page1.tif	

ASSIGNMENT

LLNL Record of Invention Case No. IL-13279B , entitled:

MULTI-FLUID, EARTH BATTERY ENERGY SYSTEMS AND METHODS

For good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(s)

- | | |
|------------------------------|--|
| 1. <u>Thomas A. BUSCHECK</u> | 2. <u>Ravindra Shrikrishna UPADHYE</u> |
| 3. _____ | 4. _____ |
| 5. _____ | 6. _____ |

hereby sells, assigns, transfers, and conveys to ASSIGNEE, Lawrence Livermore National Security, LLC, a Delaware limited liability company, having a place of business at 7000 East Avenue, Livermore, CA 94550 and the successors, assigns and legal representative of the ASSIGNEE all of its right, title and interest throughout the world in and to any and all inventions and discoveries found in the above-listed LLNL Record of Invention Case No. and in:

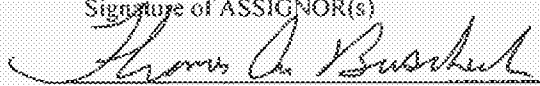
- U.S. Provisional Application Serial No. 62/644,064 , filed on March 16, 2018
- U.S. Patent Application Serial No. _____ , filed on _____
- International Application Serial No. PCT/US2019/022416 , filed on March 15, 2019

and any legal equivalent thereof in a foreign country, including the right to claim priority, and in and to all Letters Patent to be obtained for said inventions and discoveries by the above application(s) or any continuation, division, continuation-in-part, extension or substitute thereof, and any reissue, reexamination or extension of said Letters Patent and all rights under all International Conventions for the Protection of Industrial Property:

ASSIGNOR(S) further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation, or proceeding relating thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue or enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof. An attorney of record is authorized and requested by the execution of this assignment to insert into this assignment the filing date and serial number of said application when officially known.

AND the ASSIGNOR(S) requests the Commissioner of Patents and Trademarks to issue said Letters Patent of the United States and any reissue or extension thereof to the ASSIGNEE, Lawrence Livermore National Security, LLC.

executed this
12/11/2019
Date

Signature of ASSIGNOR(s)

Thomas A. BUSCHECK

executed this

Date

Signature of ASSIGNOR(s)

Ravindra Shrikrishna UPADHYE

ASSIGNMENT

LLNL Record of Invention Case No. R-13279B, entitled:

MULTI-FLUID, EARTH BATTERY ENERGY SYSTEMS AND METHODS

For good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(s)

- 1. Thomas A. BUSCHECK
- 2. Ravindra Shrikrishna UPADHYE
- 3. _____
- 4. _____
- 5. _____
- 6. _____

herby sells, assigns, transfers, and conveys to ASSIGNEE, Lawrence Livermore National Security, LLC, a Delaware limited liability company, having a place of business at 7000 East Avenue, Livermore, CA 94550 and the successors, assigns and legal representative of the ASSIGNEE all of its right, title and interest throughout the world in and to any and all inventions and discoveries found in the above-listed LLNL Record of Invention Case No. and in:

- U.S. Provisional Application Serial No. 62/644,664, filed on March 16, 2018
- U.S. Patent Application Serial No. _____, filed on _____
- International Application Serial No. PCT/US2019/022416, filed on March 15, 2019

and any legal equivalent thereof in a foreign country, including the right to claim priority, and in and to all Letters Patent to be obtained for said inventions and discoveries by the above application(s) or any continuation, division, continuation-in-part, extension or substitute thereof, and any re-issue, reexamination or extension of said Letters Patent and all rights under all International Conventions for the Protection of Industrial Property;

ASSIGNOR(S) further covenants that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR, and will testify as to the same in any interference, litigation, or proceeding relating thereto and will promptly execute and deliver to ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue or enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof. An attorney of record is authorized and requested by the execution of this assignment to insert into this assignment the filing date and serial number of said application when officially known.

AND the ASSIGNOR(S) requests the Commissioner of Patents and Trademarks to issue said Letters Patent of the United States and any reissue or extension thereof to the ASSIGNEE, Lawrence Livermore National Security, LLC.

executed this _____ Signature of ASSIGNOR(s)

 Date Thomas A. BUSCHECK

executed this _____ Signature of ASSIGNOR(s)
12/11/2019

 Date Ravindra Shrikrishna UPADHYE

31149108.1